MASTER ENGINEERING REPORT FOR THE USE OF RECYCLED WATER FOR THE INLAND EMPIRE UTILITIES AGENCY SERVICE AREA

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INLAND EMPIRE UTILITIES AGENCY

MASTER ENGINEERING REPORT FOR THE USE OF RECYCLED WATER THROUGHOUT THE INLAND EMPIRE UTILITIES AGENCY SERVICE AREA

MASTER ENGINEERING REPORT FOR RECYCLED WATER USE IN THE IEUA SERVICE AREA

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1.0 INTRODUCTION

The purpose of this report is to identify, describe, and document the proposed use of recycled water within the Inland Empire Utilities Agency's (IEUA) service area (Appendix A). This Report was prepared in compliance with the State Water Resources Control Board Division of Drinking Water (SWRCB DDW) (formally known as the State of California Department of Health Services (DHS) and State of California Department of Public Health (DPH)) *Guidelines for the preparation of an Engineering Report for the Production, Distribution, and Use of Recycled Water, March 2001, and Section 60310 through Section 60316 of the Water Recycling Criteria, California Code of Regulations, Title 22 Section 4* (Appendix I). The development and use of recycled water is in response to the requirement of the California Regional Water Quality Control Board, Santa Ana Region, to use recycled water and also to comply with IEUA's Ordinance Nos. 63, 69 and 75, (See Appendix B**)** which outlines the rules and regulations for the development and use of recycled water facilities within the IEUA service area.

IEUA has seven retail water agencies (RWA) that distribute the recycled water generated by IEUA: City of Chino, City of Chino Hills, City of Ontario, City of Upland, Cucamonga Valley Water District, Fontana Water Company, and Monte Vista Water District. The service areas and their respective Ordinances and Rules and Regulations for the use of Recycled Water are provided in the Appendices A and B, as well. The use of recycled water for each specific RWA's use site will be addressed as supplemental submittals to be included as Appendix J and will be incorporated into this Master Engineering Report after approval by the SWRCB DDW. Within the specific use site Supplemental Engineering Report will be:

- the location of the potential user,
- the potential demand of the potential user,
- the size and location of the distribution main or lateral from which recycled water will be obtained,
- the intended use of the recycled water on that site,
- the name of the individual responsible for on-site use and compliance,
- plot plans and/or aerial photos that depict the proposed use area,
- plumbing plans for the onsite system that will use recycled water (if available), and
- any and all other information deemed necessary by SWRCB DDW for the comprehensiveness of the report.

2.0 RECYCLED WATER REPORT

The following sections will discuss the different types of information that should be presented and described for each engineering report. Some sections may only be applicable to certain types of uses.

2.1 General

The seven RWA will provide retail recycled water service to each site and IEUA will wholesale recycled water to the RWA for sale to its customers. The recycled water source will be from IEUA's Regional Water Recycling Plant No.1, Regional Water Recycling Plant No. 4, Regional Water Recycling Plant No. 5 and Carbon Canyon Water Recycling Facility. All recycled water delivered to each use site will meet the full

requirements of Title 22 for recycled water. IEUA will be solely responsible for the treatment and delivery of recycled water to the RWA who will be responsible for operation and maintenance of all local distribution facilities, services, and meters installed respectively by each agency.

2.2 Rules and Regulations

For each proposed use of recycled water, specific procedures and precautions will be implemented and are detailed below. All use of recycled water within the IEUA service will be required to comply with Rules and Regulations (Appendix B), IEUA's Recycled Water User Manual (Appendix D), and California Code of Regulations, Title 22 and Title 17 (Appendix C). The different uses and their respective procedures may include, but are not limited to:

On all sites, adjustments to spray irrigation heads will be made by the designated on-site supervisor or completed under his/her direction, if necessary, to minimize contact with the sidewalks and other public facilities, in conformance with the recycled water use guidelines. Total site containment is the criteria set forth by the SWRCB DDW. Where runoff from irrigation is determined to exist, reasonable measures will be taken to ensure elimination of such runoff. Any spray, runoff, or mist must not enter any dwelling, designated outdoor eating areas, or food handling facilities.

In addition, irrigation with recycled water will only be allowed during time periods which ensure minimal potential for human contact. This time frame is between 8:00 P.M. and 6:00 A.M. for all irrigation sites within IEUA service area.

A. Landscape Irrigation: Users utilizing recycled water for landscaping purposes will adhere to all applicable rules and regulations set forth in Title 22 of the California Code of Regulations, Division 4. Environmental Health, Chapters 1 through 3. Signs will be installed indicating that the site is using recycled water for landscape irrigation. All sprinkler heads, pipes, backflow devices, and other features in a system designed to carry recycled water shall be clearly labeled, painted, or otherwise marked so as to indicate to the general public the use of recycled water on the premises. Areas where the recycled water piping system is subject to access by the general public shall not include any hose bibs. Only quick couplers that differ from those used on the potable water system may be used on a recycled water system subject to access by the public. Excess overspray and spraying of recycled water onto structures such as picnic tables, and playground equipment will be mitigated (Per Title 22, Chapter 3, Article 3, Section 60305). Where drinking fountains are present they will be equipped with covers to prevent the recycled water from coming in contact with the drinking fountain outlet.

B. Agricultural Irrigation: Recycled water for agricultural irrigation purposes will adhere to all applicable rules and regulations set forth in Title 22 of the California Code of Regulations. No irrigation shall take place within 50 feet of any domestic water supply well unless the user complies with all measures listed in Title 22 Section 60310 (a) (Appendix C). Any recycled water irrigation lines implementing a direct injection or any kind of direct mixing with any sort of pesticide, herbicide, fertilizer, or other potentially dangerous substance must have an appropriate backflow device installed down flow of the meter. Areas where the recycled water piping system is subject to access by the general public shall not include any hose bibs. Only quick couplers that differ from those used on the potable water system may be used on a recycled water system subject to access by the public. Signs will be installed indicating that the site is using recycled water for irrigation.

C. Industrial Process/Other: Any industrial, commercial, or manufacturing uses of recycled water will be in compliance with all applicable regulations set forth in Title 22 and Title 17 Division 1 State Department Heath Services, Chapter 5 – Sanitation (Environmental), Chapter 4 – Drinking Water Supplies, Articles 1 and 2 as well as the local governing bodies' requirements. Any industrial processes will require additional plumbing schematics and cross- connection tests, the specific requirements and regulations will be discussed on a per-case basis. An Industrial Engineering Report will be prepared and submitted to SWRCB DDW for review and approval before any industrial, commercial or manufacturing customer utilizing recycled water for more than irrigation purposes, is connected to the RWA's recycled water system.

2.2.1 Signage

The user will be required to post signs no less than 4 inches high by 8 inches wide at prominent locations which is typically eye level and near site access points at no more than 500-foot intervals informing employees and the general public of the use of recycled water at the facilities. The signs will read, "Do Not Drink" in English and in Spanish and display an international symbol for no drinking. An illustration of the sign's appearance is included in this report (Appendix E).

Marking of all irrigation systems appurtenances will be completed by the user per AWWA California-Nevada Section criteria for System Appurtenance Identification (Section 3.11). Marking all recycled water equipment will minimize the potential for cross connection, and accidental use of recycled water equipment on potable water systems. Equipment marked or tagged may include the valve boxes, controllers, pumps, sprinkler heads, controller enclosures, backflow prevention assemblies, meter boxes, and other visible appurtenances.

2.2.2 On Site Monitoring

Each site will have a designated site supervisor obligated under agreement with the RWA to ensure that the on-site potable and recycled water system are operated per SWRCB DDW and AWWA criteria. The Retail Water Agencies shall require the end user attends the training offered by IEUA or via an independent consultant training detailing the correct use and handling of the recycled water prior to the final connection of recycled water. IEUA's training guide is attached for reference (Appendix F).

Per AWWA California-Nevada Section criteria, the water purveyor is ultimately responsible for each site's adherence to the criteria, whether public or private. Therefore, a use-site agreement or permit between the RWA and the proposed user will outline the necessary maintenance and monitoring requirements by the designated recycled water site supervisor. Maintenance and monitoring includes sprinkler head spray and runoff containment, informing the RWA of any modifications to the irrigation system, and authorizing the RWA to inspect and test the private system upon request. Also, the designated recycled water site supervisor will be responsible for reporting, via a phone call followed by an email, any and all violations to the RWA. The RWA shall notify IEUA immediately upon receipt or knowledge of any and all violations of the proper use of recycled water.

2.2.3 On Site Contingency Plan- Cross Connection Control

SWRCB DDW requires that a thorough initial cross-connection test and inspection of the domestic and irrigation water systems within each site be conducted prior to the recycled water connection being made. The tests shall be conducted under the supervision of an AWWA or USC Certified Cross-Connection Control Specialist, certified to perform cross connection control tests within the RWA service area. The Retail Water Agencies have a certified backflow and cross-connection prevention specialist on staff or a consultant on contract for the recycled water retrofit sites. SWRCB DDW shall be notified in writing in advance of the test by the RWA. The RWA's specialist will perform the required shutdown tests outlined in their respective Rules and Regulations at each location and determine failure or passage of each test. In the event that a confirmed cross-connection does occur, the contingency plan listed under Section 6 of the Cross-Connection Testing Procedures will be followed accordingly (Appendix L). A written report documenting the test results shall be submitted to SWRCB DDW by the RWA following the completion of the test stating the passage of the tests for final approval of recycled water. All initial and annual tests shall be conducted according to Section A of the Cross-connection Testing Procedures. The initial cross-connection shutdown testing could potential take between two (2) and twenty-four (24) hours. Future cross-connection testing of the sites may require different shutdown durations depending on the site and any revisions to the on-site plumbing.

2.2.4 Use Area Inspections and Monitoring

The individual user engineering appendix will include a discussion of the inspection program that will be in place to and the personnel in charge of monitoring and reporting any use area problems. It will also identify the locations at the use area where problem are most likely to occur such as ponding, runoff, overspray, cross-connections, etc.

2.2.5 Employee Training

The use site engineering appendix will describe the training which each use area employees will receive to ensure compliance with the Recycled Water Criteria, identify the entity providing the training and its frequency. The appendix will also identify any written manuals of practice made available to the employees and will include the name and date that the designated on-site supervisor received their training.

2.3 Producer – Distributor – User

The primary source of recycled water to the RWA is IEUA's four treatment plants as indicated previously. IEUA's water recycling facilities are operated in compliance with the recycled water use requirements specified in Section 60313 of the Water Reclamation Criteria, Title 22 of the California Code of Regulations.

The specific transmission lines and service connections that will provide service to each recycled water user site within the RWA's service area will be discussed within the site specific Engineering Report (Appendix J). All users will be required to adhere to the Recycled Water User Manual set forth in this document as well as all applicable state and local laws (Appendices D and G).

2.4 Raw Wastewater

The chemical quality and source data for all raw wastewater influent is contained in the Title 22 Engineering Reports contained in Appendix M.

2.5 Regional Water Treatment Plants

The recycled water source will be from IEUA's Regional Water Recycling Plant No.1 (RP-1), Regional Water Recycling Plant No. 4 (RP-4), Regional Water Recycling Plant No. 5 (RP-5) and Carbon Canyon Water Recycling Facility (CCWRF). The recycled water from these plants will be tertiary treated effluent as defined by Title 22 Standards. The overall treatment consists of preliminary, primary, secondary, and tertiary stages. The recycled water system is a looped regional distribution system, whereby flow from all four treatment plants is available for recycled water use.

Full information for IEUA water recycling facilities can be found in the individual Title 22 Engineering Reports contained in Appendix M.

Regional Water Recycling Plant No. 1

RP-1 was originally constructed in 1948 and has undergone many expansions and improvements over the years. The treatment plant includes preliminary, primary, secondary, and tertiary liquid treatment facilities and solids handling facilities. The liquid facilities produce an effluent quality meeting Title 22 Standards for spray irrigation, unrestricted recreational use, landscape impoundments, and groundwater recharge. The facility also receives waste solids from RP-4 through the sewer system, and biosolids from RP-1 are trucked to the Inland Empire Regional Composting Facility (IERCF) for further treatment and composting.

Regional Water Recycling Plant No. 2

RP-2 was constructed in the 1960s and has both liquid treatment and solids handling facilities. However, due to the United States Army Corps of Engineers (USACE) decision to raise the elevation of the Prado Dam, the RP-2 liquid treatment capacity was relocated to RP-5. This Wastewater Facilities Master Plan (WFMP) evaluates the decision of when and where to relocate the RP-2 solids handling facilities. RP-2 receives waste solids from RP-5 and CCWRF and provides thickening, digestion, and dewatering. The solids handling recycles generated throughout the process are diverted to RP-5 for treatment, and the biosolids are hauled to the IERCF for composting and beneficial use.

Regional Water Recycling Plant No. 4

RP-4 is one of IEUA's four wastewater reclamation plants currently in operation. RP-4 is located at 12811 Sixth Street, in the City of Rancho Cucamonga near the intersection of Interstate 15 and Interstate 10 freeways between Ontario and San Bernardino. The northeast corner of the plant is at the intersection of Sixth Street and Etiwanda Avenue, near the Reliant Power Plant. Based on the original design, the plant has a rated capacity of 7 MGD (maximum month) which was expanded to a

rated capacity of 14 MGD (maximum month) in 2009. A downstream bypass line is available to divert wastewater south to RP-1 when necessary. Currently, RP-4 only provides liquid treatment to its tributary areas. All biosolids generated at RP-4 are currently being treated at RP-1. In addition, a new recycled water pump station was recently completed at RP-4.

Regional Water Recycling Plant No. 5

RP-5 began operation in March 2004 to replace the RP-2 liquid treatment process. RP-1 and CCWRF have the ability to divert flows to RP-5, thus making RP-5 the end-of-the-line southern facility for the entire wastewater treatment system. RP-5 also receives flows from the RP-2 Lift Station. The liquid treatment facilities include preliminary, primary, secondary, and tertiary treatment. Recycled water from RP-5 meets Title 22 Standards for spray irrigation, unrestricted recreational use, and landscape impoundments. Excess recycled water is dechlorinated and discharged to Chino Creek. Solids produced at RP-5 are sent to RP-2 for treatment through a dedicated sludge line.

Carbon Canyon Water Recycling Facility

CCWRF began operation in 1992 and includes preliminary, primary, secondary, and tertiary treatment facilities producing an effluent quality meeting Title 22 Standards for landscape irrigation and other recycled water uses. Excess recycled water is dechlorinated and discharged to Chino Creek.

2.6 Plant Reliability Features

Title 22 requires that alarm devices be provided for: (1) loss of power from the normal supply, (2) failure of the biological treatment process, (3) failure of the disinfection process, (4) failure of the coagulation process, and (5) failure of the filtration process. Operation of these systems is constantly monitored and alarms are provided. The IEUA treatment plants have a state-of-the-art supervisory control and data acquisition (SCADA) system that monitors all vital functions of the plant processes and assists operations staff. The control system monitors and records data on process operation and for permit compliance, and provides information on the status of equipment and plant operation. The control system also provides a communication link to the other IEUA treatment facilities and to standby operators when a particular plant is not staffed.

The alarm devices monitor primarily the following functions:

- Loss of normal power
- Failure of the influent pump station
- Failure of the biological treatment process
- Failure of the coagulation process
- Failure of the filtration process
- Failure of the disinfection process

Plant alarms are automatically powered by the emergency (standby) generator if the primary power supply is interrupted. While the treatment plants are not staffed continuously, the operation is monitored remotely by the assigned standby operator through the SCADA system (laptop, cell phone, etc.). Alarms

that occur during any unmanned periods are annunciated through the SCADA system. A cell phone paging system is used to notify the standby operator of any alarms, if the plant operation is not being actively monitored.

2.7 Supplemental Water Supply

The treatment/water recycling facilities are regionally interconnected through pipelines, storage reservoirs and pump stations. Through this recycled water infrastructure and network, the system is able to provide reliability and flexibility in serving customers. Facility treatment flexibility also allows rerouting between water recycling plants in order to deliver recycled water reliably while minimizing overall pumping and treatment cost. With system-wide interconnectivity and flexibility, there is no need for provisions for a back-up water supply for the recycled water system. In the event of a major issue with a treatment plant, recycled water can be provided from other facilities, or no recycled water will be supplied to the recycled water users. For some industrial customers a back-up water supply connection may be provided through a SWRCB DDW approved "swivel" connection. Any provisions for back-up water supply connections are included in the specific use site engineering appendix, and needs to be implemented by the RWA.

2.8 Monitoring and Reporting

The performance of each of the treatment processes is closely monitored at each treatment plant. Influent flow is measured continuously by a Parshall flume. Effluent flow is also metered continuously prior to discharge. Similarly, recycled water turbidity is monitored continuously by a recording turbidimeter at the plant filter effluent. Effluent turbidity is monitored at the discharge point. Chlorine residual is another parameter that is measured on a continuous basis. Prior to discharging to the creek, the effluent chlorine residual is monitored continuously to ensure that the dechlorination facilities are functioning properly. Monitoring and Reporting requirement compliance is outlined in the IEUA Waste Discharge Requirements (Appendix G).

2.9 Contingency Plan

The basis for the IEUA treatment plant contingency plan relies on the use of multiple treatment units and standby equipment, storage, and the ability to divert flow between treatment plants. IEUA owns and operates regional sewer pipelines and receives wastewater from the seven member cities and agencies. Wastewater collected within these service areas is treated at one of the four regional water recycling plants. RP-1 and RP-4 serve the northern service area, while RP-5 and CCWRF serve the southern service area. There are plans in place through various documents and monitoring & control systems to prevent inadequately treated wastewater from being delivered to users; these documents include Standard Operating Procedures, Process Control Narratives, Operations & Maintenance Manuals, and automated control systems for each facility and operational system.

IEUA owns and maintains a network of regional interceptor sewers that can be used to bypass flow from one treatment plant to another to balance and optimize the use of treatment capacity. Currently, regional interceptors can bypass flow from RP-4 to RP-1, from CCWRF to RP-5 and a portion of RP-1 flow to CCWRF. In addition, primary effluent can be bypassed from the RP-1 equalization basins to RP-5. The main routes for bypassing/diverting flow are:

- Bypass from RP-4 to RP-1 through the Etiwanda Interceptor,
- Bypass from CCWRF to RP-5 through the Chino Interceptor,
- A portion of the flow from the Cities of Upland and Montclair can be diverted either to RP-1, through the Montclair Interceptor (via Montclair Pump Station), or to CCWRF through the Westside Interceptor, and
- Primary effluent can be diverted from the RP-1 equalization basins to RP-5 via the Eastside Interceptor.

With the regional interconnectivity between facilities and facility redundancy, IEUA's treatment facilities provide system-wide flexibility. Regional flexibility includes the ability to bypass or divert flows between various facilities, with installed infrastructure to enable Operations to manage and control the amount of flow reaching each facility. Additionally, the treatment/water recycling facilities are also regionally interconnected through recycled water pipelines, storage reservoirs and pump stations for reliability and flexibility in serving customers. In general, flows are routed between water recycling plants in order to optimize recycled water deliveries while minimizing overall pumping and treatment cost. System-wide capacity utilization will be balanced and optimized between facilities to ensure that water quality requirements are reliably maintained while satisfying recycled water demands. Production and delivery of high quality recycled water can influence the routing of raw sewage flows to any of the plants. However, due to the system flexibility, the routing can be readily changed. IEUA has consistently remained below the rated system-wide capacity and has facility interconnectivity allowing for effective and appropriate routing and balancing of flows between all IEUA facilities.

As detailed in the individual facility Title 22 Engineering Reports (Appendix M), if any critical unit process fails or approaches the limit of its Title 22 capacity, an alarm is annunciated and the operator takes appropriate action. If the plant is unmanned, the on-call operator remotely monitors the SCADA system to review the alarm condition and determine the appropriate course of action.

For each facility, treatment reliability is provided by each of the following:

- standby treatment units and equipment
- reliance on downstream treatment processes
- standby engine generator for emergency power
- on-site, short-term emergency storage
- flow diversion to other facilities

Each facility has alarms and contingency actions relative to its processes. Facility-specific processes, alarms and detailed contingencies are included in the individual facility Title 22 Reports in Appendix M. Another important part of IEUA's treatment plants' contingency plan includes IEUA's preventive maintenance program. The facilities have an excellent operating and monitoring record, which also helps to avert problems before they become serious concerns. For further details on the preventative maintenance program or any other portion of the contingency plans please refer to the respective plants' Title 22 Report. Following are individual contingency plans for each facility.

RP-1: The basis for the RP-1 contingency plan relies on the use of multiple treatment units and standby equipment. RP-1 has capacity to treat flows averaging 44 mgd. Reliability is provided either by standby units or by reliance on downstream processes. For pumping stations and similar mechanical facilities,

standby units are available in the event that duty units are out of service. RP-1 features flow equalization composed of two basins, a short-term storage basin, flow diversion structures, and intermediate pumping facilities. For major processes, such as biological treatment, flow equalization provides storage of 12 million gallons for the portion of the secondary process that can be taken out of service. Primary and secondary treated effluent can be remotely diverted to the 10 million gallon storage lagoon to stabilize the process, and will reintroduce the wastewater to the plant for treatment. RP-1 also has the ability to divert primary treated wastewater, as well as divert sanitation lift station flows to downstream facilities if needed to limit the hydraulic load on RP-1's secondary, tertiary and solids treatment processes. Based on flow equalization facilities and flow peaking factors estimated for RP-1, Flow Equalization Basin Nos. 1 and 2 provide ample storage to effectively equalize diurnal flows and dampen peak flows to downstream treatment processes. Actual operating experience at RP-1 indicates that the secondary and tertiary processes experience a reduced diurnal flow pattern. IEUA uses the short-term storage basin (Basin No. 3) during storm events to store and equalize peak wet weather flows. Its capacity can also be used to provide emergency storage or standby secondary treatment for emergency conditions when one of the anoxic/oxic-final clarifier systems is out of service by storing primary effluent until the secondary treatment units can be brought back on-line. Basin No. 3 can also provide storage for secondary effluent in the event that a portion of the tertiary treatment facilities are off-line. The chlorine contact basin flow can also be slowed to allow for extended treatment to ensure compliance with recycled water regulations. Additionally, the facility's recycled water pump station has the ability to function as a fail-safe by stopping the recycled water pump station and forcing the water to the lagoon for further treatment at the inlet of the facility until the recycled water quality requirements are met.

RP-4: The basis for the RP-4 contingency plan relies on the use of multiple treatment units and standby equipment, storage, and the ability to divert flows to RP-1. RP-4 has capacity to treat flows averaging at least 14 mgd and peaks up to 32.2 mgd. For pumping stations and similar mechanical facilities, standby units are available in the even that duty units are out of service. For major processes, such as the biological secondary treatment process, short-term storage is provided for that portion of the process that is taken out of service. If any critical unit process fails or approaches the permit limits, an alarm is annunciated and the operator takes appropriate action, including the possibility of shutting down one of the influent pumps to limit the flow into the plant or divert flow to the on-site storage pond. The plant headworks allows RP-4 to divert raw wastewater back to the trunk sewer for conveyance to RP-1. RP-4 features a 4 million gallon on-site storage pond and return pumping facilities. The return pump station returns stored water from the emergency storage and drain holding pond to the sewer to RP-1. The return pump station can also pump to the splitter box upstream of the anoxic tanks for flexibility. The on-site storage pond can be used to hold secondary effluent, filter effluent or final effluent during short-term emergency conditions. At an annual average flow of 14 mgd, the short-term storage basin provides up to 6.85 hours of emergency on-site holding capacity. However, such storage will generally not be required because of the ability to regulate the number of influent pumps in service and divert peak flows in excess of the plant design flow to RP-1 for treatment. If necessary, RP-1 currently has the capacity to handle any RP-4 diverted flow, or even the entire RP-4 plant flow.

RP-5: The basis for the RP-5 contingency plan relies on the use of multiple treatment units, standby equipment and storage. RP-5 has the capacity to treat flows averaging at least 16.3 mgd and peaks of at least 32.6 mgd. For pumping stations and other similar mechanical facilities, standby units are available in the event that duty units are out of service. For major processes, such as the biological secondary treatment or filtration processes, standby units and conservative design criteria offer reliability, or if these are insufficient, on-site emergency storage can be used. In the unlikely event of a major failure of the preliminary

or primary treatment systems, the first alternative would be to divert a portion of the influent wastewater to another of IEUA's upstream treatment facilities. A second alternative would be to increase the removal efficiency of the remaining units in service. This can be accomplished by increasing the dosage of ferric chloride and polymer to the primary clarifiers, or by calling an additional blower into service due to increased air requirements. The plant could operate without significant impacts to the process under average conditions for a short time. It should be noted that the plant can be operated in the short term without the screening and grit removal processes.

For all other major process failures or events that would result in inadequately treated effluent for disposal or reuse, the primary response is to divert flow to onsite storage. Primary effluent would be diverted to the 6.8 million gallon Emergency Storage Pond, and tertiary effluent would be diverted to the 17 million gallon Emergency Holding Pond. Diversion to the Emergency Holding Pond is automatic; the gate to the outfall is automatically closed, and the recycled water pump station is programmed to turn off. All pumps are programmed to shut down on a high effluent turbidity signal so no inadequately treated recycled water is delivered to users. On-site emergency storage basins have a combined volume of 23.8 million gallons or approximately 35 hours of storage at an average flow of 16.3 mgd. Significantly more storage time would be available if a portion of the influent flow were temporarily treated at one of IEUA's upstream plants. Any inadequately treated effluent stored on-site would be returned to the influent pump station wetwell after the plant is restored to working capacity and influent flows are sufficiently low. In the event of a power failure, the plant is designed to automatically switch over to the standby diesel engine-generator. An alarm will annunciate in the SCADA system to inform operators that power has failed. All of the major process units have been provided with backup reliability and multiple units in the event that any one unit is out of service. Additionally, IEUA's preventative maintenance program helps to ensure that all mechanical equipment is kept in reliable working order.

CCWRF: The basis for the CCWRF contingency plan relies on the use of multiple treatment units and standby equipment, storage, and the ability to divert flows to RP-5. CCWRF has capacity to treat flows averaging up to 12 mgd. The existing influent diversion structure allows CCWRF to divert raw wastewater to RP-5 or to the Inland Empire Brine Line (IEBL). The influent diversion structure enables CCWRF to operate as a scalping plant and provide additional operational control and enhance the performance of the treatment processes. Under emergency conditions, primary effluent, secondary effluent (filter influent), and/or tertiary effluent can be sent to the 9 million gallon short-term storage basin. On-site storage provides an alternative means of standby capacity or redundancy for short-term retention provisions for biological treatment processes. If necessary, CCWRF could temporarily increase the raw wastewater sent to RP-5 from the influent diversion structure to provide flow relief until its treatment process is back in full operation. In the event of an emergency, manual gates at the influent diversion structure can send flow to the IEBL. For pumping stations and similar mechanical facilities, standby units are available in the event that duty units are out of service. For major processes, such as primary sedimentation or biological treatment, short-term storage is available for that portion of the process that is taken out of service. For recycled water, CCWRF utilizes an on-site, below grade recycled water storage reservoir with a usable volume of about 0.75 million gallons. The recycled water is then pumped to the Zone 930 of IEUA's recycled water distribution system, including the 5 million gallon 930 Reservoir which helps support system stability. In the event that the flow rate to the chlorine contact tank exceeds its rated set point, filter influent can be bypassed to the emergency storage basin. Tertiary effluent can be bypassed and stored in the emergency storage basin as well if needed. Besides solar power, a diesel-fueled standby engine generator is capable of supplying ample power for operation during a utility power outage. In the event of an extended power

outage, the valve to the recycled water storage reservoir can be closed, the outfall gate to the creek will be shut, and the primary effluent pumps will shut off. This will cause primary effluent flow to be diverted to the on-site emergency storage basin.

Notification Process:

There are several preventative and mitigation alternatives to exercise within the systems of each plant, as well as within the network of plants to significantly reduce the likelihood of an occurrence, as well as minimize the level of impact. In the event that any treatment failures could result in the delivery of inadequately treated recycled water, the following plan will be used to notify recycled water users, the regional board, the state and local health departments, and other agencies as appropriate. IEUA will notify the following agencies:

- Member agencies by telephone as soon as possible, but not to exceed 2 hours of having knowledge of such noncompliance. Member agencies are responsible for notifying city customers as necessary.
- Direct customers by telephone as soon as possible, but not to exceed 2 hours of having knowledge of such noncompliance.
- The Division of Drinking Water by email as soon as possible, but not to exceed 24 hours of having knowledge of such noncompliance. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures being taken to remedy the current noncompliance. The notification shall also include measures to prevent recurrence including, where applicable, a schedule of implementation.
- The Regional Water Board by email as soon as possible, but not to exceed 24 hours of having knowledge of such noncompliance. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures being taken to remedy the current noncompliance. The notification shall also include measures to prevent recurrence including, where applicable, a schedule of implementation.
- The Chino Basin Watermaster by telephone within 24 hours of encountering noncompliance.

3.0 TRANSMISSION AND DISTRIBUTION SYSTEMS

A map showing the location of the transmission facilities and the distribution system layout is provided in Appendix H. The map shows the location of the transmission facilities and local laterals. Maps contained within the user engineering appendix for each use site also show the ownership and location of all water lines, recycled water lines, and sewer lines adjacent and within the use sites.

4.0 USE AREAS

Each proposal for the use of recycled water will require the location and description of the site at which the recycled water will be used. This description may include, but is not limited to:

- Aerial photo illustrating the proposed use area
- Address and location of proposed user
- Projected consumption

Facilities utilizing the recycled water for industrial process, cooling towers, and other internal features may require plumbing plans and drawings in addition to the descriptions listed above and as such they will be attached on an as needed basis pursuant to the SWRCB DDW requirements. Please refer to the supplemental site specific Engineering Report (to be submitted as Appendix J) for the specific use site engineering appendices for:

- Description of the land use
- Type of reuse proposed
- Parties responsible for the use of the recycle water
- Identification of other regulatory agencies that have jurisdiction over the use site
- Use area containment measures
- A map showing:

    1. Specific area of use
    2. Areas of public access
    3. Surrounding land uses
    4. Location and construction details of wells in or within 1,000 feet of the use area
    5. Location and type of signage

- Discussion of the degree of access by the user's employees or the public
- For use areas where both potable and recycled water lines exist, a description of cross-connection control procedures that will be used

In addition to the general information listed above, the following information will be included in each user engineering appendix depending on the specific use of recycled water.

4.1 Irrigation

- Detailed plans showing all piping networks within the use area including recycled, potable, sewage and others.
- Description of what will be irrigated (e.g. landscape, specific food crop, etc.).
- Method of irrigation (e.g. spray, flood, or drip)
- Location of domestic water supply facilities in or adjacent to the use area.
- Site containment measures.
- Measure to be taken to minimize ponding.
- The direction of drainage and a description of the area to which the drainage will flow.
- A map and/or description of how the setback distances of Section 60310 will be maintained.
- Protection measures for drinking water fountains and designated outdoor eating areas, if applicable.
- Location and wording of public warning signs.
- The proposed irrigation schedule (if public access is included).
- Measures to be taken to exclude or minimize public contact.

4.2 Impoundments

- The type of use or activity to be allowed on the impoundment.
- Description of the degree of public access.
- The conditions under which the impoundment can be expected to overflow and the expected frequency.
- The direction of drainage and a description of the area to which the drainage will flow.

4.3 Cooling

- The type of cooling system (e.g. cooling tower, spray, condenser, etc.)
- Type of biocide to be used, if applicable.
- Type of drift eliminator to be used, if applicable.
- Potential for employee or public exposure, and mitigation to be employed.

4.4 Groundwater Recharge

The Master Engineering Report will not be utilized for this category. The appropriate information for this type of use will be determined after consultation with the SWRCB DDW on a case by case basis.

4.5 Dual Plumbed Use Areas

In accordance with Sections 60313 through 60316 of the Water Recycling Criteria.

4.6 Other Industrial Uses

The appropriate information will be determined by SWRCB DDW on a case by case basis.

4.7 Use Area Design

For new reuse sites the report will include a discussion of how the potable water and recycled water distribution lines were designed to avoid cross connections. The user engineering appendix will also describe how the systems were designed to mitigate recycled water leaving the use area.

4.8 Recycled Water Trucking

The site specific Engineering Report for uses involving Recycled Water Trucking/Hauling will adhere to the general program guidelines and requirements for recycled water trucking, as included in Appendix J. The report should indicate if the end use is for:

- Irrigation use for outdoor landscaping
- Dust control for construction sites
- Surface washing hard surfaces
- Recycled water hauled/trucked from RW fill stations
- The conditions of use that should be included in the engineering report should state:

i. Recycled water containers and equipment cannot be connected to buried irrigation systems or to onsite drinking water supply.
ii. Recycled water shall not be discharged to the street gutter or storm drain system. If there is leftover recycled water that needs to be disposed of, either discharge it to a landscaped area or to the sanitary sewer system via an onsite cleanout.

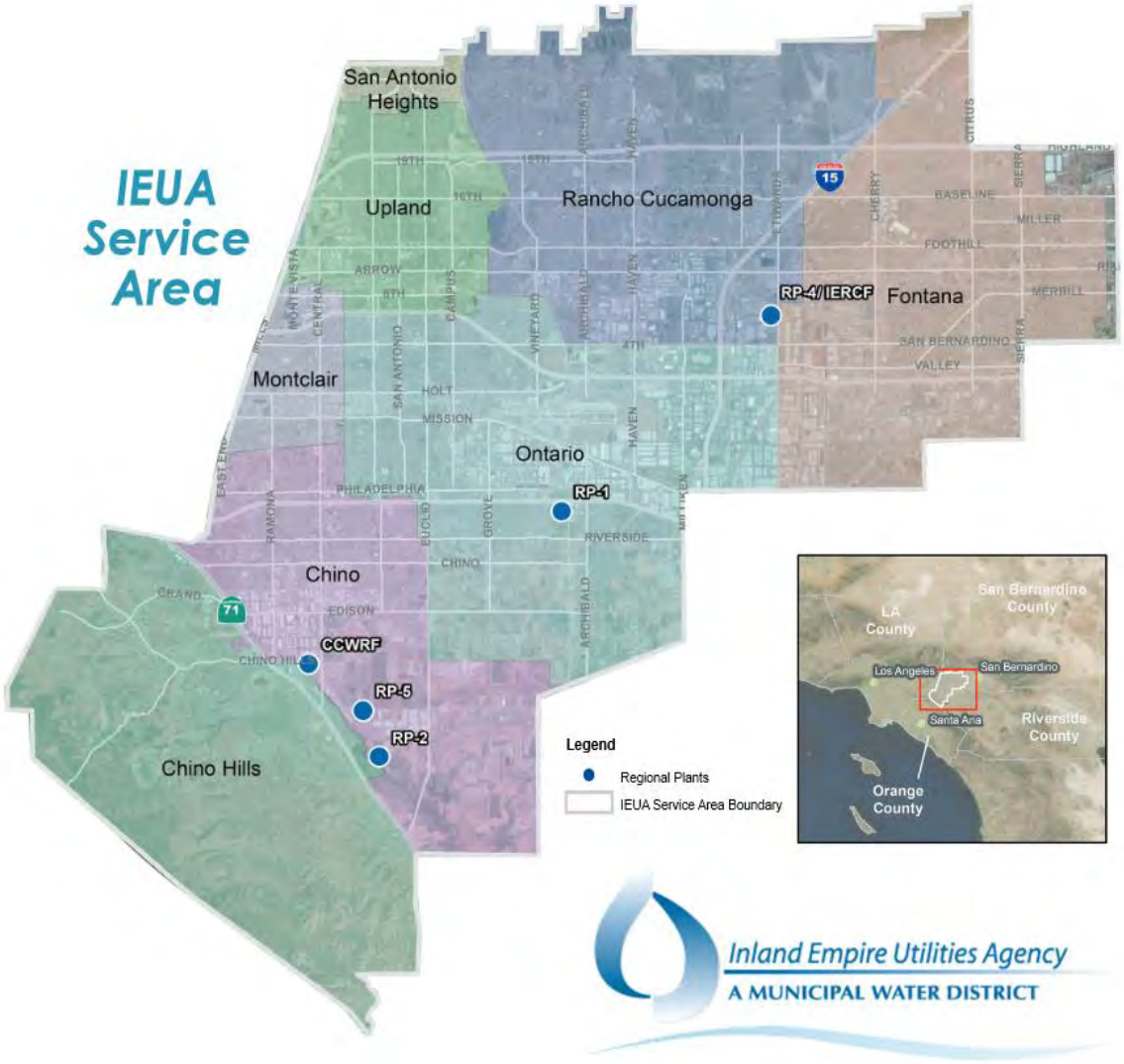
For each recycled water hauler, an application/permit shall be submitted for approval by IEUA (Appendix K1). Monthly data from the Appendix K1 shall be submitted for each end user to the RWA, and by the RWA to IEUA for submission.

If Recycled Water Fill Station is to be utilized for the transport of recycled water, a User Application and Agreement (Appendix K2) shall be submitted for approval by IEUA. Monthly data from the Appendix K2 shall be submitted for each end user to the RWA, and by the RWA to IEUA for submission to IEUA. Any user desiring access to utilize fill stations will have access upon approval of application to IEUA. Fill station design plans will be submitted as they are developed for approval to DDW.

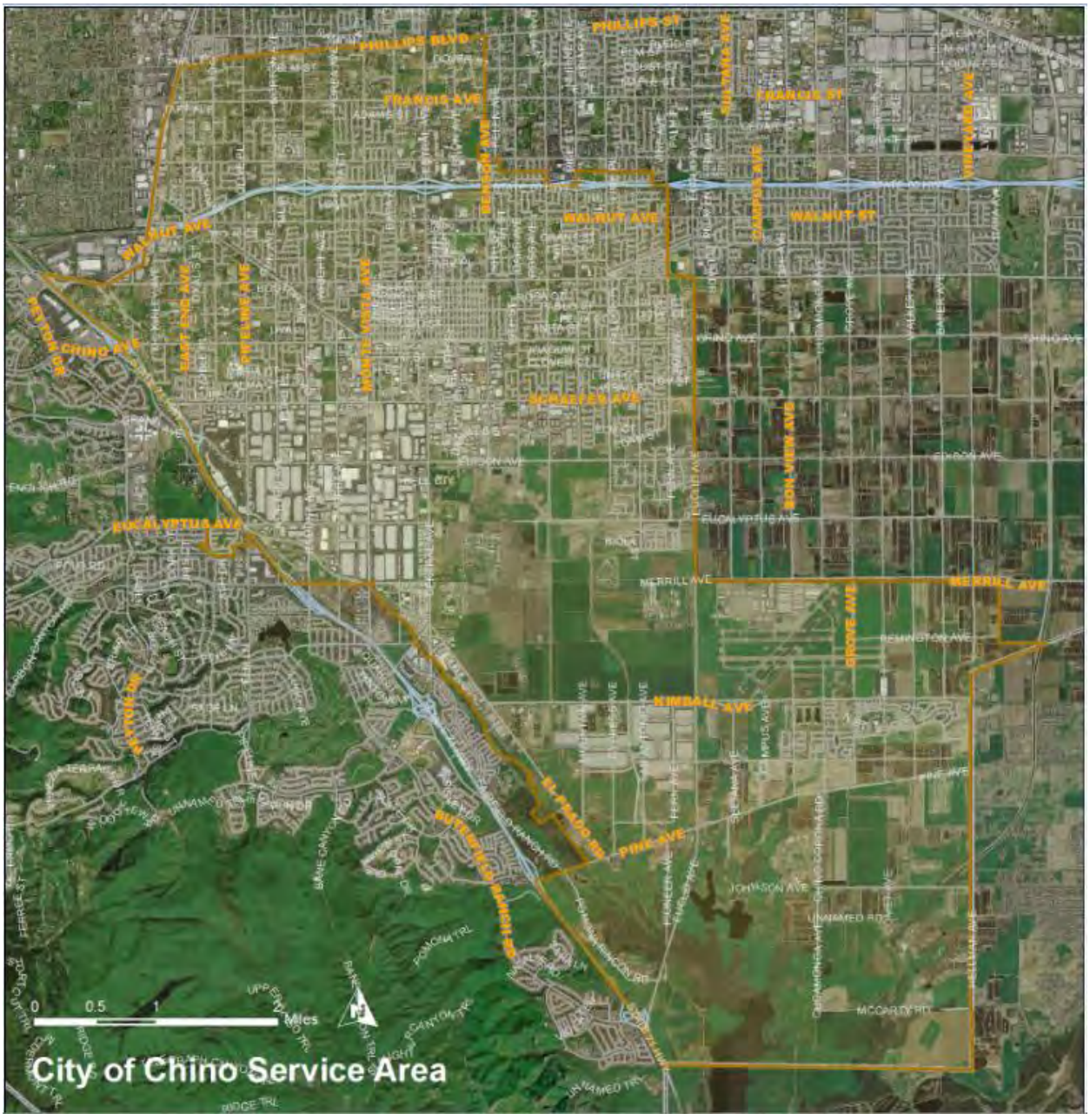
APPENDIX A:

SERVICE AREA

Appendix A1 – IEUA Service Area

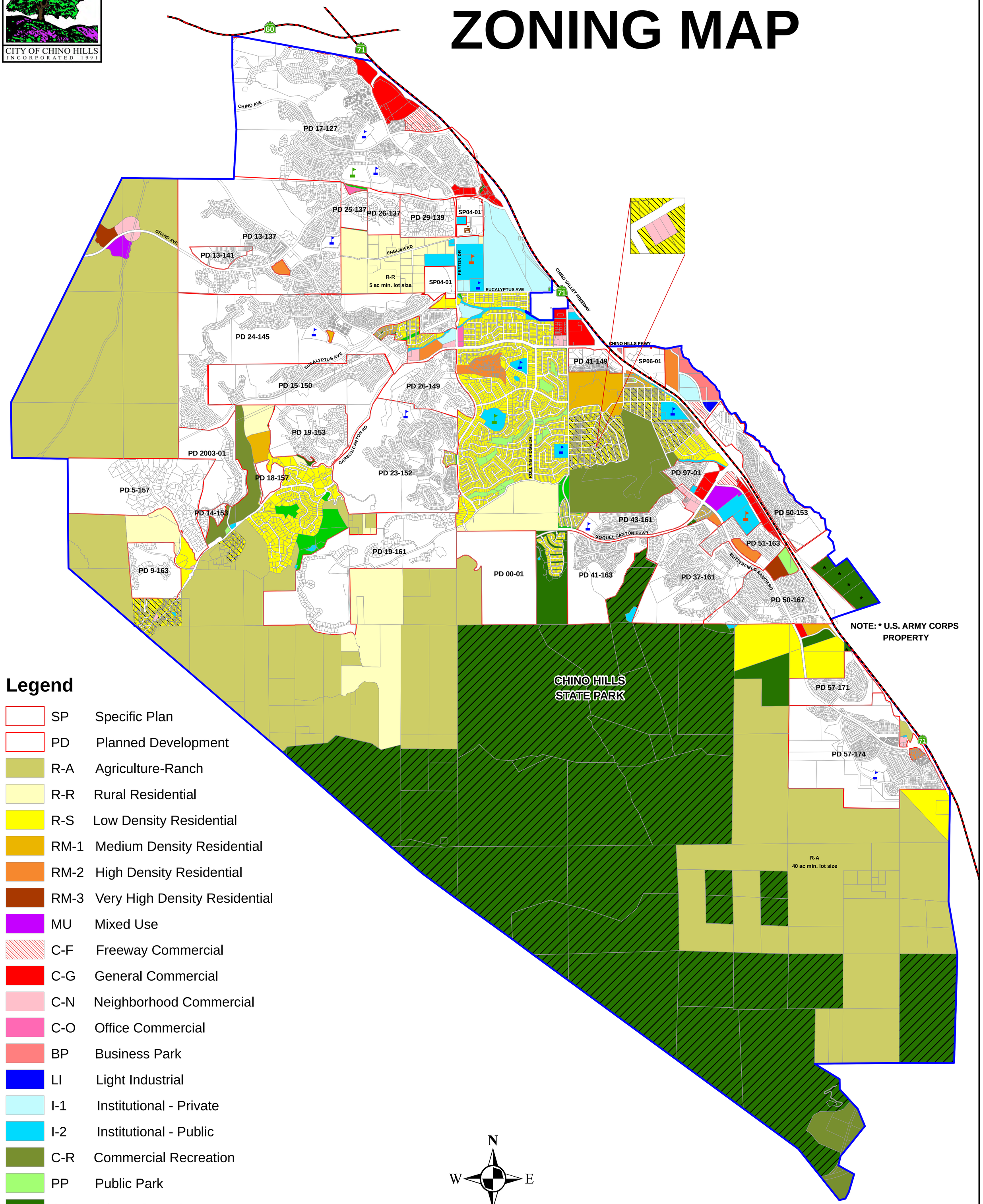


Appendix A2 – City of Chino Service Area



CITY OF CHINO HILLS
ZONING MAP

CITY OF CHINO HILLS
INCORPORATED 1991



NOTE: * U.S. ARMY CORPS PROPERTY

Legend

- SP Specific Plan
- PD Planned Development
- R-A Agriculture-Ranch
- R-R Rural Residential
- R-S Low Density Residential
- RM-1 Medium Density Residential
- RM-2 High Density Residential
- RM-3 Very High Density Residential
- MU Mixed Use
- C-F Freeway Commercial
- C-G General Commercial
- C-N Neighborhood Commercial
- C-O Office Commercial
- BP Business Park
- LI Light Industrial
- I-1 Institutional - Private
- I-2 Institutional - Public
- C-R Commercial Recreation
- PP Public Park
- OS-1 Private Open Space
- OS-2 Public Open Space
- Small Lot Overlay
- Chino Hills State Park
- Elementary School
- Junior High School
- High School
- City Government

N
W E
S

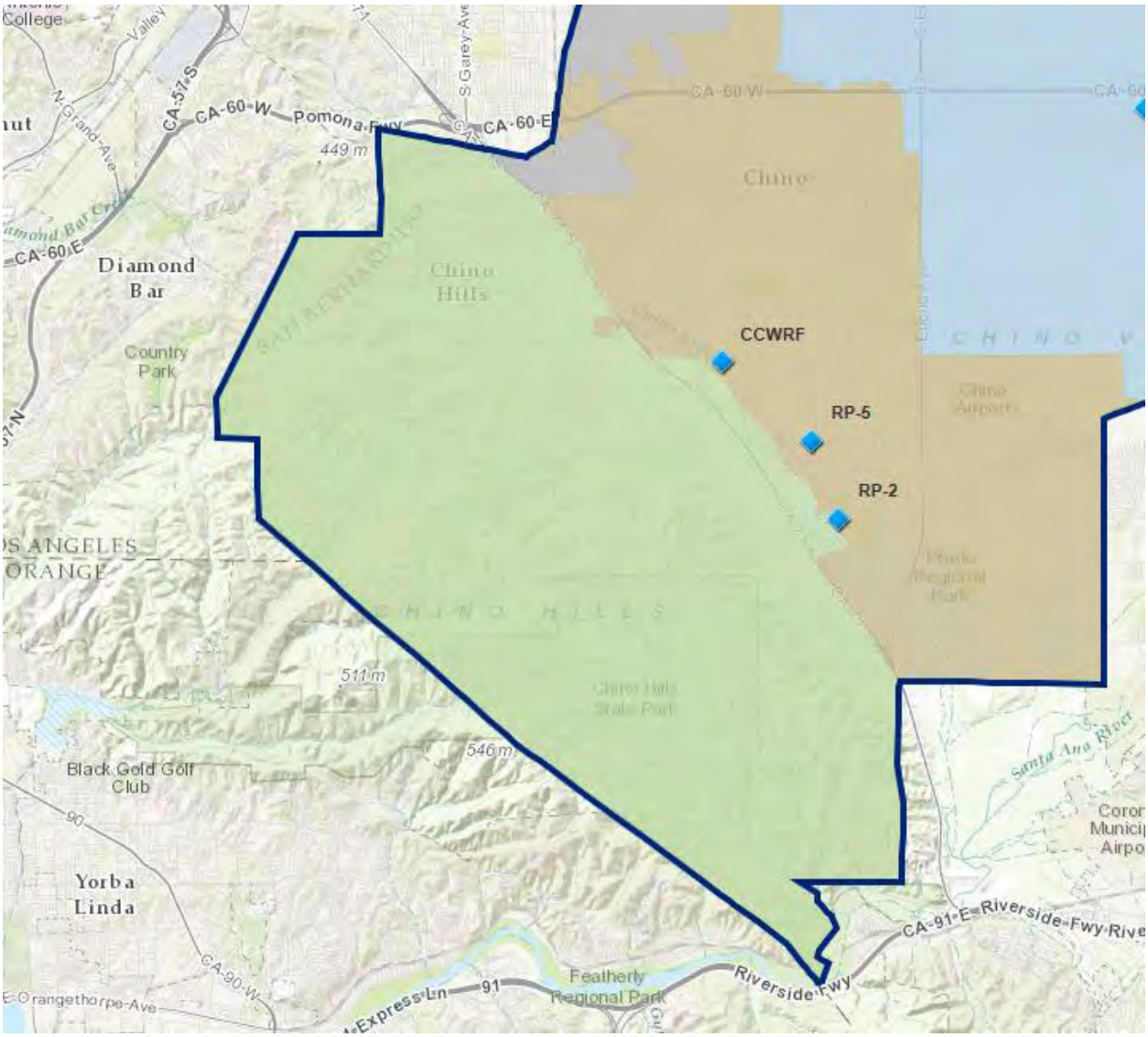
0 0.25 0.5 1 Miles

1 inch = 2000 feet

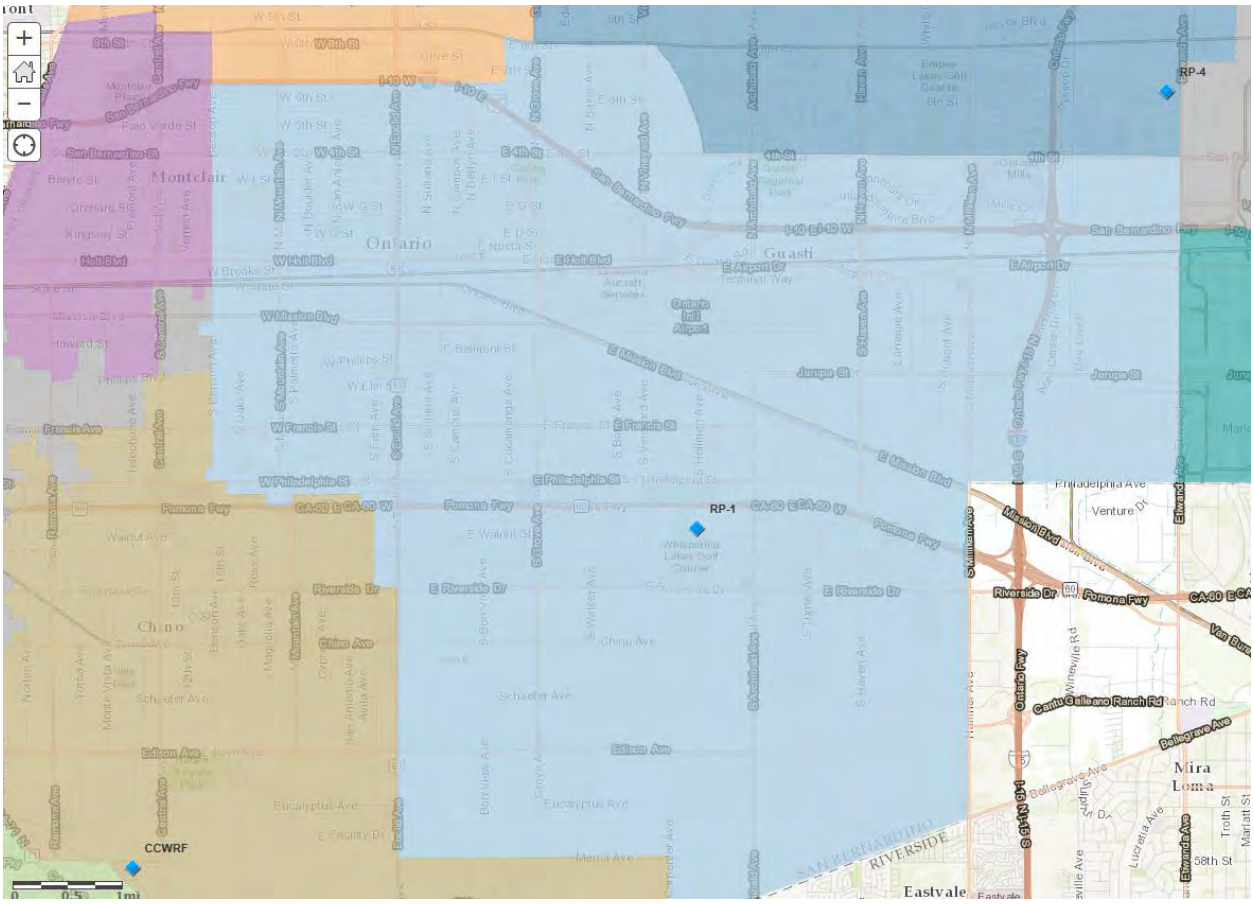
REVISED: 14ZC04 ADOPTED BY CITY COUNCIL
24 FEBRUARY 2015

I:\Maps\Zoning\Zoning Map Adopted Feb 24, 2015.mxd

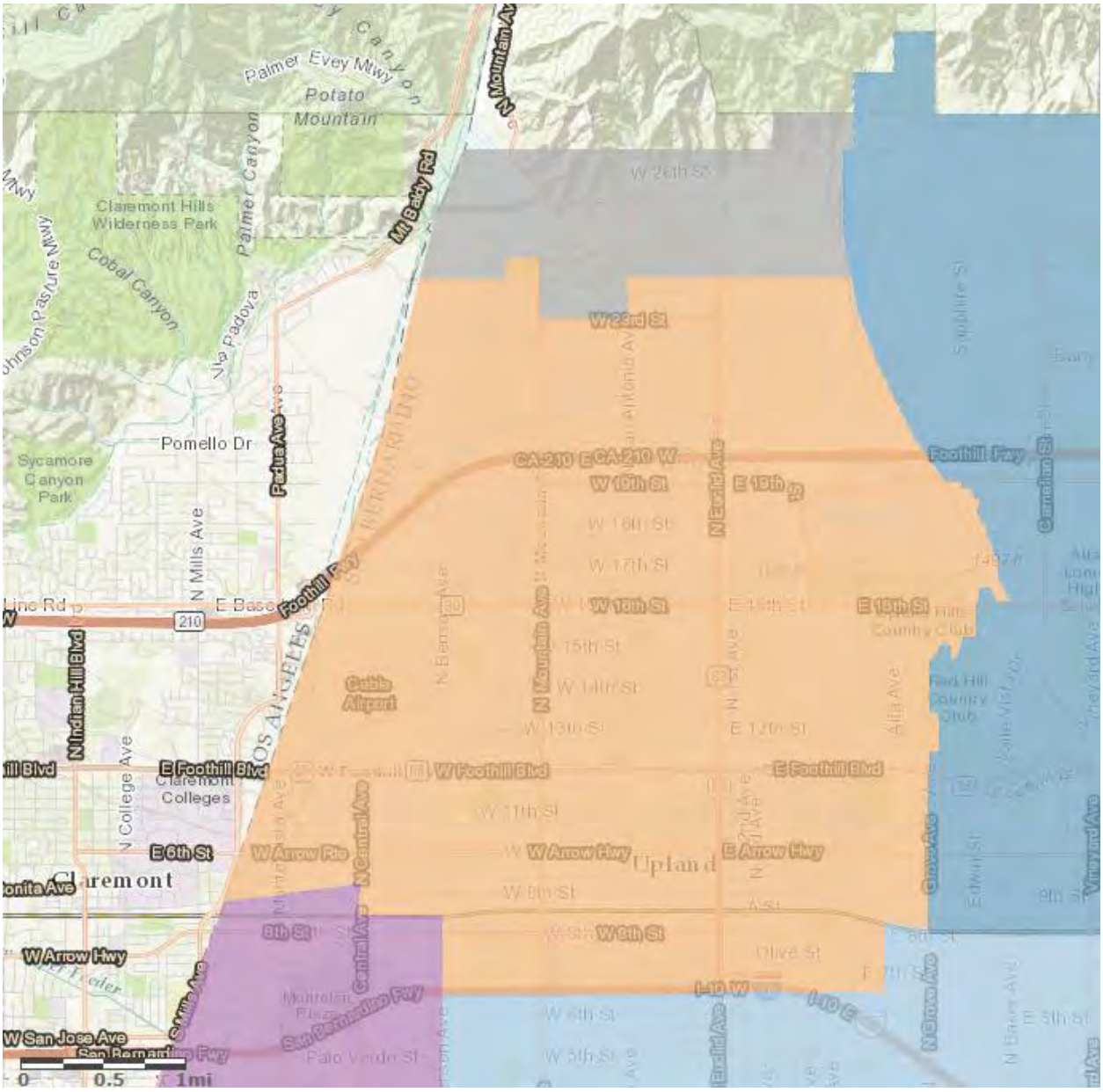
Appendix A3: City of Chino Hills Service Area



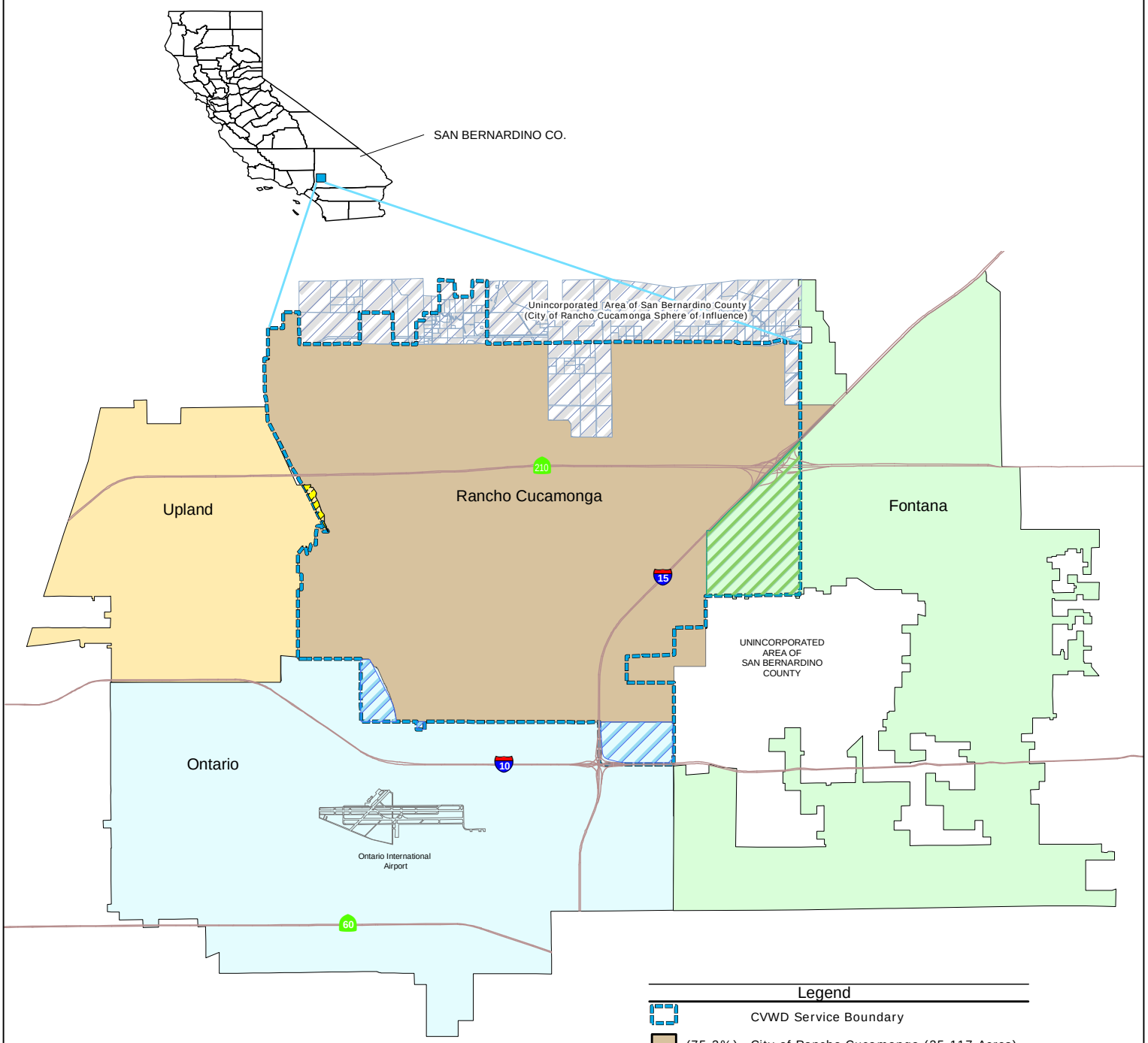
Appendix A4 – City of Ontario Service Area



Appendix A5 – City of Upland Service Area



Cucamonga Valley Water District
District Boundary



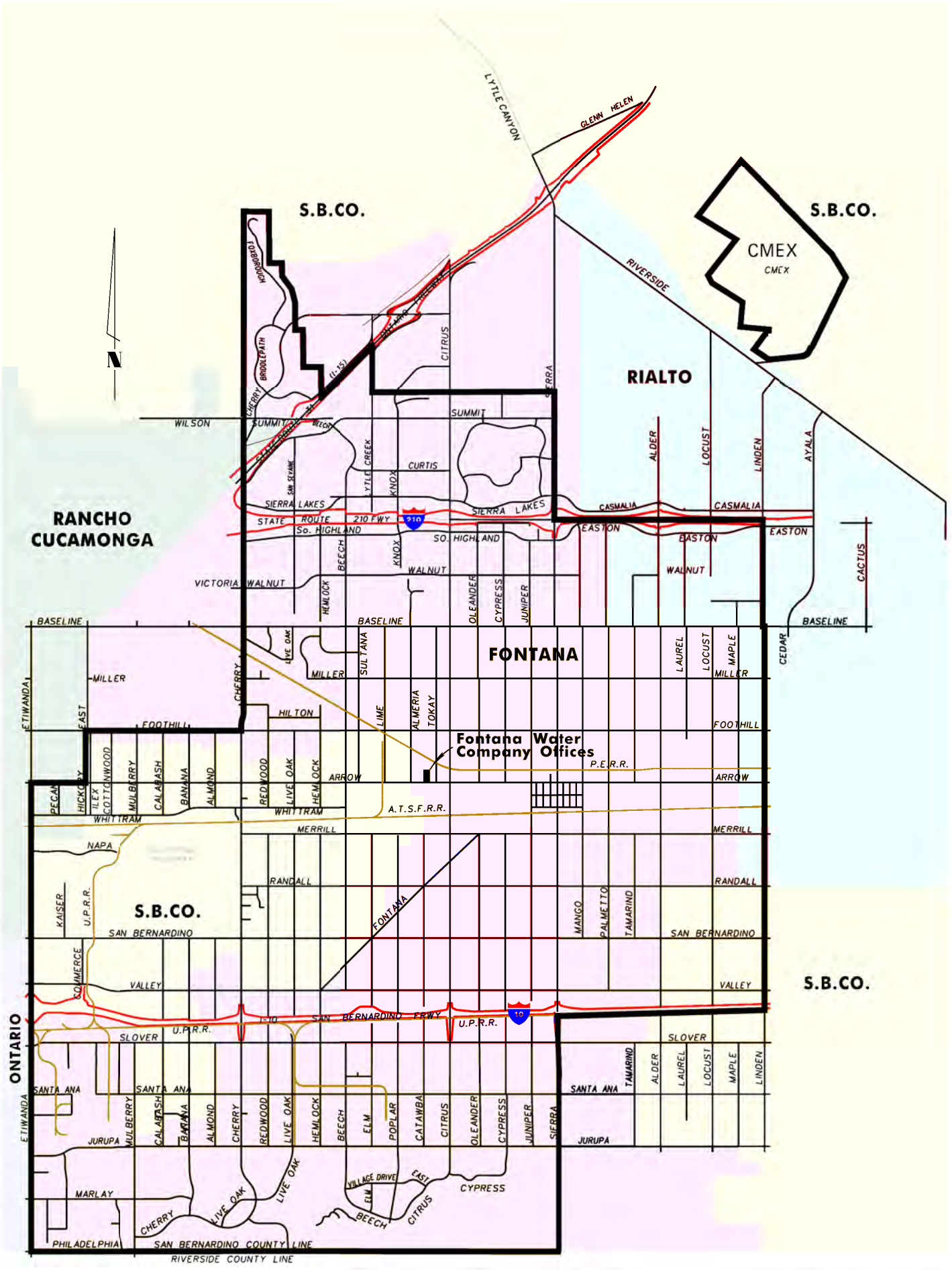
Legend

		CVWD Service Boundary
	(75.2%)	City of Rancho Cucamonga (25,117 Acres)
	(17.9%)	Rancho Cucamonga S. O. I. (5,996 Acres)
	(<1%)	City of Upland (27 Acres)
	(5%)	City of Fontana (1,630 Acres)
	(1.9%)	City of Ontario (632 Acres)

Total Service Area = 33,402 Acres
or 52 square miles ±

Cucamonga Valley Water District

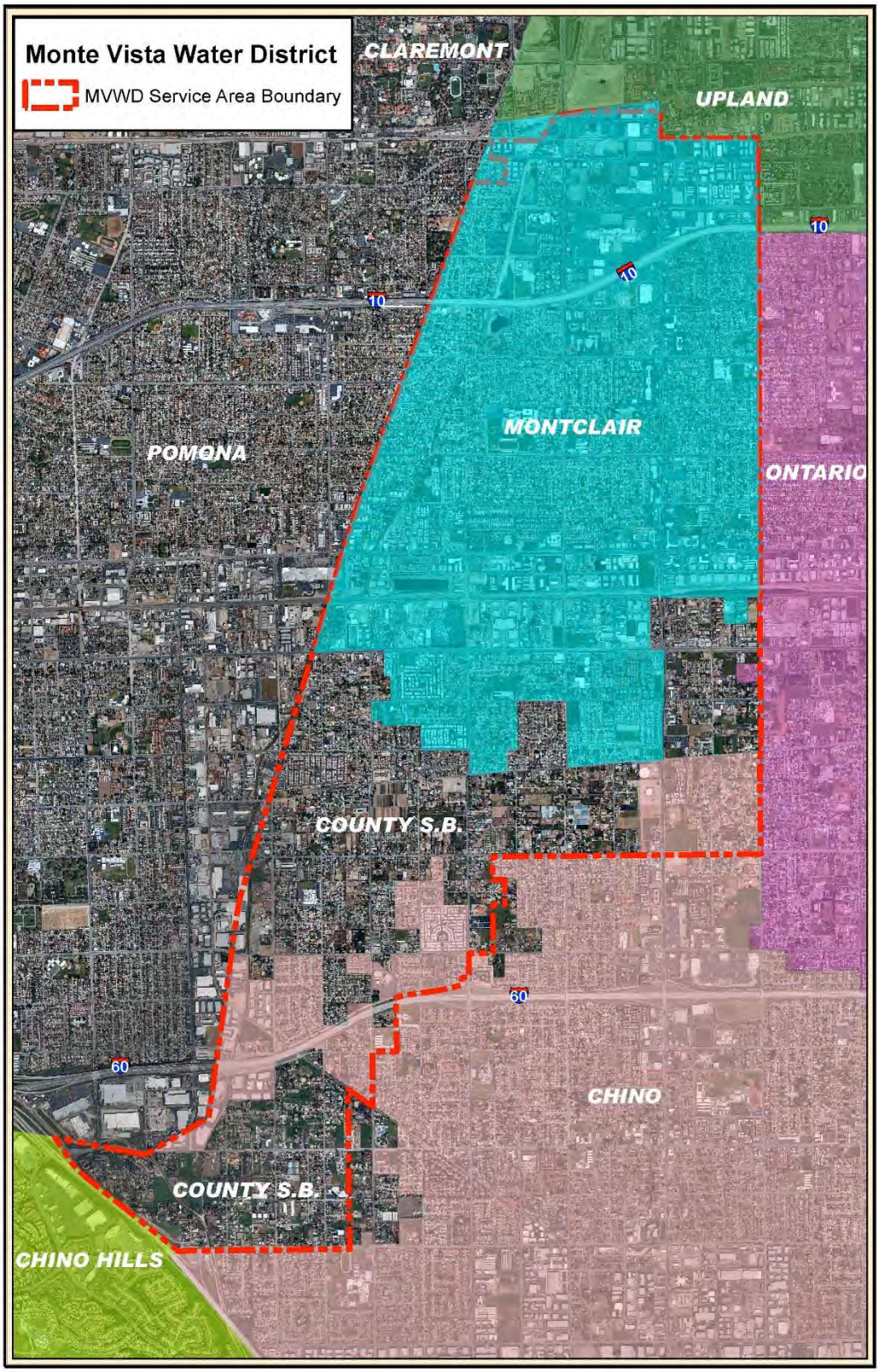
Updated 02/22/2008



FONTANA WATER COMPANY
SYSTEM NO. 3610041

SCALE IN MILES
0 ½ 1 2

Appendix A8 – MVWD Service Area



APPENDIX B:

GOVERNANCE FOR THE USE OF RECYCLED WATER

ORDINANCE No. 69

AN ORDINANCE OF THE BOARD OF DIRECTORS OF INLAND EMPIRE UTILITIES AGENCY*, A MUNICIPAL WATER DISTRICT, REGULATING THE AVAILABILITY AND USE OF RECYCLED WATER FROM THE REGIONAL RECYCLED WATER DISTRIBUTION SYSTEM

WHEREAS, The California State Legislature adopted the Recycled Water Act of 1991 with the intent of promoting the implementation of recycled water projects throughout the State of California;

WHEREAS, The Recycled Water Act of 1991 has been amended from time to time to strengthen the level of cooperation and coordination among and between the recycled water producers, the recycled water retailers, and the recycled water customers within the State of California;

WHEREAS, The Regional Sewage Service Contract, (Section 15, paragraph B) provides each Contracting Agency with the right of first purchase, for that volume of recycled water, up to the quantity of its base entitlement, that is tributary to the Regional Wastewater Treatment System from its service area;

WHEREAS, Inland Empire Utilities Agency* (IEUA*) has maintained its National Pollution Discharge Elimination Permit (a Master Recycling Permit, pursuant to Water Code Section 13523.1) and continues to own and operate the Regional Wastewater Treatment System which produces high-quality recycled water for distribution to its Contracting Agencies and certain retail customers;

WHEREAS, IEUA* has developed a Regional Recycled Water Distribution System for the delivery of recycled water to its Contracting Agencies and other customers within the IEUA* service area;

WHEREAS, The Regional Sewage Service Contract defines and declares that a wastewater collection sewer serving two or more Contracting Agencies is a regional asset, so too shall recycled water distribution pipelines serving two or more Contracting Agencies be defined as regional assets controlled and operated by IEUA*;

WHEREAS, The Regional Sewage Service Contract has made provisions for the annual review and establishment of the Regional Wholesale Recycled Water Rate associated with the ongoing operation and maintenance of both the Regional Wastewater Treatment System and the Regional Recycled Water Distribution System;

WHEREAS, The staff of IEUA*, together with the review of the Regional Advisory Committees, have committed to performing the necessary annual calculations for the preparation of such rates and adopt them as a routine task of annual budget preparation; and

WHEREAS, The Wholesale Recycled Water Rate determined annually shall be a wholesale rate. The actual retail recycled water rates are adopted by the local agency based on the cost of service.

BE IT ORDAINED by the Board of Directors of the Inland Empire Utilities Agency* as follows:

ORDINANCE No. 69

AN ORDINANCE OF THE BOARD OF DIRECTORS OF INLAND EMPIRE UTILITIES AGENCY*, A MUNICIPAL WATER DISTRICT, REGULATING THE AVAILABILITY AND USE OF RECYCLED WATER FROM THE REGIONAL RECYCLED WATER DISTRIBUTION SYSTEM

WHEREAS, The California State Legislature adopted the Recycled Water Act of 1991 with the intent of promoting the implementation of recycled water projects throughout the State of California;

WHEREAS, The Recycled Water Act of 1991 has been amended from time to time to strengthen the level of cooperation and coordination among and between the recycled water producers, the recycled water retailers, and the recycled water customers within the State of California;

WHEREAS, The Regional Sewage Service Contract, (Section 15, paragraph B) provides each Contracting Agency with the right of first purchase, for that volume of recycled water, up to the quantity of its base entitlement, that is tributary to the Regional Wastewater Treatment System from its service area;

WHEREAS, Inland Empire Utilities Agency* (IEUA*) has maintained its National Pollution Discharge Elimination Permit (a Master Recycling Permit, pursuant to Water Code Section 13523.1) and continues to own and operate the Regional Wastewater Treatment System which produces high-quality recycled water for distribution to its Contracting Agencies and certain retail customers;

WHEREAS, IEUA* has developed a Regional Recycled Water Distribution System for the delivery of recycled water to its Contracting Agencies and other customers within the IEUA* service area;

WHEREAS, The Regional Sewage Service Contract defines and declares that a wastewater collection sewer serving two or more Contracting Agencies is a regional asset, so too shall recycled water distribution pipelines serving two or more Contracting Agencies be defined as regional assets controlled and operated by IEUA*;

WHEREAS, The Regional Sewage Service Contract has made provisions for the annual review and establishment of the Regional Wholesale Recycled Water Rate associated with the ongoing operation and maintenance of both the Regional Wastewater Treatment System and the Regional Recycled Water Distribution System;

WHEREAS, The staff of IEUA*, together with the review of the Regional Advisory Committees, have committed to performing the necessary annual calculations for the preparation of such rates and adopt them as a routine task of annual budget preparation; and

WHEREAS, The Wholesale Recycled Water Rate determined annually shall be a wholesale rate. The actual retail recycled water rates are adopted by the local agency based on the cost of service.

BE IT ORDAINED by the Board of Directors of the Inland Empire Utilities Agency* as follows:

INDEX

PART I - INTRODUCTION

SECTION 101 - AUTHORIZATION

This Ordinance is enacted pursuant to the authority contained in the Municipal Water District Law of 1911; California Water Code, Section 71000 et. seq., as amended; and pursuant to the Recycled Water Act of 1991, California Water Code, commencing with Section 13575; as these documents now exist and as they may be amended from time to time.

SECTION 102 - PURPOSE

The purpose of this Ordinance is to promote the conservation of all water resources and to provide for the maximum public benefit from the use of recycled water supplies made available from the wastewater treatment facilities owned and operated by IEUA*. The use of recycled water will be encouraged and provided for uses including, but not limited to: landscape irrigation, commercial and/or industrial process, construction, groundwater recharge, wildlife habitat, recreational impoundment, agriculture, and any additional uses permitted under Title 22, Division 4, Chapter 3, Water Recycling Criteria, Section 60301 et. seq., of the California Code of Regulations.

SECTION 103 - INTENT

The Ordinance is intended to incorporate retail utility specific requirements as approved and adopted by the Contracting Agencies, water districts, and other local agencies.

This Ordinance shall also provide for the establishment of certain rules, requirements, and responsibilities, under which, recycled water service is provided and shall supplement local municipal requirements and standards.

SECTION 104 - EXTENSION OF MASTER RECLAMATION PERMIT AUTHORITY

Section 13523.1 of the California Water Code states that a recycled water supplier or distributor may be issued either waste discharge requirements or a master reclamation permit. IEUA* is a supplier of recycled water as a result of the operation of the wastewater treatment plant owned and operated under the terms of the Regional Sewage Service Contract. The IEUA* National Pollution Discharge Elimination System Permit also serves as a master reclamation permit. The Contracting Agencies, as signatories to the Regional Sewage Service Contract, shall enjoy all of the privileges and responsibilities of the master reclamation permittee. Accordingly, permittee shall be responsible for compliance with the terms and condition of the IEUA National Pollution Discharge Elimination System permit and shall indemnify and hold IEUA harmless for any fines, penalties and/or assessments arising from a violation of said permit by permittee.

SECTION 105 - DEFINITION OF TERMS

(A) APPLICANT: any person, firm, corporation, association, or agency that applies for recycled water service as provided in accordance with this Ordinance.

(B) AUTHORIZED REPRESENTATIVE: A person, group, firm, partnership, corporation, association, or agency that, pursuant to written permission, from the owner of a property, has the responsibility for establishing recycled water service for a given property.

(C) BOARD OF DIRECTORS: the Board of Directors of Inland Empire Utilities Agency* (IEUA*).

(D) CHIEF EXECUTIVE OFFICER/GENERAL MANAGER: shall mean the Chief Executive Officer/General Manager, or a duly Authorized Representative, of IEUA*.

(E) CONTRACTING AGENCY: a Public Agency that has, by due process, become a signatory to the IEUA* Regional Sewage Service Contract.

(F) DIRECT RECYCLED WATER USER: any person, group, firm, partnership, corporation, association, or agency that, pursuant to an approved Recycled Water Use Permit, directly purchases recycled water from the IEUA* Regional Recycled Water Distribution System.

(G) DOHS: State of California Department of Health Services.

(H) INDIRECT RECYCLED WATER USER: any person, group, firm, partnership, corporation, association, or agency that, pursuant to an approved Recycled Water Use Permit, purchases recycled water from the IEUA* Regional Recycled Water Distribution System by contract with a Retail Water Agency.

(I) LOCAL RECYCLED WATER DISTRIBUTION SYSTEM: a recycled water distribution system which is owned and/or operated by a Retail Water Agency; the local recycled water distribution system is generally an approved extension of the Regional Recycled Water Distribution System.

(J) NPDES PERMIT: National Pollutant Discharge Elimination System Permit issued to regulate the operation of a wastewater treatment plant, the quality of recycled water produced, and to provide a master recycling permit.

(K) OWNER: the owner of a property that is anticipated to receive or is currently receiving recycled water service.

(L) PERSON: shall mean any individual or entity including but not limited to any person, firm, company, or corporation, partnership, association, any public corporation, political subdivision, city, county, district, the State of California, the United States of America or any department or agency thereof. The singular in each case shall include the plural.

(M) RECYCLED WATER: as defined in Title 22, Division 4, Chapter 3, Water Recycling Criteria, Section 60301 et. seq., of the California Code of Regulations; water which is available as a result of the treatment of wastewater. Also as described in subdivision (n) of Section 13050 of the Water Code of the State of California, treated wastewater that is suitable for direct beneficial use or a controlled use that otherwise would not occur.

(N) RECYCLED WATER PRODUCER: any local entity that produces recycled water.

(O) RECYCLED WATER USE PERMIT: a document evidencing that an application for connection to the Regional Recycled Water Distribution System has been prepared by a Retailer and examined by IEUA* staff.

(P) RECYCLED WATER WHOLESALER: any local entity that distributes recycled water to a Retailer and which has constructed, or is constructing, a wholesale recycled water distribution system.

(Q) REGIONAL RECYCLED WATER DISTRIBUTION SYSTEM: the equipment, structures, controls, etc., used in the preparation, pumping, transmission, storage, and distribution of recycled water; owned and operated by IEUA*.

(R) RETAIL WATER AGENCY: any local entity, a public agency, or a private water company in whose service area is located the property to which a customer requests the delivery of recycled water.

(S) SERVICE: the delivery of recycled water.

(T) SERVICE CONNECTION: the IEUA* facilities or the Retailer's facilities, including but not limited to, a service valve, a meter box, a meter, and piping; between the Regional Recycled Water Distribution System and the Customer's on-site facilities, or between the Retail Water Agency's facilities and the Customers on-site facilities.

(U) WHOLESALE OF RECYCLED WATER: the transfer/sale of recycled water, from IEUA* to a Retail Water Agency.

(V) WHOLESALE RECYCLED WATER RATE: the rate for a unit of recycled water that will be set annually, by resolution of the IEUA* Board of Directors.

SECTION 106 - SEVERABILITY

If any section, subsection, sentence, clause or phrase of these rules, regulations, or requirements is for any reason found to be invalid or unconstitutional, such decision shall not affect the remaining portions of this Ordinance. The Board of Directors of IEUA* declares that it would have approved these rules, regulations, and requirements individually by section, subsection, sentence, clause, or phrase irrespective of the fact that any one or more of the sections, subsections, sentences, clauses or phrases may be declared invalid or unconstitutional.

SECTION 107 - RECYCLED WATER SERVICE AREA

This Ordinance shall pertain to the implementation and the on-going operation of the Regional Recycled Water Distribution System within the legal boundaries of IEUA's* service area, unless otherwise stated. With the expressed approval of the Board of Directors, recycled water service shall also be extended to lands, uses, and/or improvements lying outside the legal boundaries of IEUA's* service area.

PART II - RECYCLED WATER SERVICE

Part II establishes the process for the application for recycled water service. An applicant, at IEUA's discretion, may be connected directly to the Regional Recycled Water Distribution System, or may be connected indirectly to the Regional Recycled Water Distribution System via laterals that may be owned and operated by Contracting Agencies, or other Retail Water Agencies within the IEUA* service area. Records for each connection, direct or indirect, shall be consistent for all applicants.*

SECTION 201 - GENERAL

IEUA* may provide Recycled Water Service for applicants whose property falls outside of a Retail Water Agency's service area. If the applicant's property falls within a Retail Water Agency's service area the applicant shall be prepared to enter into a contact with the Retail Water Agency to apply for Recycled Water Service. Depending on the location of a given property, the lowest cost Recycled Water Service could be provided through a direct connection to the Regional Recycled Water System within the Retail Water Agency's service area or through a connection to the Retail Water Agency's local distribution system. To execute such a connection the Applicant and the Retail Water Agency shall enter a Recycled Water Service Agreement with IEUA* for Recycled Water Service on a case-by-case basis.

Whether IEUA* provides the direct delivery of Recycled Water or delivery through a local Retail Water Agency, IEUA* assumes the primary responsibility to assure that recycled water quality distributed to and utilized, in accordance with the provisions of this Ordinance, and in compliance with applicable Federal, State, and Local statutes. The Retail Water Agency shall, from the point of connection to the Regional Recycled Water Distribution System, be responsible for the recycled water quality distributed to and utilized by all subsequent connections, in accordance with the provisions of this Ordinance, and in compliance with applicable Federal, State, and Local statutes.

SECTION 202 - RECYCLED WATER USE PERMIT

To receive Recycled Water Service, a property owner or an authorized representative, of the property, that is intended to be served with recycled water, must submit a completed application for Recycled Water Service. A Recycled Water Use Permit shall be required and on file at the Retail Water Agency.

The service-area wide design criteria, for the on-going development and implementation of the recycled water systems, will be regularly scheduled for discussion at the Regional Technical Committee meetings. The design criteria will be incorporated into the Regional Recycled Water Distribution System Connection Permit.

SECTION 203 - APPLICANT'S RESPONSIBILITY

A Recycled Water Service Application must be made in writing, signed by the Applicant. In the event that the Applicant and the property owner are not one and the same, the Applicant shall have the written authorization of the property owner. By signing the Application, the

owner/applicant shall agree to comply with the requirements of any and all applicable Federal, State, and Local statutes, ordinances, regulations, and all other requirements including this Ordinance. The applicant shall, as evidenced by their signature on the application form, agree to comply with this Ordinance and any and all other applicable governing documents.

SECTION 204 - PROTECTION FROM DAMAGE

No Person shall maliciously, willfully, or negligently break, damage, destroy, impair the usefulness, uncover, deface, or tamper with any structure, appurtenance, or equipment which is a part of the Regional Recycled Water Distribution System. Similarly, no Person shall maliciously, willfully, or negligently break, damage, destroy, impair the usefulness, uncover, deface, or tamper with any structure, appurtenance, or equipment which is a part of either On-site Facilities or Off-site Facilities that could prevent the full function of the Regional Recycled Water Distribution System.

PART III - RATES

SECTION 301 - RECYCLED WATER USE CHARGE

The rate for a unit of recycled water will be set, annually, by resolution of the IEUA* Board of Directors. Said recycled water rate shall be based on the actual costs of operation of the Regional Wastewater Treatment System, the actual costs of operation of the Regional Recycled Water Distribution System, any associated administrative expenses, and anticipated costs for the next fiscal year.

SECTION 302 - BILLING AND PAYMENT

(A) IEUA* shall invoice Retail Water Agencies for actual monthly volumetric usage. Retail Water Agencies shall pay to IEUA*, within thirty (30) calendar days of the date of the postmark on the envelope within which the invoice was delivered, an amount determined by multiplying the actual quantity of recycled water delivered, by the applicable Wholesale Recycled Water Rate, as calculated on the invoice.

(B) IEUA* shall invoice a Customer, which is directly connected to the Regional Recycled Water Distribution System, for actual monthly volumetric usage. The Customer shall pay to IEUA*, within thirty (30) calendar days of the date of the postmark on the envelope within which the invoice was delivered, an amount determined by multiplying the actual quantity of recycled water delivered, by the applicable Recycled Water Rate, as calculated on the invoice.

(C) In the event the payment of an invoice for Recycled Water deliveries remains unpaid, for any reason, more than thirty (30) calendar days, it will become delinquent and a penalty of two percent (2%) of the original unpaid invoice amount shall be added to original invoice amount. The 30-day interval will be determined by either the postmark on the payment envelope or, in the case of a hand delivered payment, the date the payment is received and date stamped by the IEUA* main office receptionist (see Appendix D for

directions to the IEUA* main office). After a second 30-day period, a second penalty will be accessed, etc.

(D) Additionally, interest, at the maximum rate provided by California Government Code Section 54348 as may be amended from time to time, shall accrue commencing at the end of the 30th day after the postmark of the invoice. Interest shall accrue on the total outstanding balance: the original invoice amount plus applicable penalties.

SECTION 303 - APPEAL OF PENALTY AND/OR INTEREST CHARGES

(A) The penalty amount(s) and the interest amount(s) provided in Section 302 may be waived by the Board of Directors. To obtain such a wavier, a Customer will provide a written request for a wavier to the Board of Directors. In the written request, the Customer shall document the reasons for the delinquency of a specific invoice. After the Board of Directors makes a finding that the delinquency was caused by excusable neglect or circumstances beyond the control of the Customer, the penalty amount(s) and/or the interest amount(s) may be reduced or waived. Such a waiver will be contingent upon the reimbursement of IEUA* for any and all actual costs that may have been incurred as a result of the delinquent payment, as determined by the Board of Directors.

SECTION 304 - ERRORS

In the event an error is discovered in any Recycled Water Sales record or invoice, the Chief Executive Officer/General Manager shall initiate appropriate corrective action. If a record from a Customer is submitted, or an invoice is issued based on such a record, contains an error; then the Chief Executive Officer/General Manager shall notify the affected Customer of any adjustment and the manner of making any required credit or additional charge. Neither of which shall be subject to an interest calculation. Errors made or recorded more than three (3) years prior to discovery shall not be corrected with adjustments to amounts owed or paid; Customer files shall be updated to reflect the correction.

PART IV - ON-SITE CONTROLS

SECTION 401 - IMPLEMENTATION

To protect the health of the public and any (potential) employees of the Customer, the DOHS has promulgated guidelines and regulations. The minimum necessary on-site controls are contained in Title 22, Division 4, Chapter 3, Water Recycling Criteria, Sections 60301 et. seq., and Title 17; both of the California Code of Regulations, and in the County Public Health Code.

SECTION 402 - STATE /LOCAL REGULATIONS

Recycled water system on-site controls shall meet all of the requirements established by IEUA* and the applicable State and local regulatory agencies to protect the public health.

Plans and specifications for all proposed recycled water operations, distribution, and on-site systems shall be submitted to the applicable State and local health agencies for review and approvals before the systems are constructed.

SECTION 403 - OPERATIONAL CONTROLS

The operational controls for the use of recycled water shall be appropriate for the beneficial use as approved in the Recycled Water Use Permit. Appendix D shall be maintained with the recommended equipment and procedures to achieve the control objectives necessary for the safe and reliable delivery of recycled water.

SECTION 404 - IDENTIFICATION

(A) All recycled water valves, outlets, quick couplers, and sprinkler heads should be of a type, or secured in a manner that only permits operation by personnel authorized by the Customer.

(B) All recycled water valves and outlets should be appropriately tagged to warn the public and employees that the water is not intended nor allowed for drinking.

(C) All piping, valves and outlets should be color-coded or otherwise marked to differentiate recycled water from non-recycled water facilities.

(D) Hose bibs shall not be used in the recycled water system; quick couplers or comparable connection devices shall be used instead.

SECTION 405 - POSTING OF ON-SITE NOTIFICATIONS

Adequate means of notification shall be provided to inform the public, employees and others that recycled water is being used. Such notification shall include the posting of conspicuous Recycled Water information signage with proper wording of sufficient size to be clearly read, which shall be posted at adequate intervals around the use area. In some locations, especially at crop irrigation use areas, the Recycled Water information signs shall be in the primary language of the workers (i.e., Spanish), as well as English. Signs and means of notification shall be in compliance with DOHS regulations.

Signs shall be placed around the perimeter of the site and at such other locations on-site as deemed appropriate by the Retailer during the Recycled Water Use Permit application review.

SECTION 406 - CROSS CONNECTION PREVENTION

The Customer is responsible for following their Potable Water Purveyor's rules, regulations and/or Ordinance regarding cross connection prevention.

PART V - EFFECTIVE DATE

Upon adoption, the effective date of all provisions of this Ordinance No. 69, shall be May 18, 2000.

ADOPTED this 18th day of May, 2000.

John L. Anderson
President of the Inland Empire Utilities Agency* and of the Board of Directors thereof

ATTEST:

Anne Dunihue
Secretary of the Inland Empire Utilities Agency* and of the Board of Directors thereof

* A Municipal Water District

STATE OF CALIFORNIA)
)SS
COUNTY OF)
SAN BERNARDINO)

I, Anne Dunihue, Secretary of the Inland Empire Utilities Agency* DO HEREBY CERTIFY that the foregoing Ordinance being No. 69, was adopted at an adjourned regular Board Meeting on May 18, 2000, of said Agency by the following vote:

AYES: Dunihue, Troxel, Koopman, Anderson

NOES: None

ABSTAIN: None

ABSENT: Catlin

Anne Dunihue
Secretary

*A Municipal Water District

ORDINANCE NO. 75

AN ORDINANCE OF THE BOARD OF DIRECTORS OF INLAND EMPIRE UTILITIES AGENCY*, A MUNICIPAL WATER DISTRICT, ESTABLISHING INCENTIVES AND ENCOURAGING THE USE OF RECYCLED WATER FROM THE REGIONAL RECYCLED WATER DISTRIBUTION SYSTEM

WHEREAS, The California State Legislature adopted the Recycled Water Act of 1991, and on January 10, 2000, the Legislature established in the State Water Code Section 13500, known as and may be sited as the Water Recycling Law; Section 13550. (a), declared that the use of potable domestic water for nonpotable uses is a waste or an unreasonable use of potable water within the meaning of Section 2 of Article X of the California Constitution if recycled water is available and meets all conditions of a potential user, as determined by the State Board, pursuant to Article 2 (commencing with Section 648) of Chapter 1.5 of Division 3 of Title 23 of the California Code of regulations."

WHEREAS, Inland Empire Utilities Agency* (IEUA*) has established and operates the IEUA* Regional Water Recycling Plant treatment systems and has maintained its National Pollution Discharge Elimination Permit (a Master Recycling Permit, pursuant to Water Code Section 13523.1) and produces high-quality recycled water, having unrestricted use except for direct potable uses, for distribution to its Contracting Agencies and certain other municipal and private water retail companies;

WHEREAS, IEUA* has developed and continues expand its Regional Recycled Water Distribution System for the delivery of recycled water to its Contracting Agencies and other municipal and private water retail companies within and outside the IEUA* service area as described in the Recycled Water Feasibility Study consistent with the adopted Urban Water Management Plan and the Optimum Basin Management Program;

WHEREAS, IEUA* and it's Contracting Agencies are desirous to comply with conservation of all available water resources, therefore, IEUA and it's Contracting Agencies require the maximum reuse of recycled water for beneficial uses, and thus, agree that continued use of potable water for industrial uses and irrigation of greenbelt areas, including golf courses, parks, and highway landscaped areas, and certain other non-domestic water uses may be an unreasonable use of such water where recycled water is available;

BE IT ORDAINED by the Board of Directors of the Inland Empire Utilities Agency* as follows:

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PART I - INTRODUCTION

SECTION 101 - AUTHORIZATION

This Ordinance is enacted pursuant to the authority contained in the Municipal Water District Law of 1911; California Water Code, Section 71000 et. seq., as amended; and pursuant to the Recycled Water Act of 1991, California Water Code, commencing with Section 13575; and Section 13500, known as and may be sited as the Water Recycling Law, including Section 13550.

SECTION 102 - PURPOSE

The purpose of this Ordinance is to promote the conservation of all water resources and to provide for the maximum public benefit from the reuse of recycled water supplies made available from the Regional Water Recycling Plants (RWRPs) owned and operated by IEUA*. The use of recycled water will be encouraged and provided for uses including, but not limited to: landscape irrigation, commercial and/or industrial process, construction, groundwater recharge, wildlife habitat, recreational impoundment, agriculture, and any additional uses permitted under Title 22, Division 4, Chapter 3, Water Recycling Criteria, Section 60301 et. seq., of the California Code of Regulations.

SECTION 103 - DEFINITION OF TERMS

The following terms are defined for the purposes of this Ordinance:

(A) ADEQUATE QUALITY: Means the quality which satisfies the requirements of regulatory agencies for a particular use.

(B) AGRICULTURAL PURPOSES: Agricultural purposes include the growing of field and nursery crops, row crops, trees, and vines and the feeding of fowl and livestock.

(C) ARTIFICIAL LAKE: A human-made lake, pond, lagoon, or other body of water that is used wholly or partly for landscape, scenic or direct contact recreational purposes.

(D) COST: Means the amount paid by the customer for recycled water service.

(E) BOARD OF DIRECTORS: The Board of Directors of Inland Empire Utilities Agency* (IEUA*).

(F) CHIEF EXECUTIVE OFFICER/GENERAL MANAGER: Shall mean the Chief Executive Officer/General Manager, or a duly Authorized Representative, of IEUA*.

(G) COMMERCIAL BUILDING: Any building for office or commercial uses with water requirements which include, but are not limited to, landscape irrigation, toilets, urinals and decorative fountains.

(H) CONTRACTING AGENCY: A Public Agency that has, by due process, become a signatory to the IEUA* Regional Sewage Service Contract.

(I) DOHS: State of California Department of Health Services.

(J) FEASIBLE: Means capable of completion within a reasonable period of time for a reasonable price.

(K) GREENBELT AREAS: A greenbelt area includes, but is not limited to, golf courses, cemeteries, parks and landscaping.

(L) INDUSTRIAL PROCESS WATER: water used by any industrial facility with process water requirements which include, but are not limited to, rinsing, washing, cooling and circulation, or construction, including any facility regulated by the industrial waste discharge ordinance of the Agency.

(M) LOCAL RECYCLED WATER DISTRIBUTION SYSTEM: A recycled water distribution system which is owned and/or operated by a Retail Water Agency; the local recycled water distribution system is generally an approved extension of the Regional Recycled Water Distribution System.

(N) NPDES PERMIT: National Pollutant Discharge Elimination System Permit issued to regulate the operation of a recycled water treatment plant, the quality of recycled water produced, and to provide a Master Recycling Permit.

(O) OFF-SITE FACILITIES: Water facilities from the source of supply to the point of connection with the on-site facilities. Including the water meter.

(P) ON-SITE FACILITIES: Water facilities under the control of the owner, downstream from the water meter.

(Q) OWNER: The owner of a property that is anticipated to receive or is currently receiving recycled water service.

(R) PERSON: Shall mean any individual or entity including but not limited to any person, firm, company, or corporation, partnership, association, any public corporation, political subdivision, city, county, district, the State of California, the United States of America or any department or agency thereof. The singular in each case shall include the plural.

(S) POTABLE WATER: Water which conforms to the federal, state and local standards for human consumption.

(T) RECYCLED WATER: As defined in Title 22, Division 4, Chapter 3, Water Recycling Criteria, Section 60301 et. seq., of the California Code of Regulations; water which is available as a result of the treatment of wastewater. Also as described in subdivision (n) of Section 13050 of the Water Code of the State of California, treated wastewater that is suitable for direct beneficial use or a controlled use that otherwise would not occur.

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(U) RECYCLED WATER CUSTOMER: Existing or future properties requiring water supply which is identified as recycled water customer per Section 204-A.

(V) RECYCLED WATER PRODUCER: Any local entity that produces recycled water.

(W) RECYCLED WATER USE PERMIT: A document evidencing that an application for connection to the Regional Recycled Water Distribution System has been prepared by a Retailer, and examined and approved by IEUA* staff.

(X) RECYCLED WATER WHOLESALER: Any local entity that distributes recycled water to a Retailer and which has constructed, or is constructing, a wholesale recycled water distribution system.

(Y) REGIONAL RECYCLED WATER DISTRIBUTION SYSTEM: The pipelines, equipment, structures, controls, etc., used in the preparation, pumping, transmission, storage, and distribution of recycled water; owned and operated by IEUA*.

(Z) RETAIL WATER AGENCY (Retailer): Any local entity, a public agency, or a private water company in whose service area is located the property to which a customer requests the delivery of recycled water.

(AA) SERVICE CONNECTION: The IEUA* facilities or the Retail Water Agency's facilities, including but not limited to, a service valve, a meter box, a meter, and piping; between the Regional Recycled Water Distribution System and the Customer's on-site facilities, or between the Retail Water Agency's facilities and the Customers on-site facilities.

(BB) SUFFICIENT QUANTITY: Means an amount of water needed to satisfy requirements without interruption.

(CC) WHOLESALE OF RECYCLED WATER: The transfer/sale of recycled water, from IEUA* to a Retail Water Agency.

(DD) WHOLESALE RECYCLED WATER RATE: The rate for a unit of recycled water that will be set annually, by resolution of the IEUA* Board of Directors.

SECTION 104 - WATER RECYCLING MASTER PLAN

(A) GENERAL: The IEUA has prepared and adopted the IEUA Recycled Water System Feasibility Study (Study), January 2002, to define, encourage and develop the use of recycled water within its service area. The Study shall be updated not less often than every five years.

(B) CONTENTS OF THE WATER RECYCLING MASTER PLAN: The Study includes, but is not limited to:

a. PLANTS AND FACILITIES: Evaluation of the location and size of present and future recycling facilities, distribution pipelines, pump stations, reservoirs, and other related facilities, including cost estimates and potential financing methods.

b. RECYCLED WATER SERVICE AREAS: A designation, based on the criteria set forth in SECTION 103, and the information derived from SECTION 105, (A) and (B) a and b, of the areas within the boundaries of IEUA that can or may in the future use recycled water in lieu of potable water. Recycled water uses may include, but not be limited to the irrigation of greenbelt and agricultural areas, filling of artificial lakes, and appropriate industrial and commercial uses.

SECTION 105 - SEVERABILITY

If any section, subsection, sentence, clause or phrase of these rules, regulations, or requirements is for any reason found to be invalid or unconstitutional, such decision shall not affect the remaining portions of this Ordinance. The Board of Directors of IEUA* declares that it would have approved these rules, regulations, and requirements individually by section, subsection, sentence, clause, or phrase irrespective of the fact that any one or more of the sections, subsections, sentences, clauses or phrases may be declared invalid or unconstitutional.

SECTION 106 - RECYCLED WATER SERVICE AREA

This Ordinance shall pertain to the on-going operation, expansion and implementation of the Regional Recycled Water Distribution System within the legal boundaries of IEUA's* service area, unless otherwise stated. With the expressed approval of the IEUA* Board of Directors, recycled water service shall also be extended to lands, uses, and/or improvements lying outside the legal boundaries of IEUA's* service area.

PART II - VOLUNTARY RECYCLED WATER USE

SECTION 201 - RECYCLED WATER SERVICE FOR CUSTOMERS

IEUA* may provide recycled water service for certain other municipal agencies or private water retail companies whose service area/property falls outside of a IEUA service area. If a customer's (recycled water user) property falls within a Retail Water Agency's service area the customer shall be prepared to accept recycled water service from the Retail Water Agency. Depending on the location of a given property, IEUA and the Retail Water Agency shall determine the method for delivery of recycled water; it may be provided through a direct connection to the IEUA Regional Recycled Water System within the Retail Water Agency's service area, or through a connection to the Retail Water Agency's local distribution system.

PART III – MANDATORY RESCYCLED WATER USE

SECTION 301 – FUTURE CUSTOMERS

In the event a development application is reviewed and found to be a suitable application for use of recycled water, but recycled water is not yet available to the property, such development permit

shall be conditioned to require an appropriate recycled water distribution system within the project to accommodate recycled water at such time as recycled water becomes available to the site.

SECTION 302– EXISTING CUSTOMERS

(A) The Retail Water Agency's engineer and the IEUA's* engineer, in consultation with the prospective recycled water customer(s), shall implement a program of review of each parcel of property within the Retail Water Agency's service area to determine which parcels would be appropriate for using recycled water for industrial processing, landscape irrigation, or other appropriate uses by the then existing customer(s).

(B) Based on the Study, addressing the designation of each recycled water service area or the commencement of the design of new recycled water facilities, IEUA and the Retail Water Agency shall make preliminary determinations as to which existing potable water customers shall be converted to the use of recycled water. Each water customer shall be notified of the basis for determining that conversion to recycled water service will be required, as well as, the proposed conditions and schedule for conversion.

(C) In making such determination, the Retail Water Agency's engineer and the IEUA's* engineer, in consultations with the prospective recycled water customer(s), shall consider, but not be limited to, the following factors:

1. Whether recycled water is or will be available to the site.
2. Whether the uses, processes or equipment used on the site can safely and effectively be operated with recycled water.
3. Whether it is feasible to modify on-site facilities to utilize recycled water.
4. Whether the use of recycled water would be cost-effective, technically feasible and cost-competitive for prospective recycled water customers.

(D) If a property is identified as being suitable for use of recycled water and recycled water is or will be available to the site, the potential customer (property owner) shall be notified. The notice provided to a potential recycled water customer of the preliminary determination, including the proposed conditions and time scheduled for compliance shall be delivered or mailed to the potential recycled water customer.

(E) Within thirty (30) days of such notification, the potential customer (property owner or the occupant) of the property must either:

1. apply for the use of recycled water and commence the necessary work to convert to recycled water, or
2. provide satisfactory evidence to the Retail Water Agency's engineer and the IEUA's* engineer, that conversion of the site to use recycled water is not technically or economically feasible, or
3. would result in the loss of diminution of an existing water right, or
4. would be harmful to the public health, safety, welfare, or to the environment.

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(F) At the time of commencing the work, the property owner shall furnish the Retail Water Agency's engineer and the IEUA's* engineer, a schedule showing the time frame of when the conversion work will be completed. The Retail Water Agency's engineer and the IEUA's* engineer may grant an extension of time for the preparation of studies, environmental review or other good reason.

(G) OBJECTIONS / APPEALS:

1. The water customer may file a notice of objection within thirty (30) days after any notice of determination to comply is delivered or mailed to the customer, and may request reconsideration of the determination or modification of the proposed conditions or schedule for conversion.
2. The objection must be in writing and specify the reasons for the objection.
3. The preliminary determination shall be final if the customer does not file a timely objection.
4. The Retail Water Agency and the IEUA staff shall review the objection and shall confirm, modify or abandon the preliminary determination.
5. Upon issuance of a final determination by staff, customer may appeal the determination as follows:
    a. The customer may appeal to the Retail Water Agency Manager; and if not satisfied,
    b. the customer may then appeal to IEUA General Manager; the IEUA General Manager's decision shall be final.

SECTION 303 – FAILURE TO COMMENCE USE OF RECYCLED WATER

The General Manager shall identify and give notice to all persons, firms, and corporations which have failed to commence the use of recycled water obligated under the general rule, and determine the reasons for said persons, firms, or corporations for failing to take recycled water, after being offered the opportunity.

SECTION 304 – PROCEDURES FOR INSTITUTING MANDATORY SERVICE

The IEUA* Board of Directors may initiate proceedings to institute mandatory service to a person, firm or corporation as follows:

(A) The potential recycled water customer shall be notified in writing why the General Manager has determined it is feasible to convert to recycled water service; initiating a 30-day period for filing protests or requesting a waiver.

(B) After the 30-day protests and waivers period has expired, findings shall be made, and the General Manager shall request of the Agency's Board to conduct a hearing to find the conditions for mandatory use exist.

SECTION 305 – SURCHARGE FOR FAILURE TO USE RECYCLED WATER

In the event the potential recycled water customer (property owner or the occupant) fails, neglects, or refuses to convert to the use of recycled water, such potential customer shall pay to the IEUA* a surcharge on the amount of potable water used on the site in an amount of fifty percent (50%) of IEUA's highest wholesale rate for imported water.

PART IV - FUNDING AND TECHNICAL ASSISTANCE

(A) IEUA will assist recycled water customers with the preparation of the customers Preliminary Engineering Report and permits for use of recycled water.
(B) IEUA will offer to finance a loan to the recycled water customer(s) for retrofitting the recycled water facilities at the customer's site at the interest rate available to IEUA.
(C) Loans will be made for 10 years maximum.

PART V – EFFECTIVE DATE

Upon adoption, the effective date of all provisions of this Ordinance No. 75, shall be May 15, 2002.

ADOPTED this 15th day of May , 2002.

_____

President of the Inland Empire Utilities Agency* and of the Board of Directors thereof

ATTEST:

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Secretary of the Inland Empire Utilities Agency* and of the Board of Directors thereof

* A Municipal Water District

STATE OF CALIFORNIA)
)SS
COUNTY OF)
SAN BERNARDINO)

I, Anne Dunihue, Secretary of the Inland Empire Utilities Agency* DO HEREBY CERTIFY that the foregoing Ordinance being No. 75, was adopted at an adjourned regular Board Meeting on May 15, 2002, of said Agency by the following vote:

AYES:

NOES:

ABSTAIN:

ABSENT:

_____
Secretary

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ORDINANCE NO. 98-12

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF CHINO, CALIFORNIA ADDING CHAPTER 13.06 TO THE CHINO MUNICIPAL CODE TO PROVIDE FOR THE REGULATION AND USE OF RECYCLED WATER

The City Council of the City of Chino does hereby ordain as follows:

Section 1. A new Chapter 13.06 is hereby added to the Chino Municipal Code, which shall be provided as follows:

CHAPTER 13.06
RECYCLED WATER REGULATIONS

13.06.010 Authority.

A. The use of water recycled from domestic sewage is regulated by the California Regional Water Quality Control Board Santa Ana Region (RWQCB). Article 2 of Chapter 7 of Division 7 of the California Water Code establishes a state policy to encourage the use of recycled water. Permission to use recycled water is based on Inland Empire Utilities Agency's ability to adequately treat domestic wastewater to the point that the recycled water (effluent) meets the requirements of existing Title 22, Chapter 3 regulations of the California Administrative Code. Title 22 was promulgated by the State Department of Health Service to ensure proper health protection and specify the treatment degree to match the intended applications.

B. In accordance with waste discharge requirements for water reclamation projects, the RWQCB requires regulation measures for facilities distributing recycled water. (Ord. 98-12 § 1 (part), 1998.)

13.06.020 Purpose.

The purpose of this chapter is to establish rules and regulations including procedures, specifications and limitations for the safe and orderly development and operation of recycled water facilities and systems within the city's service area. (Ord. 98-12 § 1 (part), 1998.)

13.06.030 Goals.

The goals of this chapter are as follows:

A. Achieve conservation of potable water supplies by using recycled water for current and future demands. Recycled water uses shall be for the maximum public benefit and may include:

Agricultural irrigation,
Commercial uses (including flushing toilets and urinals),
Construction use,

Groundwater recharge,
Industrial processes,
Landscape irrigation,
Landscape and/or recreational impoundments,
Wildlife habitat;

B. Maintain recycled water quality through a stringent pretreatment program for commercial and industrial wastes and by restricting brine discharges from water softeners, evaporative coolers and other sources;

C. Prevent direct human consumption of recycled water through:
1. Adherence to all applicable rules and regulations,
2. Posting of warning signs by the user,
3. Cross-connection/backflow prevention program;

D. Control runoff of recycled water through monitoring of the installation and operation of all recycled water facilities and use areas;

E. Monitor recycled water quality. (Ord. 98-12 § 1 (part), 1998.)

13.06.040 Policy.

It is the policy of the city that recycled water be used for any purposes approved for recycled water use, when it is economically, technically and institutionally feasible. Recycled water shall be the primary source of supply for commercial and industrial uses, whenever available and/or feasible. Use of potable water for commercial and industrial uses shall be contrary to city policy; shall not be considered the most beneficial use of a natural resource; and shall be avoided to the maximum extent possible. (Ord. 98-12 § 1 (part), 1998.)

13.06.050 Priority.

Recycled water shall be provided on a first-come, first-served basis, as long as recycled water is available. (Ord. 98-12 § 1 (part), 1998.)

13.06.060 Definitions.*

Unless the context specifically indicates otherwise, the following terms and phrases, as used in this chapter, in addition to the definitions set forth in Title 22, Division 4, Chapter 3, Regulations, of the California Administrative Code, shall have the meanings hereinafter designated.

"AFY" means acre-feet per year.

"Agency" means the Inland Empire Utilities Agency (IEUA).

"Agricultural use" means water used for the production of crops and/or livestock.

"Air-gap separation" means a physical break between a supply pipe and a receiving vessel. The air gap shall be at least double the diameter of the supply pipe, measured vertically above the top rim of the vessel, and in no case less than one inch.

"Applicant" means any person, group, firm, partnership, corporation, association or agency that applies for recycled water service.

"Application rate" means the rate at which irrigation water is applied to a design or use area, expressed in gallons per minute.

"Approved double check valve assembly" means an assembly of at least two independently acting check valves including tightly closing resilient seated (typ.) shut-off valves on each side of the check valve assembly and suitable leak-detector drains plus connections available for testing the water tightness of each check valve. This assembly shall only be used to protect a non-health hazard.

"Approved reduced pressure principle backflow prevention device" means a device incorporating two check valves and an automatically operating differential relief valve located between the two checks, two (typ.) shut-off valves, and equipped with necessary appurtenances for testing. The device shall operate to maintain the pressure in the zone between two check valves two p.s.i less than the pressure on the city and/or Inland Empire Utilities Agency water supply side of the device. At cessation of normal flow, the pressure between the check valves shall be less than the supply pressure. In case of leakage of either check valve, the differential relief valve shall operate to maintain this reduced pressure by discharging to the atmosphere. To be approved, these devices must be readily accessible for maintenance and testing, and installed in a location where no part of the valve will be submerged.

"Approved use" means an application of recycled water in a manner, and for a purpose, designated in a user permit issued by the city and in compliance with all applicable regulatory agency requirements.

"Approved use area" means a site, with well-defined boundaries, designated in a permit for recycled water service issued by the city to receive recycled water for an approved use as acknowledged by all applicable regulatory agencies.

"As-built drawings" means the record drawings that show the completed facilities as constructed or modified.

"Automatic system" means the electrically actuated controllers, valves and associated equipment used to program and operate irrigation systems for the efficient application of recycled water.

"Auxiliary water supply" means any water supply on or available to the premises other than the city's potable water.

"AWWA" means the American Water Works Association.

"Check valve" means a check valve that seats readily and completely. It must be carefully machined to have free moving parts and assure water tightness. The face of the closure element and valve seat must be bronze or other noncorrodible material that will seat tightly under all prevailing conditions of field use. Pins and bushings shall be of bronze or other noncorrodible, nonsticking material. The closure element (e.g., clapper) shall be internally weighted or otherwise internally equipped to promote rapid and positive closure in all sizes where this feature is obtainable.

"City council" means the city council of the city of Chino.

"Commercial/industrial use" means the water used for toilets, urinals, decorative fountains, decorative indoor and outdoor landscape, industrial process such as rinsing, washing, cooling, flushing, circulation or construction; and other uses approved by the city.

"Commodity charge" means a charge imposed by the city for all metered, recycled water used.

"Connection fee" means a fee imposed by the city for obtaining recycled water service from the city by means of its recycled water facilities, including, but not necessarily limited to, a service activation fee.

"Cross-connection" means any unapproved and/or unprotected, actual or potential, connection between any part of a potable water system and any equipment, source or system containing water or other substances not approved as safe and potable for human consumption.

"Customer" means any person, group, firm, partnership, corporation, association or agency that legally receives recycled water service from the city.

"Design area" means a site, with well-defined boundaries, proposed to receive recycled water for an approved use, as delineated in the application for recycled water service.

"Direct beneficial use" means the use of recycled water, which has been transported from the point of production to the point of use, without an intervening discharge to waters of the state.

"Discharge" means any release or distribution of recycled water to a use area or disposal site/mechanism (outfall, live stream discharge, municipal sewage system).

All discharges of recycled water must be approved by the city and/or the Inland Empire Utilities Agency.

"DOHS" means the Department of Health Services (state and/or county).

"Greenbelt areas" means those areas including, but not limited to, parkways, parks, rights-of-way and landscaping within and/or surrounding a community.

"HCF" means hundred cubic feet. This is a common unit of water volume measurement used for billing purposes.

"Industrial process water" means the water used in industrial facilities for blending, rinsing, washing or cooling.

"Infiltration rate" means the rate at which water penetrates the soil surface and enters the soil profile.

"Landscape impoundment" means a body of water containing recycled water, which is used for aesthetic or irrigation purposes and which is not intended for public contact or ingestion.

"Landscape irrigation/use" means recycled water used for the propagation and maintenance of trees, shrubs, ground cover and turf used for erosion control and aesthetic value, not for resale/profit purposes.

"Nonpotable water" means water that has not been treated for, or is not acceptable for, human consumption, in conformance with federal, state and local water standards. Nonpotable water includes recycled water.

"Off-site facilities" means all existing or proposed facilities under the control of the purveyor, from the source of supply to the point of connection with the customer's on-site facilities, normally up to and including the agency's meter and meter box.

"On-site facilities" means all existing or proposed facilities within property under the control of the customer, normally downstream of the agency's meter.

"On-site recycled water supervisor" means a qualified person designated by a recycled water user and approved by the city to be responsible for the safe and efficient operation of the user's recycled water system. This person shall be knowledgeable in the operation of the recycled water system, and in the application of federal, state and local guidelines, criteria, standards and rules and regulations governing the use of recycled water.

"Open space" means land that has been designated to remain undeveloped. These areas may receive recycled water service for agricultural or landscape irrigation, or other approved uses.

"Permit" means a processed and approved application package to, and agreement with, the city for recycled water service.

"POC" means the point of connection at the recycled water service meter.

"Ponding" means the retention of recycled water on the ground surface or manmade surface for a period of time following the cessation of an approved recycled water use activity, such that potential hazard to the public health may result, as determined by regulatory agencies.

"Potable water" means water which conforms to the latest federal, state and local drinking water standards.

"PSI" means pounds per square inch. This is a common unit expression of pressure measurement.

"Recreational impoundment" means a body of recycled water used for recreational activities including, but not limited to, fishing, boating and/or swimming. Allowable uses will depend on treatment level of the recycled water.

"Recycled water" means as defined in Title 22, Division 4, of the California Administrative Code, water, which as a result of treatment of wastewater, is suitable for direct beneficial use or a controlled use that otherwise would not occur. The treatment of wastewater is accomplished in accordance with the criteria set forth in the code.

"Recycled water facilities" means the systems, structures, etc., used in the treatment, storage, pumping, transmission and distribution of recycled water.

"Regulatory agency" means those public entities legally constituted by federal, state and local statutes to protect health and water quality.

"Runoff" means the flow of water along natural or manmade surfaces away from the designated use area.

"RWQCB" means the Regional Water Quality Control Board, Santa Ana Region.

"Secondary effluent" means any wastewater that has been treated by gravity sedimentation to remove settled solids remaining after the primary biological treatment process.

"Service" means the delivery of recycled water to a user.

"Service connection" means city facilities between the city recycled water distribution system and the customer's meter, including, but not limited to, the meter, meter box, valves and piping equipment.

"Standard specifications" means the specifications approved by the city for construction of recycled water facilities.

"Tertiary effluent" means any secondary effluent which has been disinfected and filtered. Allowable uses for tertiary effluent shall include body contact and irrigation of human food crops.

"Unauthorized discharge" means any release of recycled water that violates these rules and regulations or any applicable federal, state or local statutes, regulations, ordinances, contracts or other requirements.

"Use area" means the specific area designated to be served with recycled water through on-site recycled water facilities.

"User" means any person, group, firm, partnership, corporation, association or agency accepting recycled water from the city's recycled water facilities for use in accordance with this chapter. "Applicant,"

"owner" or "customer" are terms that are to be considered as users.

"Windblown spray" means any dispersed, airborne particles of recycled water capable of being transmitted through the air to a location other than that for which the direct application of recycled water is approved. (Ord. 98-12 § 1 (part), 1998.)

NOTE: Devices used shall be included on the list of devices approved by the Foundation for Cross-Connection Control and Hydraulic Research, School of Engineering, University of Southern California.

13.06.070 Administrator.

Except as otherwise provided in this chapter, the director of public works shall administer, implement and enforce the provisions of this chapter. The director of public works may, at his discretion, delegate any or all of these powers and duties. (Ord. 98-12 § 1 (part), 1998.)

13.06.080 Validity.

If any section, subsection, sentence, clause or phrase of this chapter establishing rules and regulations for the use of recycled water is for any reason found to be invalid or unconstitutional, such decision shall not affect the remaining portions of this chapter. The city council declares that it would have approved this chapter by section, subsection, sentence, clause or phrase irrespective of the fact that any one or more of the sections,

subsections, sentences, clauses or phrases be declared invalid or unconstitutional. (Ord. 98-12 § 1 (part), 1998.)

13.06.090 Right of revision.

The city council reserves the right to amend this chapter, as it deems appropriate. (Ord. 98-12 § 1 (part), 1998.)

13.06.100 Service area.

The rules and regulations contained in this chapter apply to recycled water service to lands and/or improvements lying within the legal boundaries of the city, to properties contiguous to the city under the same ownership as abutting lands within the city or its designated service boundary. Recycled water service shall be provided to a specific service area when related distribution facilities are completed and service becomes available. (Ord. 98-12 § 1 (part), 1998.)

13.06.110 Determination of recycled use area.

A. General.

1. The city council may adopt a water reclamation master plan or utilize the Inland Empire Utilities Agency Recycled Water Master Plan designating current and potential areas for recycled water use. The master plan shall be in accordance with the requirements of all regulatory agencies and encourage recycled water use. The master plan may be reviewed and updated as needed.

2. The city council may review its master plan and recommend where water service should be made with recycled water in place of potable water. Where it is determined recycled water is, or will be available within five years, the city may request modifications to existing on-site water facilities and require construction of recycled water systems in new developments.

3. The city council may enter into agreements with surrounding cities and/or other agencies to determine recycled water use areas within the service area/jurisdiction of those entities.

B. Existing Potable Water Service.

1. On adoption of this chapter, and each update of the city master plan, the city council may make determinations of areas where existing potable water use should be with recycled water.

2. A notice of the determination to use recycled water shall be sent to the current owner, explaining the reasons for use and resultant procedures needed to facilitate recycled water use.

C. New Recycled Water Service. On submittal by applicant of a tentative map, land use permit, other proposed land development/land use, or request for recycled water service, the city engineer shall make preliminary determinations if recycled water service should be provided to the area in question. The city engineer may require the use of recycled water for approved uses, and refuse or otherwise restrict potable water service when recycled water is available and approved for use. (Ord. 98-12 § 1 (part), 1998.)

13.06.120 Authorized uses.

In accordance with the goals as stated in this chapter, the uses of recycled water include only those uses approved by the California State Department of Health Services (DOHS) and for which Title 22 of the California Administrative Code provides treatment requirements. Each such use will be considered for approval on case-by-case basis. Prior to approval, the city engineer may set forth specific requirements as conditions to providing service, and/or require specific prior approval from the Inland Empire Utilities Agency and/or other appropriate regulatory agencies. (Ord. 98-12 § 1 (part), 1998.)

13.06.130 Conditions of service.

A. Recycled water service shall be provided by the city engineer only if a permit for such service is obtained in the manner provided in this chapter. Recycled water service shall be available, provided, and used in accordance with other codes, rules and regulations as listed in Section 13.06.140.

B. If any of the following conditions of service are not satisfied at all times, the permit for recycled water service may be revoked by the city engineer after which all recycled water service shall cease in the manner described herein.

1. Financial. Conditions relating to service fees and billing shall be similar, but not the same, as established for the potable water system. Rates for recycled water service shall be adopted by the city council as listed in Resolution No. 98-18 (Appendix I).

2. Operational.

a. Liability. The city shall not be liable for any damage by recycled water or resulting from:
i. Defective plumbing;
ii. Broken or faulty services or recycled water mains;
iii. On-site facilities failures;
iv. High- or low-pressure conditions;
v. Interruptions of service.
b. Service Basis. All recycled water will be provided to the user in the conditions and quantity specified in the permit for recycled water service. Recycled water

use will not be subject to the same restrictions as potable water during drought conditions and will be supplied as available.

3. Regulatory. Recycled water service may be terminated whenever the quality of the recycled water does not comply with the requirements of the regulatory agencies, or at any time the provisions of the chapter regarding the use of recycled water are violated, or at any time that the permit conditions, whether contained in an agreement, are violated. (Ord. 98-12 § 1 (part), 1998.)

13.06.140 Other applicable rules and codes.

For regulations that are the same for potable and recycled water, use applicable regulations, or sections of already adopted potable water system regulations:

Item	Current Regulation
Backflow prevention	CMC 13.04.075
Billing	CMC 13.04.100
Deposits	CMC 13.04.030
Penalties	CMC 13.04.100; 13.04.120
Delinquencies	CMC 13.04.120
Metering	CMC 13.04.020; 13.04.040

Other guidelines, rules and regulations, ordinances and specifications that may be applied by the city engineer to govern the use of recycled water within the city include:

Agency/Organization	Document Number	Document Title
Inland Empire Utilities Agency	Ordinance No. 63	Regional Recycled Water Distribution System Ordinance
California DOHS	Title 22, Division 4	Water Reclamation
California DOHS	Title 17	Regulations Relating to Cross-Connections
California-Nevada Section AWWA		Guidelines for Distribution of Non-Potable Water

Foundation for Cross-Connection	Most Current Edition	Manual of Cross-Connection Control and Hydraulic Research, School of Engineering, University of Southern California

(Ord. 98-12 § 1 (part), 1998.)

13.06.150 Permit application process.

The steps for obtaining recycled water permits are as follows:
A. Obtain application form for recycled water service from utility billing. By signature on the application form, the applicant states that he/she agrees to comply with this chapter and any and all applicable governing documents.

B. Complete application package and submit to public works. The application package shall consist of:

1. Completed recycled water service application form;
2. Existing facility "as-built" drawings or proposed facility plans as appropriate;
3. Description of where and how recycled water use is proposed;
4. Any other information pertinent to the use of recycled water as requested by the city engineer.

C. Schedule appointment with the city engineer to review application packet. Subsequent to meeting, submit any additional information required.

D. Prepare engineering report describing proposed/requested recycled water use(s). Submit engineering report to the city engineer. As a minimum, the engineering report shall consist of the following information:

1. Applicant's relationship to the subject property as legal owner, tenant or lessee;
2. Description of recycled water use on the property;
3. Legal description of property;
4. Technical information requested on recycled water service application form;
5. Total irrigated acres (if applicable);
6. Special conditions (other items that could be of concern when using recycled water);

7. A sketch of the property, including:
a. Locations of all service connections and waterlines (recycled, potable, any other auxiliary source),
b. Proposed size of recycled water service connection,
c. Areas to be served with recycled water and areas excluded from recycled water service;

8. A brief description of any/all special construction requirements.

E. The city engineer will review the engineering report. The city engineer will inform applicant of any needed revisions.

F. The engineering report approved by the city engineer will be forwarded to the State Department of Health Services (DOHS) for review and approval.

G. The city engineer and applicant will address any concerns that the DOHS has regarding the engineering report and revise the report accordingly.

H. Once the DOHS has approved the engineering report, the city engineer will prepare a permit for recycled water service (see Section 13.06.160). Any auxiliary agreement between the city and the applicant, related to the permit for recycled water service, will be with the approval of the city attorney.

I. Applicant will pay any applicable fees.

J. The city engineer will schedule a start-up test of on-site recycled water system to ensure that cross-connections do not exist.

K. The city engineer will direct recycled water service valves to be turned on and service will begin. (Ord. 98-12 § 1 (part), 1998.)

13.06.160 Permits.

A city permit for recycled water service must be obtained by the user to receive recycled water on any property. Permits to receive recycled water service, or any connection for service made as provided in the permit issued under this chapter pursuant to receipt of an application for such service, shall be subject to the following conditions:

A. The applicant shall adhere to requirements prescribed by this chapter and to all additional requirements required by all governing agencies governing recycled water use.

B. The applicant shall pay any specified connection fees, service line charges and other charges prior to issuance of the permit.

C. In order to maintain acceptable operating conditions throughout the recycled water system, the city engineer may schedule recycled water use for specific applications. Such scheduling may involve programming deliveries to different users and/or to various portions of a single user's on-site system. Any scheduling shall consider the operating constraints of the affected users.

D. The city engineer may temporarily terminate recycled water service at any time recycled water produced by the Inland Empire Utilities Agency reclamation plant does not meet the requirements of the regulatory agencies. Recycled water service would, in such case, be restored when the recycled water meets the governing requirements. The

city may provide water service from other approved sources. In addition, approved air gap separations may be modified (as approved) to provide potable water to the recycled water system to ensure water service.

E. The city will apply for and process all applicable regulatory agency permits. The cost and preparation of any study or report necessary to comply with the California Environmental Quality Act (CEQA) or other regulatory requirements shall be the responsibility of the applicant, unless otherwise determined by the city council.

F. The use permit shall come into force after the project has been completely constructed, tested and been approved by the involved agencies.

G. A copy of the current permit must be available for review at all times, and on file at the user's office.

H. As a minimum, the use permit shall include the following:

1. Name and address of owner and user;
2. A statement that no changes in the proposed system will be undertaken without application for and issuance of an amended permit;
3. A statement that the applicant recognizes potential penalties for violation of this chapter and any regulatory agencies;
4. A copy of the DOHS-approved engineering report;
5. Specific quantity of recycled water to be used. The following must be identified:
a. Estimated average annual AFY used,
b. Maximum GPM needed at the POC as shown on the plans;
6. Permitted/approved uses.

I. The use permit shall stay in effect as provided in the permit or related agreement, but shall be cancelled or amended if:

1. A change of ownership occurs;
2. A change of recycled water use occurs;
3. A change in the piping system has been implemented without prior approval;
4. A violation of these rules and regulations occurs and results in a system turn-off. (Ord. 98-12 § 1 (part), 1998.)

13.06.170 Rates, fees, charges and deposits.

A. General.

1. All rates and fees regarding recycled water service and their administrative costs shall be fixed and established by the city council. The most current fee and rate schedules shall be established by resolution of the city council and incorporated into

this chapter. Any changes in fee and rate schedules shall be automatically adopted into this chapter.

2. Applicants for recycled water service shall pay their fair share for the construction of facilities needed to deliver recycled water to the applicant's property. All fees and estimated construction costs shall be paid prior to construction; however, the city may reimburse the applicant for a portion of the cost of such facilities as described in subsection D, Financial Participation by City.

B. Change of Rates or Charges. The city reserves the right to change the schedule of recycled water rates, service charges and any other charges, deposits or fees at any time. These changes are subject to the terms of any existing recycled water service permits (and/or agreements) and will be made by appropriate action of the city council.

C. Temporary Service. The recycled water rate for all water sold through temporary meters shall be established by action of the city council. The charges for recycled water sold through temporary meters shall be billed and paid on a monthly basis.

D. Financial Participation by City. Under certain circumstances, the city may contribute to the cost of designing and/or constructing the facilities needed to deliver recycled water to an applicant's property. Subject to the availability of funds, the city may:

1. Reimburse an applicant for costs incurred to install oversized facilities in the public right-of-way;
2. Elect to participate in or construct pipelines, reservoirs, pumping stations or other facilities, as it determines necessary, and/or as funds are available. (Ord. 98-12 § 1 (part), 1998.)

13.06.180 Size, location and installation of service line.

The city reserves the right to determine the size and location and/or type of:

A. Recycled water service lines;

B. Service connections;

C. Meters;

D. Backflow protection devices and any/all other appurtenances included to the service area.

Recycled water service lines shall be extended by the property owner/developer to a curb line or property line of the customer's property, abutting on a public street, highway, road or city easement in which recycled water mains are installed. (Ord. 98-12 § 1 (part), 1998.)

13.06.190 Service connection limitations.

Permits for recycled water service shall be subject to the following conditions:

A. A recycled water service connection and its corresponding meter shall not be used to supply adjoining property of a different owner.

B. A service connection shall not be used to supply adjoining property of a different owner, or to supply property of the same owner across a road, street or other public right-of-way. When a property provided with a recycled water connection and corresponding meter is subdivided, such connection and meter shall be considered as serving the lot or parcel of land on which the meter is located. Additional recycled water mains and/or recycled water service lines will be required for all subdivided areas in accordance with this chapter.

C. Private irrigation systems for homeowner's associations and other developments where landscaping around homes and in common areas are served with one meter, shall not be allowed to cross public roads, easements, or other public rights-of-way.

D. All recycled water used on any property where a meter is installed must pass through the meter. Customers shall be held responsible and charged for all recycled water passing through their meters.

E. Every recycled water service line installed by the city (or its agent) shall be equipped with a right angle valve (per city standard) on the inlet side of the meter. The right angle valve is to be used only by city personnel to control the recycled water supply through the water service line. If the right angle valve is damaged by the customer to an extent requiring replacement, then the customer shall bear full financial responsibility.

F. Service is commenced after issuance of a permit for recycled water service by the city. (Ord. 98-12 § 1 (part), 1998.)

13.06.200 Service pressure.

The city will make every reasonable effort to supply recycled water at a service pressure that is nearly equal to the potable water system pressure at the location of interest. If recycled water service pressure does not meet the needs of the user, then it shall be the user's responsibility to increase or decrease the recycled water pressure on the user's side of the recycled water meter. (Ord. 98-12 § 1 (part), 1998.)

13.06.210 Relocation of recycled water service lines.

Should a recycled water service line installed according to the directions of the applicant, owner, or customer (user) be of the wrong size, or installed at a wrong location or depth, the cost of relocation or removal shall be paid for by the user where the error was that of the user or the user's representative. (Ord. 98-12 § 1 (part), 1998.)

13.06.220 Protective measures.

The following provisions are intended to protect the city's potable water supplies against actual, undiscovered, unauthorized or potential cross-connections to the user's recycled water system. These provisions are in addition to, not in lieu of, the controls and requirements of other regulatory agencies. These provisions are in accordance with Title 17 (Public Health) of the California Administrative Code.

A. Approved backflow prevention devices, on the city's potable water services to the property, as required in these provisions, shall be provided, installed, tested and maintained by the user at user expense, unless otherwise determined by the city engineer. These devices shall be located on the property served immediately downstream of the meter. All devices shall be readily accessible for testing and maintenance and no device shall be submerged at any time.

B. When a request for recycled water service is initiated, the applicant must provide sufficient information, including plumbing and building plans, to enable the city engineer and other regulatory agencies to determine the level of backflow protection required. The proper backflow protection, as determined by the city engineer and other regulatory agencies, shall then be installed, inspected and tested before recycled water service is provided.

C. Each time there is a change of customer (either owner or tenant) on any commercial or industrial premise, the owner or customer shall notify the city engineer immediately. The city engineer will then reassess the level of protection required. In addition, any alterations to existing on-site facilities that may affect required protection level must be reported immediately to the city engineer.

D. At their discretion, representatives of any health agency having jurisdiction, and the city engineer, may conduct surveys of any property where recycled water service is provided by the city. These surveys shall serve to determine if any actual or potential cross-connections exist. The applicant, owner, or customer shall provide full cooperation in facilitating these surveys.

E. Where Protection is Required. Approved backflow protection for potable water supplies shall be provided as follows:

1. Each city water service connection that supplies potable water to a premises having an auxiliary water supply (including recycled water) that is not accepted as a potable source by the city engineer, and/or is not approved for potable use by the DOHS, shall be protected against backflow from the premises into the city potable water system.

2. Each city water service connection supplying potable or recycled water to a premises on which any substance is handled in such a fashion as to permit entry into the city water systems (potable or recycled) from the premises shall be protected against backflow. This shall include, but not be limited to, the handling of fertilizers,

process waters, waters originating from any of the city water systems that have been subject to deterioration in quality, and agricultural use.

3. Approved backflow devices shall be installed where premises have intricate plumbing and piping arrangements or where not all portions of the premises are readily accessible for inspection.

4. Appropriate backflow protection may be required at premises where there has been a history of cross-connections being re-established.

F. Other Measures.

1. Whenever possible, the city will operate the recycled water system at a slightly lower pressure than the potable water system. This will cause potable water to flow in the recycled water system in the event of a cross-connection.

2. Water meters used for recycled water service shall be tagged or color-coded purple, color pantone 512 or 522, or otherwise distinguished as such per AWWA standards. These meters shall not be interchanged or used for potable water service after repairs and/or meter testing have been performed.

3. Periodic inspection, by the city, of the recycled water facilities will determine if all identifying items are still clearly discernable. If not, they shall be replaced, repaired or refurbished as needed, by the user. These items include:

a. Warning tags;
b. Painted surfaces;
c. Warning tape;
d. Identification tape;
e. Covers, caps, signs;
f. Other items that indicate recycled water is being used.

4. To determine the existence of any cross-connections or backflow conditions into the potable water system, periodic testing by DOHS approved methods will be performed by the city engineer and/or other regulatory agencies.

5. In the event of contamination or pollution of a city potable water system due to a cross-connection or other failure, the DOHS, the city engineer and the IEUA shall be promptly notified, so that appropriate and immediate measures may be taken to correct the problem.

6. The state and county health departments, the city engineer and the IEUA shall be kept informed by written document of the identity of the person responsible for the user's recycled water system on all premises concerned with these rules and regulations. At each authorized use area, an on-site recycled water supervisor shall be designated. This supervisor shall be responsible for:

a. The installation and use of all components of the on-site recycled water system(s);
b. Prevention of cross-connections;
c. Change in use of recycled water.

G. Recycled Water Service Termination Due to Health and Safety Concerns. When the city engineer determines that recycled water uses or conditions encountered by the city engineer represent a clear and immediate hazard to the city potable and/or recycled water supply that cannot be immediately removed or corrected, the city engineer shall begin the procedure for terminating recycled water use. Conditions or uses that create a basis for termination include, but are not limited to:

1. Refusal to install a required backflow prevention device;
2. Refusal to test a backflow prevention device;
3. Refusal to repair or replace a faulty backflow prevention device;
4. Direct or indirect connection between the potable and recycled water systems;
5. Direct or indirect connection between the recycled water system and a system or equipment containing contaminants;
6. A situation which presents an immediate health hazard to the city potable and/or recycled water system, as determined by the city engineer, Inland Empire Utilities Agency or other regulatory agency. (Ord. 98-12 § 1 (part), 1998.)

13.06.230 Type of protection.

The level of protection required shall be related to the degree of potential hazard that exists on the premises served, and will be determined by the city engineer. (Ord. 98-12 § 1 (part), 1998.)

13.06.240 Inspection and maintenance of protective devices.

The user is responsible for inspection and testing of all backflow prevention devices at least once a year, or more often in those instances where successive inspections indicate repeated failure. All inspections and tests shall be performed at the user's expense by a city-approved testing firm. These devices shall be repaired, overhauled and/or replaced at the expense of the user whenever they are found to be defective. These devices shall also be tested immediately after they are installed, relocated or repaired. The user shall maintain records of all such tests, repairs and overhauls. These records shall be made available to the DOHS, on request, and submitted to the city engineer, annually. (Ord. 98-12 § 1 (part), 1998.)

13.06.250 Facilities design.

The design of off-site facilities, including the preparation of plans and construction specifications shall be under the responsibility of an engineer registered in the state of California. The design of customer (on-site) facilities that will use recycled water, and preparations of plans and construction specifications, shall be stamped and signed by a

state of California Registered Landscape Architect or Civil Engineer, unless otherwise approved by the city engineer. Before the city engineer grants final acceptance of any system using recycled water, as-built drawings of the system shall be provided. The installed system shall be tested in accordance with the city standard specifications to ensure that the system is in full compliance with these rules and regulations.

A. General.

1. All off-site and on-site recycled water facilities shall be designed and constructed according to the requirements, conditions and standards as adopted in the city standard specifications to ensure that this system is in full compliance with this chapter. Recycled water systems, both on-site and off-site, shall be separate and independent of any potable water systems.

2. Where the premises contain dual or multiple water systems, the exposed portions of pipelines shall be identified at sufficient intervals to distinguish clearly which water is not safe for drinking purposes.

3. Areas irrigated with recycled water must be kept completely separated from domestic water wells and reservoirs. Recycled water shall not be applied or allowed to migrate to within fifty feet of any well used for domestic supply, and no impoundment of recycled water shall be located within one hundred feet of any domestic water well, unless it can be demonstrated that special circumstances justify lesser distances to be acceptable.

4. Adequate means of notification should be provided to inform the public, employees and others that recycled water is being used. Conspicuous signs with appropriate wording that can be clearly read, should be placed at adequate intervals around the authorized use area.

a. Golf courses should print messages on score cards in a different color indicating recycled water is being used. Water hazards containing recycled water should be posted with appropriate signs.
b. Languages in addition to English should be used on signs where appropriate.

B. Off-site Facilities.

1. Any off-site recycled water distribution facilities required to serve existing or new developments of the property within the city, as determined by the city engineer, shall be provided by the applicant, owner or customer at their expense, unless the city engineer determines it is a city benefit to construct these capital facilities.

2. Plans and specifications for all recycled water distribution facilities shall be submitted to and approved by the city engineer, and other regulatory agencies, in advance of construction.

3. The city will assume responsibility for providing recycled water service to the point of connection of such development on transfer, to the city, title to all off-site recycled water systems and any necessary easements. All easements shall be in a form acceptable to the city engineer, and not subject to outstanding obligations to relocate such facilities or any deeds of trust, except in instances where such is determined by the city engineer to be in the best interest of the city.

4. The property owner, proponent or developer may request that the city enter into a reimbursement agreement for the portions of a recycled water system that are required to be oversized (considering standard sizes of materials and city standards) with capacity to supply more recycled water than the property owner, proponent or developer requires. Or for certain items that would not be required if potable water were to be used in place of recycled water. The determination to enter into a reimbursement agreement, and the specific items that are the subject of reimbursement, will be made by the city.

C. On-site Facilities.

1. Any on-site recycled water facility shall be provided by the applicant, owner or customer at his expense. The applicant, owner or customer shall retain title to all on-site facilities.

2. When this chapter and/or standard specifications require a higher quality material, equipment, design or construction method than that required by other governing codes, rules and regulations, the city specifications shall take precedence.

D. Interim Service. In areas where recycled water is not immediately available when the use area is ready for construction, and if the city has determined that recycled water will be supplied in the future, on-site facilities shall be designed to use recycled water. Provisions shall be made, and this chapter followed, to allow for connection to the city off-site recycled water facilities, when available. In the interim, potable or other suitable water may be supplied to the on-site facilities through an "interim service connection."

1. Conditions of interim service are:

a. The city anticipates recycled water will be available to the site within five years of the time interim service is initiated;
b. The applicant must obtain a permit for recycled water service;
c. The applicant must agree to perform or pay for all work necessary to remove the interim connection and make connections to the permanent recycled water system at the time the recycled water system is installed.

2. An approved backflow prevention device is required on the interim service. The backflow prevention device shall be at the point of connection with the interim supply system and a part of the on-site recycled water facilities.

3. Future recycled water customers will pay for the following:

a. Cost of constructing and abandoning the interim service, and cost of constructing the recycled water service;
b. Applicable recycled water fees at the time service becomes available;
c. Applicable interim water rates for the type of water delivered through the interim service.

4. When recycled water is available to the site, an inspection of the on-site facilities will be conducted by the city engineer to verify that the facilities have been adequately maintained and are still in compliance with the recycled water use permit. Recycled water service shall be provided on verification of compliance. If the facilities are not in compliance, the city engineer shall notify the user to correct the situation. (Ord. 98-12 § 1 (part), 1998.)

13.06.260 Construction.

A. New. Construction of all recycled water facilities will follow the city standard specifications (i.e., American Water Works Association Construction Guidelines for Recycled Water Facilities), unless otherwise specified by the city engineer.

B. Conversion to Recycled Water Use. Where it is planned that an existing nonrecycled water system be converted to a recycled water facility, the facilities to be converted to recycled water shall be investigated in detail at the user's expense, unless otherwise determined by the city engineer. On a case-by-case basis, the city engineer and other regulatory agencies will review the materials, specified in Section 13.06.150, deemed necessary to determine the measures required to bring the system into full compliance with this chapter. No existing potable water facilities shall be connected to or incorporated into the recycled water system without city and other regulatory agency approvals.

C. Conversion from Recycled Water Use. If, due to on-site failure of the recycled water system or use violations, the city and/or other regulatory agencies determine it possible and necessary to convert on-site facilities from a recycled water supply to a potable, or other, water supply, it shall be the responsibility of the user to pay all costs for such conversion, unless determined otherwise by the city engineer. Conversion costs may include, but not be limited to, the following:

1. Isolation of the recycled water supply. Service shall be removed and plugged at the city main or abandoned in a manner approved by the city engineer;
2. Installation of approved backflow prevention devices, as determined by the city engineer and other regulatory agencies. The user shall install approved backflow devices on all potable, and/or other water meter connections;

3. Removal of any/all special recycled water quick couplers. The user shall be responsible for replacement with quick couplers approved for potable water systems;
4. Notification to all on-site personnel involved;
5. Removal of all warning labels/signs;
6. Installation of any/all potable water facilities and payment of any associated capacity fees, as provided for in the city water service code;
7. System flushing, disinfecting, decontamination and water quality analyses, as required by the city and/or other regulatory agencies. (Ord. 98-12 § 1 (part), 1998.)

13.06.270 Emergency connection of the recycled water system to the potable water system.

If the city engineer determines an emergency exists where all or parts of the recycled water system are unable to provide recycled water, the city engineer may approve an emergency temporary connection to the potable water system. Before such emergency temporary connection is made, the portion without recycled water shall be isolated by an air gap separation from the remainder of the recycled water system. This isolation shall occur at either individual services or on the off-site system, as determined by the city engineer or other regulatory agencies. An approved backflow prevention device shall be installed on the potable water lines in accordance with this chapter and all other applicable regulations of the governing agencies. The emergency temporary connection shall be removed before connection to the recycled water system is re-established. Re-establishment of recycled water service must be inspected and approved by the city engineer prior to resuming delivery of recycled water. (Ord. 98-12 § 1 (part), 1998.)

13.06.280 Off-site facilities.

Operation, maintenance and surveillance of all city and/or the Inland Empire Utilities Agency off-site recycled water systems including but not limited to, recycled water pipelines, valves, connections, storage facilities, and other related equipment and property up to and including the meter, shall be under the management and control of the city and/or the Inland Empire Utilities Agency. No other persons except authorized representatives of the city and/or the Inland Empire Utilities Agency shall have the right to enter any of the city and/or the Inland Empire Utilities Agency off-site facilities. Only city and/or the Inland Empire Utilities Agency personnel and their representatives shall operate, adjust, change, alter, move or relocate any portion of the off-site recycled water system. (Ord. 98-12 § 1 (part), 1998.)

13.06.290 On-site facilities.

A. General.

1. The operation, surveillance, repair and maintenance of all customer recycled water facilities are the responsibility of the user. The user's designated on-site recycled water supervisor shall bear this responsibility.

2. The city engineer will monitor and inspect all on-site recycled water facilities and associated records, and for these purposes will have the right to enter the user's premises. Where necessary, keys and/or lock combinations shall be issued to the city engineer to provide such access during hours of recycled water system operation. Monitor and inspection includes documenting inspection observations by photograph and copying of records.

B. The user shall have the following responsibilities pertaining to operation of on-site facilities:

1. To ensure that all operations personnel are trained and familiarized with the use of recycled water;

2. To furnish their operations personnel with maintenance instructions, irrigation schedules, controller charts, and as-built drawings to ensure proper operation in accordance with the on-site facilities design and these rules and regulations;

3. To prepare and submit to the city engineer one reproducible set of as-built drawings;

4. To notify the city engineer of all updates or proposed changes, modifications or additions to the on-site facilities and operations. All updates and proposed changes must be approved by the city engineer prior to construction or implementation. All updates and proposed changes shall comply with this chapter and governing documents of all other regulatory agencies;

5. To ensure that the operation and maintenance of all recycled water facilities remain in accordance with this chapter and other documents governing recycled water systems within the city;

6. To operate and control the system in order to prevent direct human consumption of recycled water and to control and limit runoff. The applicant, owner or customer shall be responsible for any and all subsequent uses of the recycled water. Operation and control measures to be utilized in this regard shall include where appropriate, but not limited to:

a. On-site recycled water facilities shall be operated to prevent or minimize discharge onto areas not under control of the customer so as to minimize public contact. Full-circle sprinklers shall not be used adjacent to sidewalks, roadways and property lines in order to confine the discharge to the use area,

b. The operation of the on-site recycled water facilities shall be during periods of minimal human use of the service area. Consideration shall be given to allow a maximum dry-out time before the irrigated area will be used by the public. For agricultural operations, the soil moisture reservoir shall be depleted (dried) by at least thirty percent before harvest,

c. Adequate first aid kits should be available on the premises. All cuts and abrasions should be promptly treated to prevent infection. If infection is likely, a physician should be consulted,

d. Other precautionary measures should be taken to minimize direct contact with recycled water. User's employees, residents and the public should not be subjected to recycled water sprays,

e. Recycled water shall be applied at a rate that does not exceed the infiltration rate of the soil. Where varying soil types are present, the design and operation of the recycled water facilities shall be compatible with the lowest infiltration rate of the soils present,

f. When the application rate exceeds the soil infiltration rate, automatic controller systems shall be utilized to minimize ponding and runoff of recycled water. Total sprinkler run times shall not be greater than the time needed to supply the landscape's water requirement. If runoff occurs before the landscape's water requirements are met, the automatic controllers shall be reprogrammed with additional watering cycles of shorter duration to meet the requirements. This method of operation is intended to control and limit runoff,

g. The user shall report to the city engineer any/all failures in the recycled water system that cause an unauthorized discharge of recycled water,

h. All drinking fountains located within the approved use area, designated by the user permit, shall be protected by location and/or a structure from contact with recycled water to the maximum extent possible. Windblown spray, direct application through irrigation or other approved uses are considered sources of recycled water. Protection shall be by design, construction practice, or system operation,

i. Facilities that may be used by the public, including but not limited to eating surfaces and playground equipment and located within the approved use areas designated by the user permit, shall be protected by seating and/or structure from contact with recycled water to the maximum extent possible. Windblown spray, direct contact by irrigation application, or other approved uses are considered sources of recycled water. Protection shall be by design, construction practice or system operation.

C. The user shall enforce the following prohibitions:

1. Cross-connections. Cross-connections, as defined by the California Administrative Code, Title 17, resulting from the use of recycled water or from the physical presence of a recycled water service, whether by design, construction practice or system operation, are prohibited.

2. Discharge in Unapproved Areas. Discharge of recycled water for any purposes, in areas other than those specifically approved in the currently effective user permit issued by the city engineer, and without the prior knowledge and approval of the governing regulatory agencies, is prohibited.

3. Hose Bibs. Use or installation of permanent hose bibs on any customer water system that presently operates or is designed to operate with recycled water, regardless of the hose bib construction or identification is prohibited.

4. Ponding. Conditions that directly or indirectly cause recycled water to pond either within or outside of the approved use area, whether by design, construction practice or system operation are prohibited, unless designed specifically for ponding and approved by regulatory agencies.

5. Runoff. Conditions that directly or indirectly cause runoff of recycled water onto areas outside of approved use areas, whether by design, construction practice or system operation, are prohibited.

6. Unapproved Uses. Use of recycled water for any purposes other than those specifically approved, in the currently effective user permit issued by the city engineer, and without the prior knowledge and approval of the governing regulatory agencies, is prohibited.

7. Windblown Spray. Conditions that directly or indirectly permit windblown spray to pass outside of the approved use area, whether by design, construction practice or system operation, are prohibited. (Ord. 98-12 § 1 (part), 1998.)

13.06.300 Monitoring and inspection.

The city engineer will monitor and inspect the entire recycled distribution facility, including both off-site and on-site facilities. The city engineer will conduct monitoring programs, maintain records as deemed necessary, inspect on-site facilities for compliance with these rules and regulations, and provide reports as requested by the regulating agencies. For these purposes, the city engineer will have the right to enter the customer's premises during hours of recycled water system operation to inspect on-site recycled water facilities and approved use areas, to verify that the customer's irrigation practices conform with this chapter. (Ord. 98-12 § 1 (part), 1998.)

13.06.310 Maintenance responsibility.

A. Recycled Water System. The applicant, owner or customer is responsible for maintaining all on-site facilities that are under the ownership of parties other than the city.

B. Obstruction in Meter Boxes. No person shall place, dispose, deposit or permit the placement, disposal, deposit of oil, toxic, hazardous or contaminated liquid or waste, trash, soil, building materials or other substances, objects or obstructions in, on or around

meter boxes or other city facilities. No person shall allow or permit meter boxes or other city facilities from becoming obstructed or obscured by trees, shrubs, plants or in any other manner so as to impede their use or access to them to make their use or access to them or make their location difficult to determine. If such substances, objects or obstructions are not cleaned and removed or are permitted to obscure or impede use or access to such facilities, the city may accomplish the cleaning and removal at the user's expense. The city engineer will provide reasonable notice to the user before assessing the charge. (Ord. 98-12 § 1 (part), 1998.)

ORDINANCE NO. 101

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF CHINO HILLS, CALIFORNIA, ADDING CHAPTER 15.08 "REGULATIONS FOR THE AVAILABILITY AND USE OF RECLAIMED WATER", TO TITLE 15 "WATER AND SEWERS" OF THE CHINO HILLS MUNICIPAL CODE

WHEREAS, the water resources of the City of Chino Hills are limited and of a finite supply; and

WHEREAS, the general health, safety, and welfare of the public requires that the water resources available to the City of Chino Hills be utilized for maximum benefit; and

WHEREAS, the City of Chino Hills supports the goals of protecting, conserving, and recycling natural resources to help meet future water demands; and

WHEREAS, new water supplies will greatly benefit the City of Chino Hills; and

WHEREAS, the Chino Basin Municipal Water District has developed a regional reclamation project to serve the City of Chino Hills; and

WHEREAS, Federal and State laws regulate the types, quantities, and quality of reclaimed water; and

WHEREAS, reclaimed water is safe, reliable, and drought proof and provides a promising solution to serve irrigation and other non-potable demands; and

WHEREAS, reclaimed water use will off-set the increased demand for domestic water; and

WHEREAS, the City of Chino Hills is aggressively moving forward with a reclaimed water system to maximize the reuse of reclaimed water; and

WHEREAS, the City Council of the City of Chino Hills finds that in order to protect the health, safety, and welfare of the residents of Chino Hills and comply with Federal and State law, it is necessary to enact this ordinance to regulate the availability and use of reclaimed water within the City.

THAT THE CITY COUNCIL OF THE CITY OF CHINO HILLS DOES ORDAIN AS FOLLOWS:

SECTION 1. Chapter 15.08, " Regulations for the Availability and Use of Reclaimed Water ", is hereby added to Title 15, "Water and Sewers " of the Chino Hills Municipal Code to read as follows:

"Chapter 15.08

REGULATIONS FOR THE AVAILABILITY AND USE OF RECLAIMED WATER

Sections:

15.08.005 Definitions. In addition to the definitions set forth in Title 22, Division 4, Chapter 3, Regulations of the California Administrative Code, the following definitions shall be applicable for this Chapter 15.08.

1. AFY: Acre-Feet per Year.

2. Agricultural use: Water used for the production of crops and/or livestock and the preparation of these products for market.

3. Air-Gap Separation: A physical break between a supply pipe and a receiving vessel. The air gap shall be at least double the diameter of the supply pipe, measured vertically above the top rim of the vessel, and in no case less than one inch.

4. Applicant: Any person, firm, corporation, association, or agency who applies for reclaimed water service.

5. Application rate: The rate at which irrigation water is applied to a design or use area, expressed in inches per hour.

6. Approved check valve: A check valve that seats readily and completely. It must be carefully machined to have free moving parts and assure water tightness. The face of the closure element and valve seat must be bronze or other non-corrodible material that will seat tightly under all prevailing conditions of field use. Pins and bushings shall be of bronze or other non-corrodible, non-sticking material. The closure element (e.g., clapper) shall be internally weighted or otherwise internally equipped to promote rapid and positive closure in all sizes where this feature is obtainable. All devices shall comply with the USC Foundation of Cross Connection Control.

7. Approved double check valve assembly: An assembly of at least two independently acting approved check valves including tightly closing shut-off valves on each side of the check valve assembly and suitable leak-detector drains plus connections available for testing the water tightness of each check valve. All devices shall comply with the USC Foundation of Cross Connection Control.

8. Approved reduced pressure principle backflow prevention device: A device incorporating two or more check valves and an automatically operating differential relief valve located between the two checks, two shut off valves, and equipped with necessary appurtenances for testing. The device shall operate to maintain the pressure in the zone between two check valves less than the pressure on the City water supply side of the device. At cessation of normal flow, the pressure between the check valves shall be less than the supply pressure. In case of leakage of either check valve, the differential relief valve shall operate to maintain this reduced pressure by discharging to the atmosphere. When the inlet pressure is 2 psi or less, the relief valve shall be open to the atmosphere thereby providing an air gap in the device. To be approved, these devices must be readily accessible for maintenance and testing, and installed in a location where no pan of the valve will be

submerged. All devices shall comply with the USC Foundation of Cross Connection Control.

9. Approved use: An application of reclaimed water in a manner, and for a purpose, designated in a User permit issued by the City and in compliance with all applicable regulatory agency requirements.

10. Approved use area: A site, with well-defined boundaries, designated in a Permit For Reclaimed Water Service issued by the City to receive reclaimed water for an approved use and acknowledged by all applicable regulatory agencies.

11. As-built drawings: Record drawings that show the completed facilities as constructed or modified.

12. Automatic system: controllers, valves, and associated equipment used to program and operate irrigation systems for the efficient application of reclaimed water.

13. Auxiliary water supply: Any water supply on or available to the premises other than the approved potable water or reclaimed water supplies.

14. AWWA: American Water Works Association.

15. Board: Board of Directors of the Chino Basin Municipal Water District.

16. City: City of Chino Hills.

17. City Council: City Council of the City of Chino Hills.

18. Commercial/industrial use: Water used for toilets, urinals, decorative fountains; industrial processes such as rinsing, washing, cooling, flushing, circulation, or construction; and other related uses.

19. Commodity charge: A charge imposed by the City for all reclaimed water used, whether such water use is estimated or actually metered.

20. Connection fee: A fee imposed by the City for obtaining reclaimed water service from the City reclaimed water facilities.

21. Cross-connection: Any unapproved and/or unprotected connection between any part of a potable water system and any source or system containing water or other substances not approved as safe and potable for human consumption.

22. Customer: Any person, group, firm, partnership, corporation, association, user, or agency who legally receives reclaimed water service from the City.

23. Design area: A site, with well-defined boundaries, proposed to receive reclaimed water for an approved use, as delineated in the Application For Reclaimed Water Service.

24. Direct beneficial use: The use of reclaimed water which has been transported from the point of production to the point of use without an intervening discharge to waters of the State.

25. Discharge: Any release or distribution of reclaimed water to a use area or disposal site/mechanism (e.g.; outfall, Live Stream Discharge, municipal sewage system). All discharges of reclaimed water must be approved by the regulatory agencies.

26. District: Chino Basin Municipal Water District.

27. DOHS: San Bernardino County Department Of Health Services

28. Greenbelt areas: Areas including, but not limited to, parkways, parks, right-of-ways, and landscaping within and/or surrounding a community.

29. HCF: Hundred Cubic Feet -a common unit of water volume measurement.

30. Industrial Process water: Water used in industrial facilities for rinsing, washing, cooling, circulation, or construction.

31. Infiltration rate: Rate at which water penetrates the soil surface and enters the soil profile.

32. Landscape impoundment: A body of water containing reclaimed water which is used for aesthetic or irrigation purposes and which is not intended for public contact or ingestion.

33. Landscape irrigation/use: Reclaimed water used for the propagation and maintenance of trees, shrubs, ground cover and turf. This plant material is intended for erosion control and aesthetic value, not for resale/profit purposes.

34. Non-potable water: Water that has not been treated for, or is not acceptable for, human consumption in conformance with Federal, State and local water standards. Non-potable water includes reclaimed water.

35. Off-site facilities: Existing or proposed facilities under the control of the purveyor, from the source of supply to the point of connection with the customer's on-site facilities, normally up to and including the agency's meter and meter box.

36. On-Site facilities: Existing or proposed facilities within property under the control of the customer, normally downstream of the City's meter.

37. On-site reclaimed water supervisor: A qualified person designated by a reclaimed water user and approved by the City of Chino Hills, to be responsible for the safe and efficient operation of the User's reclaimed water system. This person shall be knowledgeable in the construction and operation of reclaimed water and irrigation systems and in the application of Federal, State and local guidelines, criteria, standards and rules and regulations governing the use of reclaimed water.

38. Open space: Land that has been designated to remain undeveloped. These areas may receive reclaimed water service for landscape irrigation.

39. Permit: A processed and approved application package to, and agreement with, the reclaimed water purveyor for reclaimed water service.

40. POC: Point of connection

41. Ponding: Retention of piped water on the ground surface or man-made surface for a period of time following the cessation of an approved reclaimed water use activity such that potential hazard to the public health may result.

42. Potable water: Water which conforms to the latest Federal, State and local drinking water standards.

43. PSI: Pounds per Square Inch. The most common unit of pressure measurement.

44. Reclaimed water: As defined in Title 22, Division 4, of the California Administrative Code, water which as a result of treatment of wastewater, is suitable for direct beneficial use or a controlled use that otherwise would not occur. The treatment of wastewater is accomplished in accordance with the criteria set forth in said code.

45. Reclaimed water facilities: Systems, structures, etc., used in the treatment, storage, pumping, transmission and distribution of reclaimed water.

46. Recreational impoundment: A body of reclaimed water used for recreational

activities including, but not limited to, fishing, boating, and/or swimming. Allowable uses will depend on treatment level of the reclaimed water.

47. Regulatory agency: Those public entities legally constituted by federal, state and local statutes to protect health and water quality.

48. Runoff: Flow of water along the either natural or manmade surfaces of the ground off of the designated use area.

49. RWQCB: Santa Ana Regional Water Quality Control Board

50. Secondary effluent: Wastewater which has been treated by gravity sedimentation to remove settleable solids remaining after the primary biological treatment process.

51. Service: The delivery of reclaimed water to a User.

52. Service connection: City of Chino Hills facilities between the City reclaimed water distribution system and the customer's reclaimed water service valve, including, but not limited to, the meter, meter box, valves, and piping equipment.

53. Standard Specifications: Specifications adopted by the City for construction of water facilities.

54. Tertiary effluent: Secondary effluent which has been disinfected and filtered. Allowable uses include body contact and irrigation of human food crops.

55. Unauthorized discharge: Any release of reclaimed water that violates these Rules and Regulations or any applicable Federal, State, or local statutes, regulations, ordinances, contracts or other requirements.

56. Use area: The specific area designated to be served with reclaimed water through on-site reclaimed water facilities.

57. User: Any person, group, firm, partnership, corporation, association or agency accepting reclaimed water from the City of Chino Hills reclaimed water facilities for use in accordance with this Ordinance.

58. Windblown spray: Dispersed, airborne particles of water capable of being transmitted through the air to a location other than that for which the direct application of reclaimed water is approved.

15.08.010 Introduction.

The City is partially dependent on imported water for domestic, agricultural, irrigation, commercial and industrial uses. This imported supply is considered limited and it's future is reliability uncertain. It is in the best interests of the City to promote and implement innovative water management strategies to conserve water resources while still satisfying water needs of the City's customers. The City operates and maintains portions of a region-wide reclaimed water distribution network within the City's potable water service area enabling it to provide tertiary treated reclaimed water from the District for a variety of beneficial uses. This alternate supply allows large quantities of higher quality potable water to be made available for domestic use.

The use of reclaimed water from domestic sewage is regulated by the California Regional Water Quality Control Board Santa Ana Region (RWQCB). California Water Code Section 13551 establishes a state policy to encourage the use of reclaimed water. Permission to use reclaimed water is based on the District's ability to adequately treat domestic wastewater to the point that the reclaimed water (effluent) meets the requirements of existing Title 22, Division 4, Chapter 3 Regulations of the California Administrative Code. Title 22, Division 4 was promulgated by the State Department of Health Services to ensure proper health protection and specify the treatment degree to match the intended applications.

In accordance with waste discharge requirements for water reclamation projects, the RWQCB requires regulation measures for facilities distributing reclaimed water.

A. Purpose - The purpose of this Ordinance is to establish Rules and Regulations including procedures, specifications, and limitations for the safe and orderly development and operation of reclaimed water facilities and systems within the City's service area.

B. Goals -
   1. Achieve conservation of potable water supplies by using reclaimed water for current and future demands. Reclaimed water uses shall be for the maximum public benefit and may include, upon City Council approval and compliance with all applicable regulations:
      - agricultural irrigation
      - commercial uses
      - construction use
      - groundwater recharge
      - industrial processes
      - landscape irrigation
      - landscape and/or recreational impoundment
      - wildlife habitat

2. Maintain reclaimed water quality through a stringent pre-treatment program for commercial and industrial wastes and by restricting brine discharges from water softeners, evaporative coolers, and other sources.

3. Prevent direct human consumption of reclaimed water through:
   a. Adherence to all applicable rules and regulations.
   b. Posting of warning signs by the User.
   c. Cross-connection/backflow prevention program.

4. Control runoff of reclaimed water through monitoring of the installation and operation of all reclaimed water facilities and use areas.

5. Monitor reclaimed water quality.

C. Policy - It is the policy of the City that reclaimed water be used for any purpose approved for reclaimed water use, when it is economically, financially, technically, and institutionally feasible. Use of potable water for non-domestic uses shall be contrary to the City policy and shall not be considered the most beneficial use of a natural resource and shall be avoided to the maximum extent possible.

D. Priority - Reclaimed water shall be provided on a first come, first served basis, as long as reclaimed water is available.

15.08.015 Right of Revision.

The City reserves the right to amend this ordinance as it deems appropriate.

15.08.020 Administrator.

Except as otherwise provided herein, the City Manager shall administer, implement, and enforce the provisions of this Ordinance. The City Manager may at his/her discretion, delegate any or all of these powers and duties.

15.08.025 Service Area.

This Ordinance pertains to reclaimed water service to lands and/or improvements lying within the legal boundaries of the City unless otherwise stated. The City shall provide reclaimed water service in accordance with this Ordinance to all areas identified in the City's Water Reclamation Master Plan including all subsequent revisions for the use of reclaimed water. Reclaimed water service shall be provided to the service area when related distribution facilities are completed and service becomes available.

15.08.030 Determination of Reclaimed Water Use Area.

A. General

1. The City may adopt a Water Reclamation Master Plan ("Master Plan") designating current and potential areas for reclaimed water use. The Master Plan shall be in accordance with all regulatory agency's requirements and shall encourage reclaimed water use. The Master Plan may be reviewed and updated as needed.

2. The City may review its Master Plan and determine where water service shall be made with reclaimed water in place of potable water. Where it is determined reclaimed water is, or will be available, the City may require modifications to existing on-site water facilities and require construction of reclaimed water systems in all new developments.

3. The City may enter into agreements with surrounding cities and/or other water agencies to determine reclaimed water use areas within the service area/jurisdiction of those entities.

B. Existing potable water service

1. Upon adoption of this Ordinance, and each update of the City's Master Plan, the City may make determinations of areas where existing potable water use shall be made with reclaimed water.

2. A notice of the determination to use reclaimed water shall be sent to the current owner explaining the City's reasons for use and resultant procedures needed to facilitate reclaimed water use. The owner shall have 180 days to comply with the City's determination. The City may allow for an extension if warranted.

C. New reclaimed water service - Upon submittal by applicant of a tentative map, land use permit, or request for reclaimed water service, the City shall review the Master Plan and make preliminary determinations if reclaimed water service should be provided to the area in question.

15.08.035 Authorized Uses.

In accordance with the goals of the City, as stated in this Ordinance, the uses of reclaimed water shall include only uses approved by the California State Department of Health Services (DOHS) and for which Title 22, Division 4, Chapter 3, "Wastewater Reclamation Criteria" of the California Code of Regulations provides treatment requirements. Each such use will be considered for approval on a case-by-case basis.

Prior to approval and at its discretion, the City may set forth specific requirements as conditions to providing service, which may require specific prior approval from the CBMWD and/or other appropriate regulatory agencies.

15.08.040 Conditions of Service.

Reclaimed water service shall be provided by the City only if a permit for such service is obtained in the manner provided in this Ordinance. Reclaimed water service shall be available, provided, and used in accordance with other applicable codes, rules, and regulations. If any of the following conditions of service are not satisfied at all times, the Permit for reclaimed water service may be revoked by the City after which all reclaimed water service shall cease in the manner described herein. Connection to a potable water system will not be allowed.

A. Financial - Conditions relating to service fees and billing shall be the same as established for the potable water system. Rates for reclaimed water service shall be established by Resolution of the City Council of the City.

B. Operational

1. Liability: The City shall not be liable for any damage by reclaimed water use or resulting from:
   - defective plumbing
   - on-site facilities failures
   - high or low pressure conditions
   - interruptions of service

2. Service Basis: All reclaimed water will be provided to the User in the conditions and quantity specified in the Permit For Reclaimed Water Service. Reclaimed water use will not be subject to the same restrictions as potable water during drought conditions.

C. Regulatory - Reclaimed water service may be terminated whenever the quality of the reclaimed water does not comply with the requirements of the regulatory agencies, this ordinance or other applicable codes.

15.08.045 Other Applicable Codes and Conditions.

A. For regulations that are the same between potable and reclaimed water, use applicable Federal, State, and local regulations or sections thereof, already adopted for potable water systems by the City.

B Other applicable guidelines, rules and regulations, ordinances, specifications that govern the use of reclaimed water:

Agency/Organization	Document .#	Document Title
Chino Basin MWD	Ordinance No. XX	Regional Reclamation Ordinance For Reclaimed Water Service
Calif. DOHS	Title 22 Div. 4	Water Reclamation Criteria
Calif. DOHS	Title 17	Regulations Relating to Cross-Connections
California-Nevada Section, AWWA	-----	Guidelines For Distribution Of Non-potable Water
Foundation For Cross-Connection Control	-----	Manual Of Cross-Connection and Hydraulic Research, University of Southern California, School of Engineering

15.08.050 Permit Application Process.

A completed application for reclaimed water service must be submitted to the City by the owner, or authorized representative of the property which is intended to be served with reclaimed water. Approval for service shall be indicated by the City issuing a Permit for reclaimed water service. This permit shall be in addition to permits and conditions required by the City and all other regulatory agencies.

The City shall furnish the application form upon request by prospective users. The applicant shall supply information concerning:

- Applicant's relationship to the subject property as legal owner, tenant, or lessee.
- Description of reclaimed water use on the property.
- Legal description of property.
- Technical information (listed on the application form).
- Total irrigated acres.
- Special conditions (items that could be of concern when using reclaimed water).
- A drawing of the property on one, 81/2 x 11 paper sheet. Include/show:
    - Location of service connection, reclaimed and potable water main line.
    - Size of service connection.
    - Use area location.
    - Areas served with reclaimed water and areas excluded from reclaimed water service.
    - A brief description of all special construction requirements.

The applicant shall state by signature on the application form that he/she agrees to comply with this Ordinance and any and all other applicable governing documents.

The following items are to be included in an application package:

- completed application form.
- required drawing(s).
- required fees and deposits.
- special conditions.

Upon receipt of a completed application package, the City shall review the material, respond, and forward the application to the CBMWD's General Manager or designated representative within 45 calendar days of receipt of the application package. The City may research any additional information it deems necessary. The City shall determine if the property to be served is in a suitable area for reclaimed water use and if the necessary quantity and quality of reclaimed water can be made available to the applicant. The City may prescribe specific requirements of the applicant for service which may concern:

- additional facilities to be constructed.
- manner of construction.
- financial responsibility.
- use of reclaimed water.

Upon successful completion of its review, the District shall submit the application package to the Santa Ana Regional Water Quality Control Board (RWQCB) and the San Bernardino County DOHS for their approval. Upon approval of the application package by the RWQCB and the San Bernardino County DOHS, the applicant will be requested to submit detailed construction plans (blueprints), construction schedule, and pay required fees to the City.

The City will issue a Permit for reclaimed water service. The permit shall be a binding agreement between the City and the User. A new application must be submitted to reinstate a permit that has been canceled.

15.08.055 Permits.

A City Permit for reclaimed water service must be obtained by the User to receive reclaimed water on any property. Permits to receive reclaimed water service or any connection for service issued under this Ordinance pursuant to receipt of an application for such service shall be subject to the following conditions:

A. The applicant shall adhere to requirements prescribed by this Ordinance and to all additional requirements prescribed by all governing agencies pertaining to reclaimed water service.

B. The applicant shall pay specified connection fees, service line charges, and other charges prior to issuance of the permit.

C. The City may schedule reclaimed water use. Such scheduling may involve programming deliveries to different users and/or to various portions of a single user on-site system. Any scheduling shall consider applicable constraints of all involved regulatory agencies, this Ordinance, and the operating constraints of the affected user's.

D. The City may temporarily terminate reclaimed water service at any time water at the terminal point of the District's reclamation plant does not meet the requirements of the regulatory agencies. Reclaimed water service would, in such case, be restored when the reclaimed water meets the governing requirements at the terminal point of the treatment plant. The City and the District may provide reclaimed water service from other approved sources. In addition, approved air gap separations may be used to provide potable water to the reclaimed water system to ensure water service.

E. The City may apply for and process all applicable regulatory agency permits. The cost and preparation of any study or report necessary to comply with California Environmental Quality Act (CEQA) or other regulatory requirements shall be the responsibility of the applicant.

F. The use permit shall become valid only after the project has been completely constructed, tested, and approved by the involved agencies.

G. A copy of the current permit must be available for review at all times, clearly visible at the site and on file at the user's office.

H. The use permit shall include the following:

1. Name and address of owner and user.
2. A statement that no changes in the proposed system will be undertaken without application and issuance of an amended City permit.
3. A statement that the applicant recognizes potential penalties for violation of this ordinance and/or regulations of any regulatory agencies.
4. Specific quantity of reclaimed water to be used. Identify the following:
   - Average annual Hundred Cubic Feet (HCF) used.
   - Maximum Gallons Per Minute (GPM) needed at the Point of Connection (POC) as shown on the plans.
5. Permitted/approved uses.
6. Property location and estimated irrigated acres.

I. The use permit shall stay in effect indefinitely, but shall be canceled if:

1. A change of ownership occurs.
2. A change of User occurs.

3. A change of reclaimed water use occurs.
4. A violation of this Ordinance and/or other regulatory agencies occurs, which results in a system turn-off.

15.08.060 Rates, Fees, Charges, and Deposits.

A. General - All rates and charges relating to reclaimed water service shall be established by Resolution of the City Council. Applicants for reclaimed water service shall pay their fair share for the construction of facilities needed to deliver reclaimed water to the applicant's property. All fees and estimated construction costs shall be paid prior to construction; however, the City may reimburse the applicant for a portion of the cost of such facilities as set in Section 15.08.060 subsection D.

B. Change of Rates or Charges - The City reserves the right to change the schedule of reclaimed water rates, service charges, and any other charges, deposits, or fees at any time. These changes are subject to the terms of any existing reclaimed water service permits (and/or agreements) and will be made by appropriate action of the City.

C. Temporary Service - The reclaimed water rate for all water sold through temporary meters shall be established by resolution of the City Council.

D. Financial Participation By City - Under certain circumstances, the City may contribute to the cost of constructing the facilities needed to deliver reclaimed water to an applicant's property. Subject to the availability of funds, the City may:

1. Reimburse an applicant for costs incurred to install oversized facilities.

2. Elect to participate in or construct supply lines, main lines, reservoirs, pumping stations or other facilities, as it determines necessary, and/or as funds are available.

15.08.065 Size, Location and Installation of Service Line.

The City reserves the right to determine the size and location and/or type of:
- reclaimed water service lines.
- service connections.
- meters.
- backflow protection devices and other appurtenances in the service area.

The reclaimed water service lines shall be extended to an area abutting upon a public street, highway, road or City easement in which reclaimed water mains are installed.

15.08.070 Service Connection Limitations.

Permits For Reclaimed Water Service shall be issued under the following conditions:

A. The City reserves the right to limit the area of land under one ownership or homeowner's association to be supplied by one reclaimed water service connection and one reclaimed water meter.

B. A reclaimed water service connection and its corresponding meter shall not be used to supply adjoining property of a different owner.

C. A service connection shall not be used to supply adjoining property of a different owner or to supply property of the same owner across a road, street or other public right-of-way. When a property which is provided with a reclaimed water connection and corresponding meter is subdivided, such connection and meter shall be considered as serving the lot or parcel of land on which the meter is located. Additional reclaimed water mains and/or reclaimed water service lines will be required for all subdivided areas in accordance with this Ordinance.

D. Irrigation systems in homeowner's associations and other developments where landscaping around homes and in common areas are served with one meter shall be allowed to cross under roads, streets, or other right-of-ways within the association's or developer's property.

E. All reclaimed water used on any property where a meter is installed must pass through the meter. Customers shall be held responsible and charged for all reclaimed water passing through their meters.

F. Every reclaimed water service line installed shall be equipped with a curb stop or wheel valve on the inlet side of the meter. The valve or curb stop is to be used only by City personnel to control the reclaimed water supply through the water service line. If the wheel valve or curb stop is damaged by the customer, then the customer shall bear full financial responsibility for replacement.

G. When a reasonable service pressure would not be available to on-site facilities not previously served from the potable water system, the User shall be responsible for correcting this situation upon conversion to the reclaimed water system. If available service pressure is too high, the User shall utilize pressure regulator(s) downstream of the meter to obtain the correct pressure. If available pressure is too low, the User shall provide booster pumping to increase the pressure. When a reasonable service pressure would not be

available to on-site facilities previously served from the potable water system, correcting this situation upon conversion to the reclaimed system shall be handled as follows:

1. If User-provided booster pumping or pressure regulation was required for on-site facilities when service was provided from the potable system then any booster pumping or pressure regulation required for reclaimed water service shall be provided by the User.

2. If reasonable service pressure was available for the on-site facilities when service was provided from the potable system, then any action needed to provide reclaimed water service shall be considered on a case-by-case basis in conjunction with the City.

H. Service is commenced after issuance of a Permit for Reclaimed Water Service by the City.

15.08.075 Relocation of Reclaimed Water Service Lines.

Should a reclaimed water service line installed according to the directions of the applicant, owner, or customer (User) be of the wrong size or installed at a wrong location or depth, the cost of relocation or removal shall be paid for by the User where the error was that of the User or the Users representative. All services provided prior to final street improvements shall be considered temporary and the costs for any repairs or changes to on-site facilities required to be performed by the City shall be paid by the User.

15.08.080 Protective Measures.

The following provisions are to protect the City's potable and reclaimed water supplies against actual, undiscovered, unauthorized, or potential cross-connections to the User's reclaimed water system. These provisions are in addition to, not in lieu of, the controls and requirements of other regulatory agencies. These provisions are in accordance with Title 17 (Public Health) of the California Administrative Code. These regulations are intended to protect the City water supplies and are not intended to provide regulatory measures for protection of users from the hazards of cross-connections within their own property.

Approved backflow prevention devices on the City's potable and reclaimed water services to the property, as required in these provisions, shall be provided, installed, tested, and maintained at User expense. These devices shall be located on the property served immediately downstream of the meter and shall not be on the City's facilities. All devices shall be readily accessible for testing and maintenance.

When reclaimed water service is initiated, the applicant must provide sufficient information, including plumbing and building plans, to enable the City and other regulatory agencies to determine the level of backflow protection required. The proper backflow protection as determined by the City and other regulatory agencies shall then be installed and inspected before reclaimed water service is provided. Each time there is a change of customer (either owner or tenant) on any commercial or industrial premise, the User shall notify the City immediately. The City will then reassess the level of protection required. Also, any alterations to existing on-site facilities that may affect required protection level must be reported immediately to the City.

At their discretion, representatives of any health agency having jurisdiction, the City, and CBMWD may conduct surveys of any property where water service is provided by the City. These surveys are to determine if any actual or potential cross-connections exist. The applicant, owner, or User shall provide full cooperation in facilitating these surveys.

A. Where protection is required - Approved backflow protection for potable water supplies shall be provided as follows:

1. Each City water service connection that supplies potable water to a premises having an auxiliary water supply that is not accepted as a potable source by the City and is approved for such use by the San Bernardino County DOHS shall be protected against backflow from the premises into the City water systems.

2. Each City water service connection for supplying potable water to a premises on which any substance is handled in a fashion as to permit entry into the City water system from the premises shall be protected against backflow from the premises into the City water system. This shall include, but not be limited to, the handling of process waters, waters originating from any of the City water systems that have been subject to deterioration in quality, and agricultural use.

3. Backflow devices shall be installed where premises have intricate plumbing and piping arrangements or where not all portions of the premises are readily accessible for inspection.

4. Backflow protection may be required at premises where there has been a history of cross-connections being re-established.

B Other Measures -

1. Whenever possible the City will operate the reclaimed water system at a lower pressure than potable water systems. This will cause potable water to flow to the reclaimed water system in the event of a cross-connection.

2. Water meters and backflow devices used for reclaimed water service shall be tagged or color-coded purple, color pantone 512 or 522, or otherwise distinguished as such. These meters shall not be interchanged or used for potable water service after repairs and/or meter testing have been performed.

3. Periodic inspection of the reclaimed water facilities will determine if all identifying items are still clearly discernible. If not, they will be replaced, repaired or refurbished as needed. These items include:
   - Warning tags
   - Painted surfaces
   - Warning tape
   - Identification tape
   - Covers, caps, signs
   - Other items that indicate reclaimed water is being used.

4. Acceptable tracer dyes may periodically be introduced into the reclaimed water system by the City, CBMWD or local health agency, to determine the existence of any cross-connections or backflow conditions into the potable water system.

5. In the event of contamination or pollution of a City potable water system due to a cross-connection or other failure, the San Bernardino County DOHS and the City shall be promptly notified so that appropriate measures will be taken to correct the problem.

6. The State and County health departments and the City shall be kept informed by written document of the identity of the person responsible for the User's reclaimed water system on all premises concerned with these rules and regulations. At each authorized use area, an 'On-Site' Reclaimed Water Supervisor shall be designated and responsible for including, but not limited to, the following:

   a. the installation and use of all components of the on-site reclaimed water system(s)
   b. prevention of cross-connections
   c. change in use of reclaimed water.

C. Water Service Termination - When the City determines that reclaimed water uses or conditions encountered by the City represent a clear and immediate hazard to the City's potable and/or reclaimed water supply that cannot be immediately removed or corrected, the City shall reserve the right to terminate reclaimed water use. Conditions or uses that create a basis for

termination include, but are not limited to:

1. Refusal to install a required backflow prevention device.

2. Refusal to test a backflow prevention device.

3. Refusal to repair or replace a faulty backflow prevention device.

4. Direct or indirect connection between the potable and reclaimed water systems.

5. Direct or indirect connection between the reclaimed water system and a system or equipment containing contaminants.

6. A situation which presents an immediate health hazard to the City potable and/or reclaimed water system, as determined by the City, CBMWD, or other regulatory agency.

15.08.085 Type of Protection.

The level of protection required is related to the degree of hazard that exists on the premises served. Listed in increasing levels of protection, the following protective backflow devices may be required: Double Check Valve (DC), Reduced Pressure Principle Device (RPPD), and an Air Gap Separation (AG). The User may choose a higher level of protection than required by the City or other regulatory agencies. Minimum types required, relative to various situations, are listed below. Situations not listed will be evaluated on a case-by-case basis and the appropriate level of protection required shall be determined by the City or the San Bernardino County Department of Health Services. These shall include situations where on-site conditions could impact the reclaimed water quality.

Degree of Hazard	Required Minimum Backflow Prevention
A. Sewage and Hazardous Substances	
Premises where the on-site potable water supply system is used to supplement reclaimed water supply.	AG
Premises where there are wastewater pumping and/or treatment plants and there is no interconnection with the potable water system. This does not include a single-family residence that has a sewage lift pump. A RPPD may be provided in lieu of an AG if approved by the health agency, and City.	AG

	Premises where hazardous substances are handled in any manner in which the substance may enter the potable water system. This does not include a single-family residence that has a sewage lift pump. A RPPD may be provided in lieu of an AG if approved by the health agency, and City Premises where there are irrigation systems into which fertilizers, herbicides, or pesticides are, or can be, injected.	AG
B.	Premises where entry is restricted so that cross-connection inspections cannot be made with sufficient frequency or at sufficiently short notice to assure that cross-connections do not exist.	RPPD
C.	Premises where there is a repeated history of cross-connections being established or re-established.	RPPD
D.	Premises where the fire system is supplied from the City water system and there is an unapproved auxiliary water supply on or to the premises.	DC
E.	Premises where the fire system is supplied from the City water system and interconnected with an unapproved auxiliary water supply. A RPPD may be substituted for an AG if approved by the San Bernardino County DOHS.	AG
F.	Premises where the fire system is supplied from the City water system and where either elevated storage tanks or fire pumps which take suction from private reservoirs or tanks are used.	DC

15.08.090 Inspection and Maintenance of Protective Devices. - The User is responsible for inspection and testing of all backflow prevention devices at least once a year, or more often in those instances where successive inspections indicate repeated failure. All inspections shall be performed at the User's expense by a tester certified by the County Health Department. These devices shall be repaired, overhauled, and/or replaced at the expense of the User whenever they are found to be defective. These devices shall also be tested immediately after they are installed, relocated, or repaired. The User shall maintain records of all such tests, repairs, and overhauls. These records shall be made available to the Department of Health Services upon request and sent to the City annually.

15.08.095 Facilities Design. - The design of off-site facilities including the preparation of plans and construction specifications shall be the responsibility of a civil engineer registered in the State of California. The design of customer (on-site) facilities that will

use reclaimed water, and preparations of plans and construction specifications, shall be the responsibility of a landscape architect or civil engineer registered in the State of California.

Before the City grants final acceptance of any system using reclaimed water, as-built drawings shall be provided. The installed system shall be tested in accordance with the City Standard Specifications to ensure that the system is in full compliance with these rules and regulations.

A. General -

1. All off-site and on-site reclaimed water facilities shall be designed and constructed according to the requirements, conditions, and standards as adopted in the City Standard Specifications to ensure that the system is in full compliance with this Ordinance. Reclaimed water systems, both on-site and off-site, shall be separate and independent of any potable water systems.

2. Where the premises contain dual or multiple water systems, the exposed portions of pipelines shall be identified at sufficient intervals to distinguish clearly which water is safe for drinking purposes and which is not safe.

3. Areas irrigated with reclaimed water must be completely separate from domestic water wells and reservoirs. Reclaimed water shall not be allowed to migrate to within 50 feet and no impoundment of reclaimed water within 100 feet of any domestic water supply well.

4. Adequate means of notification should be provided to inform the public, employees, and others that reclaimed water is being used. Conspicuous signs with appropriate wording that can be clearly read should be placed at adequate intervals around the authorized use area.

   (a) Golf courses should print messages on score cards in a different color indicating reclaimed water is being used. Water hazards containing reclaimed water should be posted with appropriate signs.

   (b) Languages, other than English, should be used on signs when appropriate.

B. Off-Site Facilities - Any off-site reclaimed water distribution facilities required to serve development, shall be provided by the applicant, owner, or User at their expense, unless the City determines it is a City benefit to construct these capital facilities.

Plans and specifications for all reclaimed water distribution facilities shall be submitted to and approved by the City, and other regulatory agencies in advance of construction. The City will assume responsibility for providing reclaimed water service to the point of connection of such development upon transfer to the City of title to all off-site reclaimed water systems and any necessary easements. All easements shall be in a form acceptable to the City, not subject to outstanding obligations to relocate such facilities or any deeds of trust, except in instances where such is determined by the City to be in the best interest of the City.

The property owner, proponent, or developer may request that the City enter into a reimbursement agreement for the portions of a system which are required to be oversized with capacity to supply more reclaimed water than the property owner, proponent or developer requires. The decision to enter into a reimbursement agreement shall be made by the City.

C. On-site facilities - Any on-site reclaimed water facility shall be provided by the applicant, owner, or User at his/her expense. Applicant, owner or User shall retain title to all on-site facilities. When the City Standard Specifications require a higher quality of material, equipment, design or construction method than that required by other governing codes, rules and regulations, the City Standard Specifications shall take precedence. On-site reclaimed water facilities shall conform to local governing codes, rules and regulations.

D. Interim Service - In areas where reclaimed water is not immediately available, when the use area is ready for construction and if the City has determined that reclaimed water will be supplied in the future, on-site facilities shall be designed to use reclaimed water. Provisions shall be made and this Ordinance followed to allow for connection to the City off-site reclaimed water facilities. In the interim, potable or other suitable water may be supplied to the on-site facilities through an "interim service connection".

1. Conditions of interim service are:

   (a) The City anticipates reclaimed water will be available to the site in which interim service is initiated.

   (b) The applicant must obtain a City Permit For Reclaimed Water Service.

   (c) The applicant must agree to perform all work necessary to make connections to the permanent reclaimed water system(s) once it is installed.

2. An approved backflow prevention device is required on the interim

service. The backflow preventer shall be at the POC with the interim supply system. The City will remove the interim connection at the Users expense and will make the connection to the on-site facilities when reclaimed water becomes available.

3. Future reclaimed water customers will pay for the following:

   (a) Cost of constructing and abandoning the interim service.

   (b) Applicable reclaimed water fees at the time service becomes available.

   (c) Applicable interim water rates for the type of water delivered through the interim service.

4. When reclaimed water is available to the site, an inspection of the on-site facilities will be conducted by the City to verify that the facilities have been adequately maintained and are in compliance with the reclaimed water use permit. Reclaimed water service shall be provided upon verification of compliance. If the facilities are not in compliance, the City shall notify the User to correct the situation.

15.08.100 Construction.

A. New - Construction of all new reclaimed water systems, both on-site and off-site, shall follow the City Standard Specifications.

B. Conversion to reclaimed water use - Where it is planned that an existing non-reclaimed water system be converted to a reclaimed water facility, the facilities to be converted to reclaimed water shall be investigated in detail at the User's expense. On a case-by-case basis, the City shall review the as-built drawings, prepare required reports for the User, and determine the measures necessary to bring the system into full compliance with this Ordinance. The San Bernardino County DOHS shall also review and approve all conversions. No existing potable water facilities shall be connected to or incorporated into the reclaimed water system without City and other regulatory agency testing and approval.

C. Conversion from reclaimed water use - If the City determines it necessary to convert on-site facilities from a reclaimed water supply to a potable or other water supply, due to on-site failure of the reclaimed water system or use violations, it shall be the responsibility of the User to pay all costs for such conversion, unless determined otherwise by the City. Conversion costs shall

include, but not be limited to the following:

1. Isolation of the reclaimed water supply. Service shall be removed and plugged by the City, at the City main, or abandoned in a manner approved by the City.

2. Installation of approved backflow prevention devices. The User shall install approved backflow devices on all potable or other water meter connections.

3. Removal of any/all special reclaimed water quick couplers. The User shall be responsible for replacement with quick couplers approved for potable water systems.

4. Notification to all on-site personnel involved.

5. Removal of all warning labels/signs.

6. Distribution system flushing with approved water quality analysis as required by the San Bernardino county DOHS.

7. Installation of all potable water lines and facilities and payment of any fees.

15.08.105 Emergency Connection to Reclaimed Water System.

If the City determines an emergency exists where all or parts of the reclaimed water system are unable to provide reclaimed water, the City may approve a temporary connection to the potable water system. Before such temporary connection is made, the portion without reclaimed water shall be isolated by an air gap separation from the remainder of the reclaimed water system. This isolation shall occur at either individual services or on the off-site system, as determined by the City. An approved backflow prevention device or other devices as directed shall be installed on the potable water lines in accordance with this Ordinance and all other applicable regulations of the governing agencies. The emergency connection shall be removed before connection is re-established to the reminder of the reclaimed water system.

Re-establishment of reclaimed water service must be inspected and approved by the City prior to resuming delivery of reclaimed water.

Supplemental emergency supplies will be delivered at the rate then in effect for the type of alternate water used.

15.08.110 Off-Site Facilities.

Operation, maintenance and surveillance of all City off-site reclaimed water systems

including but not limited to, reclaimed water pipelines, valves, connections, storage facilities, and other related equipment and property up to and including the meter, shall be under the management and control of the City. No other persons except authorized representatives of the City or CBMWD shall have the right to enter upon any of the City or CBMWD off-site facilities. Only City personnel and their representatives shall operate, adjust, change, alter, move or relocate any portion of the off-site reclaimed water systems.

15.08.055 On-Site Facilities.

A. General - The operation, surveillance, repair, and maintenance of all customer reclaimed water facilities are the responsibility of the User. The User's designated "On-site" Reclaimed Water Supervisor shall bear this responsibility. The City and/or regulatory agencies shall monitor and inspect all on-site reclaimed water facilities, and for these purposes shall have the right to enter upon the users premises. When necessary, keys and/or lock combinations shall be issued to the City to provide such access upon a request during normal business hours of operation.

B. The User shall have the following responsibilities pertaining to operation of on-site facilities:

1. To ensure that all operations personnel are trained and knowledgeable regarding the use of reclaimed water.

2. To furnish all operations personnel with maintenance instructions, irrigation schedules, controller charts, and as-built drawings to ensure proper operation in accordance with the on-site facilities design and the rules and regulations of all regulatory agencies.

3. To prepare and submit to the City one (1) reproducible set of as-built drawings.

4. To notify the City of all updates or proposed changes, modifications, or additions to the on-site facilities. All updates and proposed changes shall be approved by the City prior to construction in accordance with City procedures. All updates and proposed changes shall comply with this Ordinance and governing documents of all other regulatory agencies.

5. To ensure that the operation and maintenance of all reclaimed water facilities remain in accordance with this Ordinance and other documents governing reclaimed water systems within the City.

6. To operate and control the system in order to prevent direct human consumption of reclaimed water and to control and limit runoff. The

applicant, owner, or User shall be responsible for any and all subsequent uses of the reclaimed water. Operation and control measures to be utilized in this regard shall include, but not be limited to:

(a) On-site reclaimed water facilities shall be operated to prevent or minimize discharge onto areas not under control of the User so as to minimize public contact. Full circle sprinklers shall not be used adjacent to sidewalks, roadways, and property lines in order to confine the discharge to the use area.

(b) The operation of the on-site reclaimed water facilities shall be during periods of minimal human use of the service area. Consideration shall be given to allow a maximum dry-out time before the irrigated area will be used by the public. For agricultural operations, the soil moisture reservoir shall be depleted (dried) by at least 30% before harvest.

(c) Adequate first aid kits shall be available on the premises. All cuts and abrasions shall be promptly treated to prevent infection.

(d) Reclaimed water shall be applied at a rate that does not exceed the infiltration rate of the soil. Where varying soil types are present, the design and operation of the reclaimed water facilities shall be compatible with the lowest infiltration rate of the soils present.

(e) When the application rate exceeds the soil infiltration rate, automatic controller systems shall be utilized to minimize ponding and runoff of reclaimed water. Total sprinkler run times shall not be greater than the time needed to supply the landscape's water requirement. If runoff occurs before the landscape's water requirements are met, the automatic controllers shall be reprogrammed with additional watering cycles of shorter duration to meet the requirements. This method of operation is intended to control and limit runoff.

(f) The User shall report to the City any and all failures in the reclaimed water system(s) that cause an unauthorized discharge of reclaimed water.

(g) All drinking fountains located within the approved use area, designated by the User permit, shall be protected from contact with reclaimed water to the maximum extent possible. Windblown spray, direct application through irrigation, or other approved uses are considered sources of reclaimed water. Protection shall be by design, construction practice, or system operation.

(h) Facilities that may be used by the public, including but not limited to, eating surfaces, playground equipment, and located within the approved use areas designated by the User permit, shall be protected from contact with reclaimed water to the maximum extent possible. Windblown spray, direct contact by irrigation application, or other approved use are considered sources of reclaimed water. Protection shall be by design, construction practice, or system operation.

C. The User shall enforce the following prohibitions:

1. Cross-connections: Cross-connections, as defined by the California Administrative Code, Title 17, resulting from the use of reclaimed water or from the physical presence of a reclaimed water service, whether by design, construction practice, or system operation, are prohibited.

2. Disposal in unapproved areas: Disposal of reclaimed water for any purposes, including approved uses, in areas other than those specifically approved in the currently effective User permit issued by the City, and without the prior knowledge and approval of the governing regulatory agencies is prohibited.

3. Fire hydrants: Use or installation of fire hydrants on any User water system that presently operates or is designed to operate with reclaimed water, regardless of the fire hydrant construction or identification, is prohibited.

4. Hose bibs: Use or installation of permanent hose bibs on any User water system that presently operates or is designed to operate with reclaimed water, regardless of the hose bib construction or identification is prohibited. Hose bibs may be used only on quick couplers.

5. Ponding: Conditions that directly or indirectly cause reclaimed water to pond either within or outside of the approved use area, whether by design, construction practice, or system operation are prohibited.

6. Runoff: Conditions that directly or indirectly cause runoff of reclaimed water onto areas outside of approved use areas, whether by design, construction practice, or system operation are prohibited.

7. Unapproved uses: Use of reclaimed water for any purposes other than those specifically approved, in the currently effective User permit issued by the City, and without the prior knowledge and approval of the governing regulatory agencies is prohibited.

8. Windblown spray: Conditions that directly or indirectly permit windblown spray to pass outside of the approved use area, whether by design, construction

practice, or system operation are prohibited.

15.08.120 Monitoring and Inspection.

The manager or authorized representatives of the City shall monitor and inspect the entire reclaimed distribution facility, including both off-site and on-site facilities. The City shall conduct monitoring programs, maintain records as deemed necessary, inspect on-site facilities for compliance with these rules and regulations, and provide reports as requested by the regulating agencies. For these purposes, the manager or authorized representatives of the City shall have the right to enter upon the User's premises during reasonable hours to inspect on-site reclaimed water facilities and approved use areas. Reasonable hours shall include hours when irrigation is occurring. The City, CBMWD, RWQCB, and San Bernardino County DOHS shall have the right to enter upon the User's premises during reasonable hours, from time to time, to verify that the User's irrigation practices conform with this Ordinance and its rules and regulations.

15.08.125 Maintenance Responsibility.

A. Reclaimed water system - The applicant, owner, or User is responsible for maintaining all on-site facilities that are under the ownership of parties other than the City.

B. Obstruction in meter boxes - No person shall place, dispose, deposit or permit the placement, disposal, deposit of oil, toxic, hazardous or contaminated liquid or waste, trash, soil, building materials or other substances, objects, or obstructions in, on, or around meter boxes or other City facilities. No person shall allow or permit meter boxes or other City facilities from becoming obstructed or obscured by trees, shrubs, plants or in any other manner so as to impede their use or access to them or make their location difficult to determine. If such substances, objects, or obstructions are not cleaned and removed or are permitted to obscure or impede use or access to such facilities, the City may accomplish the cleaning and removal at the User's expense. The City must provide reasonable notice to the User before assessing the charge.

SECTION 2. Upon the effective date of this Ordinance, the provisions hereof shall supersede any inconsistent or conflicting provision of the San Bernardino County Code as the same were adopted by reference by City Ordinance Nos. 91-01 and 92-02.

SECTION 3. If any section, subsection, subdivision, sentence, clause, phrase, or portion of this Ordinance, is for any reason held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this Ordinance. The City Council hereby declares that it would have adopted this Ordinance, and each section, subsection, subdivision, sentence, clause, phrase, or portion thereof, irrespective of the fact that any one or more sections,

subsections, subdivisions, sentences, clauses, phrases, or portions thereof be declared invalid or unconstitutional.

SECTION 4. The City Clerk shall certify as to the adoption of this Ordinance and shall cause a summary there to be published within fifteen (15) days of the adoption and shall post a certified copy of this Ordinance including the vote for and against the same, in the Office of the City Clerk, in accordance with Government Code Section 36933.

PASSED, APPROVED AND ADOPTED this 24 th day of February 1998.

GWENN NORTON-PERRY, MAYOR

ATTEST:

LINDA D. RUTH, CITY CLERK

APPROVED AS TO FORM:

MARK D. HENSLEY, CITY ATTORNEY

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO) §
CITY OF CHINO HILLS)

I, LINDA D. RUTH, City Clerk of the City of Chino Hills, DO HEREBY CERTIFY that the foregoing Ordinance No. 101, was duly introduced for first reading at a regular meeting of the City Council held on the 10th day of February, 1998 and ;that thereafter, said Ordinance was duly passed and adopted at a regular meeting of the City Council held on the 24th day of February, 1998, by the following roll call vote, to wit:

AYES: COUNCIL MEMBERS: NORTON-PERRY, LARSON, GRAHAM, THALMAN WICKMAN

NOES: COUNCIL MEMBERS NONE

ABSENT: COUNCIL MEMBERS: NONE

Linda D. Ruth
LINDA D. RUTH, CITY CLERK

(SEAL)

The foregoing is the original of Ordinance No. 101 duly passed and adopted by the Chino Hills City Council at their regular meeting held February 24, 1998.

Linda D. Ruth
LINDA D. RUTH, CITY CLERK

(SEAL)

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO) § AFFIDAVIT OF POSTING
CITY OF CHINO HILLS)

LINDA D. RUTH, being first duly sworn, deposes, and says:

That she is the duly appointed and qualified City Clerk of the City of Chino HILLS;

That is compliance with the State Laws of the State of California, Ordinance No. 101 , being:

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF CHINO HILLS, CALIFORNIA, ADDING CHAPTER 15.08 "REGULATIONS FOR THE AVAILABILITY AND USE OF RECLAIMED WATER", TO TITLE 15 "WATER AND SEWERS" OF THE CHINO HILLS MUNICIPAL CODE

a certified copy of the full text of Ordinance No. 101, along with the names of those City Council Members voting for and against said Ordinance, was caused to be posted in the office of the City Clerk.

Linda D. Ruth
LINDA D. RUTH, CITY CLERK

(SEAL)

ORDINANCE NO. 2689

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, ADDING CHAPTER 8C TO THE ONTARIO MUNICIPAL CODE TO PROVIDE FOR THE REGULATION AND USE OF RECYCLED WATER

THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, DOES ORDAIN AS FOLLOWS:

SECTION 1: Chapter 8C is hereby added to Title 6 of the Ontario Municipal Code as follows:

1.0 CHAPTER 8C
RECYCLED WATER USE

Section

Sec. 6-8.700. Authority. Recycled water use is regulated by the California Regional Water Quality Control Board, Santa Ana Region (RWQCB). In accordance with waste discharge requirements for water reclamation projects, the RWQCB requires control mechanisms to regulate facilities distributing recycled water. Article 2 of Chapter 7 of Division 7 of the California Water Code establishes a State policy to encourage the use of recycled water. Permission to use recycled water is based on Inland Empire Utilities Agency's ability to adequately treat domestic wastewater to the point that the recycled water (effluent) meets the requirements of existing Title 22, Chapter 3 regulations of the California Code of Regulations. These regulations were adopted to ensure proper health protection and specify the treatment degree to meet the needs of the intended applications.

Sec. 6-8.701. Purpose. The purpose of this Chapter is to establish procedures, specifications, and limitations for the safe and orderly development and operation of recycled water facilities and systems within the City's service area, and adopt rules and regulations controlling such use.

Sec. 6-8.702. Goals. The goals of this Chapter are as follows:

(a) Achieve conservation of potable water supplies by using recycled water for current and future demands. Recycled water uses may include:

(1) Agricultural irrigation.

(2) Commercial uses (including flushing toilets and urinals).

(3) Construction use.

(4) Industrial processes.

(5) Landscape irrigation.

(6) Landscape and/or recreational impoundments.

(7) Wildlife habitat.

(b) Maintain recycled water quality through a stringent pretreatment program for industrial wastewater.

(c) Prevent direct human consumption of recycled water through:

(1) Adherence to all applicable rules and regulations.

(2) Posting of warning signs by the user.

(3) Cross-connection/backflow prevention program.

(d) Control runoff of recycled water through monitoring of the installation and operation of all recycled water facilities and use areas.

(e) Monitor recycled water quality.

Sec. 6-8.703. Policy. It is the policy of the City that recycled water be used for any purposes approved for recycled water use, when it is economically, technically, and institutionally feasible. Recycled water shall be the primary source of supply for commercial and industrial uses, whenever available and/or feasible. Use of potable water for commercial and industrial uses shall be contrary to City policy; shall not be considered the most beneficial use of a natural resource; and shall be avoided to the maximum extent feasible.

Sec. 6-8.704. Priority. Connection to the Recycled Water System shall be provided on a first-come, first-served basis, as long as infrastructure and recycled water supplies are available.

Sec. 6-8.705. Definitions. Unless the context specifically indicates otherwise, the following terms and phrases, as used in this Chapter, in addition to the definitions set forth in Title 22, Division 4, Chapter 3, Regulations of the California Code of Regulations, shall have the meanings hereinafter designated.

(a) "Agency" shall mean the Inland Empire Utilities Agency (IEUA).

(b) "Agricultural Use" shall mean water used for the production of crops and/or livestock.

(c) "Air-Gap Separation" shall mean a physical break between a supply pipe and a receiving vessel. The air gap shall be at least double the diameter of the supply pipe, measured vertically from the flood rim of the receiving vessel to the supply pipe; however, in no case shall this separation be less than one (1) inch.

(d) "Applicant" shall mean any person, group, firm, partnership, corporation, association, or agency that applies for recycled water service.

(e) "Application Rate" shall mean the rate at which irrigation water is applied to a design or use area, expressed in gallons per minute.

(f) "Approved Use" shall mean an application of recycled water in a manner, and for a purpose, designated in a Recycled Water Use Agreement in compliance with applicable State and local rules and regulations.

(g) "Approved Use Area" shall mean a site with well-defined boundaries designated in a Recycled Water Use Agreement in compliance with applicable rules and regulations.

(h) "As-built Drawings" shall mean the record drawings that show the completed facilities as constructed or modified.

(i) "Automatic System" shall mean the electronically actuated controllers, valves, and associated equipment used to program and operate irrigation systems for the efficient application of recycled water.

(j) "Auxiliary Water Supply" shall mean any water supply on or available to the premises other than the City's potable water.

(k) "AWWA" shall mean the American Water Works Association.

(l) "City Council" shall mean the City Council of the City of Ontario.

(m) "Commercial/Industrial Use" shall mean the water used for toilets, urinals, decorative fountains, decorative indoor and outdoor landscape, industrial process such as rinsing, washing, cooling, flushing, circulation, or construction; and other uses approved by the City.

(n) "Commodity Charge" shall mean a charge imposed by the City for all metered, recycled water used.

(o) "Cross-Connection" shall mean any unapproved and/or unprotected, actual or potential, connection between any part of a potable water system and any equipment, source, or system containing water or other substances not approved as safe and potable for human consumption.

(p) "Direct Beneficial Use" shall mean the use of recycled water which has been transported from the point of production to the point of use, without an intervening discharge to waters of the State.

(q) "Administrator" shall mean the City Manager of the City of Ontario or his authorized representative.

(r) "Discharge" shall mean any release or distribution of recycled water to a use area or disposal site/mechanism. Such discharges are subject to approval by the City.

(s) "DHS" shall mean the California Department of Health Services.

(t) "Double Check Valve Assembly" shall mean a double check valve (DC) that as a minimum, conform to the AWWA Standard C506-78 (R83) adopted on January 28, 1978 for Double Check Valve Type Backflow Prevention Devices which is herein incorporated by reference.

(u) "Greenbelt Areas" shall mean those areas including, but not limited to, parkways, parks, right-of-ways, and landscaping within and/or surrounding a community.

(v) "HCF" shall mean a unit of measure equaling one hundred (100) cubic feet or 748 gallons.

(w) "Industrial Process Water" shall mean the water used in industrial facilities for blending, rinsing, washing, or cooling.

(x) "Infiltration Rate" shall mean the rate at which water penetrates the soil surface and enters the soil profile.

(y) "Landscape Impoundment" shall mean a body of water containing recycled water, which is used for aesthetic or irrigation purposes and which is not intended for public contact or ingestion.

(z) "Landscape Irrigation/Use" shall mean recycled water used for the propagation and maintenance of trees, shrubs, ground cover and turf used for erosion control and aesthetic value, not for resale/profit purposes.

(aa) "Non-potable Water" shall mean water that has not been treated for, or is not acceptable for human consumption, in conformance with Federal, State and local water standards. Non-potable water includes recycled water.

(ab) "Off-site Facilities" shall mean all existing or proposed facilities under the control of the IEUA or the City, from the source of supply to the point of connection with the customer's on-site facilities, up to and including the City's recycled water meter and meter box.

(ac) "On-site Facilities" shall mean all existing or proposed facilities within property under the control of the customer, normally downstream of the City's recycled water meter and meter box.

(ad) "On-site Recycled Water Supervisor" shall mean a qualified person designated by a recycled water user and approved by the City to be responsible for the safe and efficient operation of the user's recycled water system. This person shall be knowledgeable in the operation of the recycled water system and in the application of Federal, State and local guidelines, criteria, standards, and rules and regulations governing the use of recycled water.

(ae) "Open Space" shall mean land that has been designated to remain undeveloped. These areas may receive recycled water service for agricultural or landscape irrigation, or other approved uses.

(af) "POC" shall mean the point of connection at the recycled water service meter.

(ag) "Ponding" shall mean the retention of recycled water on the ground surface or manmade surface for a period of time following the cessation of an approved recycled water use activity, such that potential hazard to the public health may result, as determined by regulatory agencies.

(ah) "Potable Water" shall mean water which conforms to the latest Federal, State and local drinking water standards.

(ai) "PSI" shall mean Pounds per Square Inch. This is a common unit expression of pressure measurement.

(aj) "Recycled Water" shall mean water, which as a result of treatment of wastewater, is suitable for direct beneficial use or a controlled use that otherwise would not occur. The treatment of wastewater is accomplished in accordance with the criteria set forth in Title 22, Division 4, of the California Code of Regulations.

(ak) "Recycled Water Facilities" shall mean the systems, structures, etc, used in the treatment, storage, pumping, transmission and distribution of recycled water.

(al) "Recycled Water Use Agreement" shall mean an agreement between the user and the City to use recycled water in compliance with all applicable rules and regulations

(am) "Recreational Impoundment" shall mean a body of recycled water used for recreational activities including, but not limited to, fishing, boating, and/or swimming. Allowable uses will depend on treatment level of the recycled water.

(an) "Reduced Pressure Principle Backflow Prevention Device" shall mean a reduced pressure principle backflow prevention device (RP) that as a minimum, conform to the AWWA Standard C506-78 (R83) adopted on January 28, 1978 for Reduced Pressure Principle Type Backflow Prevention Devices which is herein incorporated by reference.

(ao) "Regulatory Agency" shall mean any public entity legally constituted by Federal, State and local statutes to protect health and water quality.

(ap) "Runoff" shall mean the flow of water along natural or manmade surfaces away from the designated use area..

(aq) "RWQCB" shall mean the California Regional Water Quality Control Board, Santa Ana Region.

(ar) "Secondary Effluent" shall mean any oxidized wastewater that has been treated by gravity sedimentation to remove settled solids remaining after the primary biological treatment process.

(as) "Service" shall mean the delivery of recycled water to a user.

(at) "Service Connection" shall mean City facilities between the City recycled water distribution system and the customer's meter, including, but not limited to, the meter, meter box, valves, and piping equipment.

(au) "Standard Specifications" shall mean the specifications approved by the City for construction of recycled water facilities.

(av) "Tertiary Effluent" shall mean any secondary effluent which has been filtered and disinfected, and meets all applicable requirements under Title 22. Allowable uses for tertiary effluent shall include body contact and irrigation of human food crops.

(aw) "Unauthorized Discharge" shall mean any release of recycled water that violates any applicable Federal, State, or local statutes, regulations, Chapters, contracts or other requirements.

(ax) "Use Area" shall mean the specific area designated to be served with recycled water through on-site recycled water facilities.

(ay) "User" shall mean any person, group, firm, partnership, corporation, association or agency accepting recycled water from the City's recycled water facilities for use in accordance with this Chapter. "Applicant," "Owner," or "Customer" are terms that are to be considered as users.

(az) "Windblown Spray" shall mean any dispersed, airborne particles of recycled water capable of being transmitted through the air to a location other than that for which the direct application of recycled water is approved.

Sec. 6-8.706. Administrator. Except as otherwise provided herein, the City Manager shall administer, implement, and enforce the provisions of this Chapter. The City Manager may, at his discretion, delegate any or all of these powers and duties.

Sec. 6-8.707. Validity. If any section, subsection, sentence, clause or phrase of this Chapter establishing rules and regulations for the use of recycled water is for any reason found to be invalid or unconstitutional, such decision shall not affect the remaining portions of this Chapter. The City Council declares that it would have approved this Chapter by section, subsection, sentence, clause, or phrase irrespective of the fact that any one or more of the sections, subsections, sentences, clauses or phrases be declared invalid or unconstitutional.

Sec. 6-8.708. Service area. The rules and regulations contained in this Chapter apply to recycled water service to lands and/or improvements lying within the legal boundaries of the City, to properties contiguous to the City under the same ownership as abutting lands within the City or its designated service boundary. Recycled water service shall be provided to a specific service area when related distribution facilities are completed and service becomes available.

Sec. 6-8.709. Determination of recycled use area.

(a) General

(1) The City Council may adopt a Recycled Water Master Plan or utilize the Inland Empire Utilities Agency Recycled Water Master Plan designating current and potential areas for recycled water use. The Master Plan shall be in accordance with the requirements of all DHS and RWQCB, and shall encourage recycled water use. The Master Plan shall be reviewed and updated as needed.

(2) The City Council may review the Recycled Water Master Plan and recommend where water service should be made with recycled water in place of potable water. Where it is determined recycled water is, or will be available within five (5) years, the City may request modifications to existing on-site water facilities and require construction of recycled water systems in new developments.

(3) The City Council may enter into agreements with surrounding cities and/or other agencies to determine recycled water use service areas within the City and jurisdiction of those entities.

(b) Existing potable water service

(1) The City Council may make determinations of areas where existing potable water use should be replaced with recycled water use.

(2) A notice of the determination to use recycled water shall be mailed to the current owner, explaining the reasons for use and resultant procedures needed to facilitate recycled water use.

(c) New recycled water service

(1) On submittal by applicant of a tentative map, land use permit, other proposed land development/land use, or request for recycled water service, the Administrator shall make preliminary determinations if recycled water service can be provided to the area in question.

(2) The Administrator may require the use of recycled water for approved uses, and refuse or otherwise restrict potable water service when recycled water is available and approved for use.

Sec. 6-8.710. Authorized uses. Uses of recycled water include only those uses approved by the California State Department of Health Services (DHS) and for which Title 22 of the California Code of Regulations provides treatment requirements. Each such use will be considered for approval on case-by-case basis. Prior to approval, the user must comply with the requirements established by this Chapter and any other requirements imposed by the Inland Empire Utilities Agency, DHS, or any other regulatory agencies that have jurisdiction over such use.

Sec. 6-8.711. Conditions of service.

(a) Prior to obtaining recycled water service, the user must enter into a Recycled Water Use Agreement with the City. Recycled water use shall be subject to terms and conditions established in the agreement, and in accordance with this Chapter, and other applicable codes, rules, and regulations. If any of the conditions of service are not satisfied at all times, the Recycled Water Use Agreement may be revoked by the Administrator after which all recycled water service shall cease.

(b) The City shall not be liable for any damage by recycled water or resulting from:

(1) Defective plumbing.

(2) Broken or faulty services or recycled water mains.

(3) On-site facilities failures.

(4) High or low pressure conditions.

(5) Interruptions of service.

(6) Any inappropriate or illegal use or management practices.

(c) All recycled water will be provided to the user in the conditions and quantity specified in the Recycled Water Use Agreement.

(d) Recycled water use will not be subject to the same restrictions as potable water during drought conditions and will be supplied as available.

(e) Recycled water service may be terminated whenever the quality of the recycled water does not comply with the requirements of the regulatory agencies, or at any time the provisions of this Chapter, or the conditions specified in the Recycled Water Use Agreement are violated.

Sec. 6-8.712. Other applicable rules and codes. Other guidelines, rules and regulations, ordinances, specifications that may be applied by the City Manager to govern the use of recycled water within the City include:

(a) Regulations that deal with backflow prevention, billing, deposits, penalties, delinquencies, and metering for potable water as established in Sections 6-8.50 to 6-8.64 of the Municipal Code.

(b) Regional Recycled Water Distribution System Ordinance (Ordinance No. 63, Inland Empire Utilities Agency.)

(c) Water Reclamation (Title 22, Division 4 of the California Code of Regulations.)

(d) Regulations Relating to Cross-Connections (Title 17 of the California Code of Regulations.)

(e) Guidelines for Distribution Of Non-potable Water (California-Nevada Section AWWA.)

Sec. 6-8.713. Recycled water service application. The steps for obtaining recycled water service are as follows:

(a) The user completes and submits a recycled water service application, including existing facility "as-built" drawings or proposed facility plans as appropriate, description of where and how recycled water use is proposed, and any other information pertinent to the use of recycled water as requested by the Administrator.

(b) The user prepares an Engineering Report describing proposed/requested recycled water use(s). The City may prepare the report on behalf of the user, provided that the user pays all costs associated with the preparation of the report. The Engineering Report shall be consistent with DHS guidelines.

(c) The completed Engineering Report will be forwarded to the State Department of Health Services (DHS) for review and approval.

(d) The user and the City will address any concerns that the DHS may have regarding the Engineering Report and revise the report accordingly.

(e) Once the DHS approves the Engineering Report, the applicant will enter into a Recycled Water Use Agreement with the City, and pay any applicable fees.

(f) The Administrator will schedule a start-up test of on-site recycled water system to ensure that cross-connections do not exist.

(g) Upon the successful completion of the test, the Administrator may authorize recycled water service to begin.

Sec. 6-8.714. Recycled Water Use Agreement. Recycled Water Use Agreement shall be subject to the following conditions:

(a) The applicant shall pay any specified connection fees, service line charges and other charges, and adhere to the requirements prescribed by this Chapter and to any additional requirements required by other agencies governing recycled water use.

(b) In order to maintain acceptable operating conditions throughout the recycled water system, the Administrator may schedule recycled water use for specific applications. Such scheduling may involve programming deliveries to different users and/or to various portions of a single users on-site system. Any scheduling shall consider the operating constraints of the affected users.

(c) The Administrator may temporarily terminate recycled water service at any time recycled water produced by the Inland Empire Utilities Agency reclamation plant does not meet the

requirements of the regulatory agencies. Recycled water service would, in such case, be restored when the recycled water meets the governing requirements.

(d) At a minimum, the Recycled Water Use Agreement shall include the following:

(1) Names and addresses of owner the property and user of the recycled water.

(2) A statement that no changes in the proposed system will be undertaken without amending the Agreement.

(3) A statement that the applicant recognizes potential penalties for violation of this Chapter and any regulatory agencies.

(4) A copy of the DHS approved Engineering Report.

(5) Specific quantity of recycled water to be used, including estimated average annual use in acre-feet, and the maximum gallons per minutes (GPM) needed at the point of connection (POC) as shown on the plans.

(6) Approved uses.

(7) A statement that the Agreement shall be cancelled or amended if:

(i) A change of recycled water use occurs.

(ii) A change in the piping system has been implemented without prior approval.

(iii) A violation of these rules and regulations occurs and results in a system turn-off.

Sec. 6-8.715. Rates, fees, charges and deposits.

(a) All rates and fees regarding recycled water service and their administrative costs shall be established by the City Council and incorporated into Title 6, Chapter 8B of the Ontario Municipal Code. Any changes in fee and rate schedules shall be automatically adopted into this Chapter.

(b) Applicants for recycled water service shall pay their fair share for the construction of facilities needed to deliver recycled water to the applicant's property. All fees and estimated construction costs shall be paid prior to construction; however, the City may reimburse the applicant for a portion of the cost of such facilities as described in Subsection (c) of this Section.

(c) Under certain circumstances, the City may contribute to the cost of designing and/or constructing the facilities needed to deliver recycled water to an applicant's property. Subject to the availability of funds, the City may:

(1) Reimburse an applicant for costs incurred to install oversized facilities in the public right-of-way.

(2) Elect to participate in or construct pipelines, reservoirs, pumping stations or other facilities, as it determines necessary, and/or as funds are available.

Sec. 6-8.716. Size, location, and installation of service line. Recycled water service lines shall be extended by the property owner/developer to a curb line or property line of the customer’s property, abutting on a public street, highway, road or City easement in which recycled water mains are installed. The size and

location and/or type of recycled water service lines, service connections, meters, backflow protection devices, and any/all other appurtenances are subject to review and approval by the City:

Sec. 6-8.717. Service connection limitations. Recycled water service shall be subject to the following conditions:

(a) A recycled water service connection and its corresponding meter shall not be used to supply adjoining property of a different owner, or to supply property of the same owner across a road, street or other public right-of-way. When a property provided with a recycled water connection and corresponding meter is subdivided, such connection and meter shall be considered as serving the lot or parcel of land on which the meter is located. Additional recycled water mains and/or recycled water service lines will be required for all subdivided areas in accordance with this Chapter.

(b) Private irrigation systems for homeowner's associations and other developments where landscaping around homes and in common areas are served with one meter, shall not be allowed to cross public roads, easements, or other public rights-of-way without City approval.

(c) All recycled water used on any property where a meter is installed must pass through the meter. Customers shall be held responsible and charged for all recycled water passing through their meters.

Sec. 6-8.718. Service pressure. Whenever possible, the City will operate the recycled water system at a slightly lower pressure than the potable water system. This will cause potable water to flow in the recycled water system in the event of a cross-connection.

Sec. 6-8.719. Relocation of recycled water service lines. Should a recycled water service line installed according to the directions of the owner or user be of the wrong size, or installed at a wrong location or depth, the cost of relocation or removal shall be paid for by the user.

Sec. 6-8.720. Protective measures. The following provisions are intended to protect the City's potable water supplies against actual, undiscovered, unauthorized, or potential cross-connections to the user's recycled water system. These provisions are in addition to, not in lieu of, the controls and requirements of other regulatory agencies. These provisions are in accordance with Title 17 (Public Health) of the California Code of Regulations.

(a) Approved backflow prevention devices on the City's potable water services to the property as required in these provisions, shall be provided, installed, tested, and maintained according to Section 6-8.722. These devices shall be located on the property served immediately downstream of the meter. All devices shall be readily accessible for testing and maintenance and no device shall be submerged at any time.

(b) When a request for recycled water service is initiated, the applicant must provide sufficient information, including plumbing and building plans, to enable the Administrator and other regulatory agencies to determine the level of backflow protection required. The proper backflow protection, as determined by the Administrator and other regulatory agencies, shall then be installed and tested according to Section 6-8.722 before recycled water service is provided.

(c) Each time there is a change of tenant on any commercial or industrial premise, the owner or user shall notify the Administrator immediately. The Administrator will then reassess the level of protection required. In addition, any alterations to existing on-site facilities that may affect required protection level must be reported immediately to the Administrator.

(d) At their discretion, representatives of any health agency having jurisdiction, and the Administrator, may inspect any property provided recycled water service by the City. The inspection shall serve to determine if any actual or potential cross-connections exist. The owner or user shall provide full cooperation in facilitating the inspection.

(e) Where protection is required, an approved backflow protection device for potable water supplies shall be provided as follows:

(1) Each City water service connection that supplies potable water to a premises having an auxiliary water supply (including recycled water) that is not accepted as a potable source by the Administrator, and/or is not approved for potable use by the DHS, shall be protected against backflow from the premises into the City potable water system.

(2) Each City water service connection supplying potable or recycled water to a premises on which any substance is handled in such a fashion as to permit entry into the City water systems (potable or recycled) from the premises shall be protected against backflow. This shall include, but not limited to, the handling of fertilizers, process waters, waters originating from any of the City water systems that have been subject to deterioration in quality, and agricultural use.

(3) Approved backflow devices shall be installed where premises have intricate plumbing and piping arrangements or where not all portions of the premises are readily accessible for inspection.

(4) Appropriate backflow protection may be required at premises where there has been a history of cross-connections being re-established.

(f) Other Measures

(1) Water meters used for recycled water service shall be tagged or color-coded purple, color pantone 512 or 522, or otherwise distinguished as such per AWWA standards. These meters shall not be interchanged or used for potable water service after repairs and/or meter testing have been performed.

(2) Periodic inspection by the City of the recycled water facilities will determine if all identifying items are still clearly discernable. If not, they shall be replaced, repaired or refurbished as needed, by the user. These items include:

(i) Warning tags

(ii) Painted surfaces

(iii) Warning tape

(iv) Identification tape

(v) Covers, caps, signs

(vi) Other items that indicate recycled water is being used.

(3) To determine the existence of any cross-connections or backflow conditions into the potable water system, periodic testing by DHS approved methods will be performed by the Administrator and/or other regulatory agencies.

(4) In the event of contamination or pollution of a City potable water system due to a cross-connection or other failure, the DHS, the Administrator, and the IEUA shall be promptly notified by telephone so that appropriate and immediate measures may be taken to correct the problem.

(5) The State and County health departments, the Administrator, and the IEUA shall be kept informed by written document of the identity of the person responsible for the user's recycled water system on all premises concerned with these rules and regulations. At each authorized use area, an 'On-site' Recycled Water Supervisor shall be designated. This supervisor shall be responsible for:

(i) The installation and use of all components of the on-site recycled water system(s).

(ii) Prevention of cross-connections.

(iii) Change in use of recycled water.

(g) When the recycled water uses or conditions, as determined by the Administrator or other regulatory agency, represent a clear and immediate hazard to the City potable and/or recycled water supply that cannot be immediately removed or corrected, the Administrator shall terminate recycled water use. Conditions or uses that create a basis for termination include, but are not limited to, refusal to install, test or repair a required backflow prevention device.

Sec. 6-8.721. Types of protection. The level of protection required shall be related to the degree of potential hazard that exists on the premises served, and will be determined by the Administrator.

Sec. 6-8.722. Testing and maintenance of backflow prevention devices. The user is responsible for testing all backflow prevention devices and maintaining these devices in a satisfactory operating condition. Testing shall be done at least once a year by a San Bernardino County certified backflow prevention tester. More frequent testing may be required if successive inspections indicate repeated failures. The backflow prevention devices shall be repaired, overhauled and/or replaced whenever they are found to be defective. These devices shall also be tested immediately after they are installed, relocated or repaired. All inspections, tests and repairs shall be performed at the user's expense. The user shall maintain records of all such tests, repairs and overhauls. These records shall be submitted to the Administrator, annually, and made available to the DHS, on request.

Sec. 6-8.723. Facilities design.

(a) The design of off-site facilities, including the preparation of plans and construction specifications shall be under the responsibility of an engineer registered in the State of California. The design of customer (on-site) facilities that will use recycled water, and preparations of plans and construction specifications, shall be stamped and signed by a State of California Registered Landscape Architect or Civil Engineer, unless otherwise approved by the Administrator.

(b) Before the Administrator grants final acceptance of any system using recycled water, as-built drawings of the system shall be provided. The installed system shall be tested in accordance with the City Standard Specifications to ensure that the system is in full compliance with these rules and regulations.

(c) All off-site and on-site recycled water facilities shall be designed and constructed according to the requirements, conditions, and standards as adopted in the City Standard Specifications to ensure that this system is in full compliance with this Chapter. Recycled water systems, both on-site and off-site, shall be separate and independent of any potable water systems.

(d) Where the premises contain dual or multiple water systems, the exposed portions of pipelines shall be identified at sufficient intervals.

(e) Areas irrigated with recycled water must be kept completely separated from domestic water wells and reservoirs. Recycled water shall not be applied or allowed to migrate to within fifty (50) feet of any well used for domestic supply. No impoundment of recycled water shall be located within hundred (100) feet of any domestic water well, unless it can be demonstrated that special circumstances justify lesser distances to be acceptable.

(f) Adequate means of notification should be provided to inform the public, employees and others that recycled water is being used. Conspicuous signs with appropriate wording that can be clearly read should be placed at adequate intervals around the authorized use area.

(1) Golf courses should print messages on score cards in a different color indicating recycled water is being used. Water hazards containing recycled water should be posted with appropriate signs.

(2) Languages in addition to English should be used on signs where appropriate.

(g) Off-site Facilities

(1) Any off-site recycled water distribution facilities required to serve existing or new developments of the property within the City, as determined by the Administrator, shall be provided by the applicant, owner, or customer at their expense, unless the Administrator determines it is a City benefit to construct these capital facilities.

(2) Plans and specifications for all recycled water distribution facilities shall be submitted to and approved by the Administrator, and other regulatory agencies, in advance of construction.

(3) The City will assume responsibility for providing recycled water service to the point of connection of such development on transfer, to the City, title to all off-site recycled water systems and any necessary easements. All easements shall be in a form acceptable to the Administrator, and not subject to outstanding obligations to relocate such facilities or any deeds of trust, except in instances where such is determined by the Administrator to be in the best interest of the City.

(4) The City and the property owner or developer may enter into a reimbursement agreement for the portions of a recycled water system that are required to be oversized with capacity to supply more recycled water than the property owner or developer requires. The determination to enter into a reimbursement agreement, and the specific items that are the subject of reimbursement, will be made by the City.

(h) On-site facilities

(1) The user or the owner of the property shall be responsible for all costs associated with on-site recycled water facilities.

(2) When City Standards and Specifications require a higher quality material, equipment, design or construction method than that required by other governing codes, rules and regulations, the City Standards and Specifications shall take precedence.

(i) In areas where recycled water is not immediately available when the use area is ready for construction, and if the City has determined that recycled water will be supplied in the future, on-site facilities shall be designed to use recycled water. Provisions shall be made to allow for connection to the City off-site recycled water facilities, when available. In the interim, potable or other suitable water may be supplied to the on-site facilities through an "interim service connection."

(j) Conditions of interim service are:

(1) The City anticipates recycled water will be available to the site within 5 years of the time interim service is initiated.

(2) The user or the owner of the property must sign a Recycled Water Use Agreement.

(3) The user or the owner of the property must agree to perform or pay for all work necessary to remove the interim connection and make connections to the permanent recycled water system at the time the recycled water system is installed.

(4) An approved backflow prevention device is required on the interim service. The backflow prevention device shall be at the point of connection with the interim supply system and a part of the on-site recycled water facilities.

(5) Future recycled water users will pay for the following:

(i) Cost of constructing and abandoning the interim service and cost of constructing the recycled water service.

(ii) Applicable recycled water fees at the time service becomes available.

(iii) Applicable interim water rates for the type of water delivered through the interim service.

(6) When recycled water is available to the site, an inspection of the on-site facilities will be conducted by the Administrator to verify that the facilities are still in compliance with the Recycled Water Use Agreement. Recycled water service shall be provided on verification of compliance. If the facilities are not in compliance, the Administrator shall notify the user to make any necessary corrections.

Sec. 6-8.724. Construction.

(a) Construction of all new recycled water facilities will follow City Standards and Specifications and the American Water Works Association Construction Guidelines for Recycled Water Facilities.

(b) Where it is planned that an existing non-recycled water system shall be converted to a recycled water facility, the facilities to be converted to recycled water shall be investigated in detail at the user's expense, to determine the measures required to bring the system into full compliance with this Chapter. No existing potable water facilities shall be connected to or incorporated into the recycled water system without City and DHS approvals.

(c) If, due to on-site failure of the recycled water system, the Administrator determines that it is necessary to convert on-site facilities from a recycled water supply to a potable water supply, it shall be the responsibility of the user to pay all costs for such conversion. Conversion costs may include, but not be limited to, the following:

(1) Isolation of the recycled water supply. Service shall be removed and plugged at the City main or abandoned in a manner approved by the Administrator.

(2) Installation of approved backflow prevention devices, as determined by the Administrator, on all potable, and/or other water meter connections.

(3) Removal of any/all special recycled water quick couplers. The user shall be responsible for replacement with quick couplers approved for potable water systems.

(4) Notification to all on-site personnel involved.

(5) Removal of all warning labels/signs.

(6) Installation of any/all potable water facilities and payment of any associated capacity fees, as established in Title 6, Chapter 8B, of the Municipal Code.

(7) System flushing, disinfecting, decontamination, and water quality analyses, as required by the City and/or other regulatory agencies.

Sec. 6-8.725. Emergency connection of the recycled water system to the potable water system. If the Administrator determines an emergency exists where all or parts of the recycled water system are unable to provide recycled water, the Administrator may approve an emergency temporary connection to the potable water system. Before such emergency temporary connection is made, the portion without recycled water shall be isolated by an air gap separation from the remainder of the recycled water system. This isolation shall occur at either individual services or on the off-site system, as determined by the Administrator. An approved backflow prevention device shall be installed on the potable water lines in accordance with this Chapter. The emergency temporary connection shall be removed before connection to the recycled water system is re-established. Re-establishment of recycled water service must be inspected and approved by the Administrator prior to resuming delivery of recycled water.

Sec. 6-8.726. Off-site facilities. The City and/or the Inland Empire Utilities Agency shall be responsible for the operation, maintenance and surveillance of all off-site recycled water systems. This includes but is not limited to recycled water pipelines, valves, connections, storage facilities, and other related equipment and property up to and including the meter. Only City and/or the Inland Empire Utilities Agency personnel and their representatives shall operate, adjust, change, alter, move or relocate any portion of their respective off-site recycled water facilities.

Sec. 6-8.727. On-site facilities.

(a) General

(1) The operation, surveillance, repair, and maintenance of all customer recycled water facilities are the responsibility of the user and his designated "On-site" Recycled Water Supervisor.

(2) The Administrator shall have the right to enter the user's premises to monitor and inspect all on-site recycled water facilities. Where necessary, keys and/or lock combinations shall be issued to the Administrator to provide such access during hours of recycled water system operation.

(b) The user shall have the following responsibilities pertaining to operation of on-site facilities:

(1) Ensure that all operations personnel are trained and familiarized with the use of recycled water.

(2) Furnish their operations personnel with maintenance instructions, irrigation schedules, controller charts, and as-built drawings to ensure proper operation in accordance with the on-site facilities design and these rules and regulations.

(3) Prepare and submit to the Administrator one reproducible set of as-built drawings.

(4) Notify the Administrator of all updates or proposed changes, modifications, or additions to the on-site facilities and operations for review and approval prior to construction or implementation. All updates and proposed changes shall comply with this Chapter, the Recycled Water Use Agreement and any other applicable rules and regulations.

(5) Ensure that the operation and maintenance of all recycled water facilities remain in accordance with this Chapter, the Recycled Water Use Agreement and any other applicable rules and regulations.

(6) Operate and control the system in order to prevent direct human consumption of recycled water and to control and limit runoff. The user or the owner of the property shall be responsible for any and all subsequent uses of the recycled water. Operation and control measures to be utilized in this regard shall include where appropriate, but not limited to:

(i) Minimizing discharge onto areas not under control of the user so as to minimize public contact. Full circle sprinklers shall not be used adjacent to sidewalks, roadways, and property lines in order to confine the discharge to the use area.

(ii) Operating the on-site recycled water facilities during periods of minimal human use of the service area, and allowing a maximum dry-out time before the irrigated area will be used by the public.

(iii) Providing adequate first aid kits on the premises, and promptly treating all cuts and abrasions to prevent infection. If infection is likely, a physician should be consulted.

(iv) Taking any other precautionary measures to minimize direct contact with recycled water. User's employees, residents, and the public should not be subjected to recycled water sprays.

(v) Applying recycled water at a rate that does not exceed the infiltration rate of the soil. Where varying soil types are present, the design and operation of the recycled water facilities shall be compatible with the lowest infiltration rate of the soils present.

(vi) Reporting to the Administrator any/all failures in the recycled water system that cause an unauthorized discharge of recycled water.

(vii) Protecting all drinking fountains located within the approved use area, by location and/or a structure from contact with recycled water to the maximum extent possible. Windblown spray, direct application through irrigation or other approved uses are considered sources of recycled water. Protection shall be by design, construction practice, or system operation.

(viii) Protecting facilities that may be used by the public, including but not limited to, eating surfaces and playground equipment located within the approved use areas, by seating and/or structure from contact with recycled water to the maximum extent possible. Windblown spray, direct contact by irrigation application, or other approved uses are considered sources of recycled water. Protection shall be by design, construction practice, or system operation.

(c) The user shall enforce the following prohibitions:

(1) Cross-connections, as defined by the California Code of Regulations, Title 17, resulting from the use of recycled water or from the physical presence of a recycled water service, whether by design, construction practice, or system operation, are prohibited.

(2) Discharge of recycled water for any purposes, in areas other than those specifically approved in the Recycled Water Use Agreement, and without the prior approval of the Administrator, is prohibited.

(3) Use or installation of permanent hose bibs on any customer water system that presently operates or is designed to operate with recycled water is prohibited.

(4) Conditions that directly or indirectly cause recycled water to pond either within or outside of the approved use area, whether by design, construction practice, or system operation are prohibited, unless designed specifically for ponding and approved by Administrator.

(5) Conditions that directly or indirectly cause runoff of recycled water onto areas outside of approved use areas, whether by design, construction practice, or system operation, are prohibited.

(6) Use of recycled water for any purposes other than those specifically approved in the Recycled Water Use Agreement, and without the prior approval of the Administrator, is prohibited.

(7) Conditions that directly or indirectly permit windblown spray to pass outside of the approved use area, whether by design, construction practice, or system operation, are prohibited.

Sec. 6-8.728. Monitoring and inspection. The Administrator will monitor and inspect the entire recycled distribution facility, including both off-site and on-site facilities. The Administrator will conduct monitoring programs, maintain records as deemed necessary, inspect on-site facilities for compliance with these rules and regulations, and provide reports as requested by DHS. For these purposes, the Administrator will have the right to enter the user's premises during hours of recycled water system operation to inspect on-site recycled water facilities and approved use areas, to verify that the user's irrigation practices conform with this Chapter and the Recycled Water Use Agreement.

Sec. 6-8.729. Maintenance responsibility.

(a) The user or owner is responsible for maintaining all on-site facilities that are under the ownership of parties other than the City.

(b) No person shall place, dispose, deposit or permit the placement, disposal, deposit of oil, toxic, hazardous or contaminated liquid or waste, trash, soil, building materials or any other substances, objects, or obstructions in, on, or around meter boxes or other City facilities. No person shall allow or permit meter boxes or other City facilities from becoming obstructed or obscured by trees, shrubs, plants or in any other manner so as to impede their use or access or make their location difficult to determine. If such substances, objects, or obstructions are not cleaned and removed or are permitted to obscure or impede use or access to such facilities, the City may accomplish the cleaning and removal at the user's expense. The Administrator will provide reasonable notice to the user before assessing the charge.

SECTION 2: The Mayor shall sign this Chapter and the City Clerk shall cause the same to be published within fifteen (15) days after its passage, at least once, in the Inland Valley Daily Bulletin, a newspaper of general circulation, published and circulated in the City of Ontario, California.

APPROVED AND ADOPTED this _____ day of _____, 1999, by the following vote:

AYES:

NOES:

ABSENT:

_____
Gary C. Ovitt, Mayor of the City of Ontario

ATTEST:

_____
Mary Wirtes, City Clerk

APPROVED AS TO FORM:

_____
City Attorney

(E) Standards and specifications governing the installation of recycled water line and use of recycled water, adopted or used by the City or Administrator.

13.22.120 Recycled Water Service Application

Application for a recycled water connection must be made on form(s) provided by the City. The general steps for obtaining recycled water service are as follows:

(A) Applicant completes and submits a Recycled Water Service Application to the City, including existing facility "as-built" drawings or proposed facility plans as appropriate, description of where and how Recycled Water use is proposed, and any other information pertinent to the use of Recycled Water;

(B) Applicant shall submit an engineering report prepared by a licensed engineer, registered in California and experienced in the field of wastewater treatment, describing proposed/requested Recycled Water use(s), to DHS for approval. Applicant may request the City to request IEUA to prepare the engineering report, provided that the Applicant pays all costs associated with its preparation. The engineering report shall contain:

(1) Description of the design of the proposed reclamation system,
(2) Means for compliance with regulations governing the use of Recycled Water and any other features required by regulatory agencies governing the use and/or distribution of Recycled Water, and
(3) Contingency plan which will assure that no untreated or inadequately treated wastewater will be delivered to the intended use area;

(C) Applicant will address any concerns that the DPH may have regarding the engineering report and revise it accordingly; Applicant may request IEUA, through the City, for assistance in addressing DPH concerns;

(D) Upon DPH approves the engineering report, the Applicant may elect to enter into a Recycled Water Use Agreement with the City and concurrently pay any applicable fees;

(E) The City schedule start-up tests of Applicant's on-site Recycled Water system to verify and ensure that Cross-Connections do not exist; and

(F) Upon the successful completion of the Cross-Connection test, Recycled Water Service is authorized.

13.22.130 Recycled Water Use Agreement

As a precondition to an Applicant prior to receiving Recycled Water, the Applicant shall enter into a Recycled Water Use Agreement with the City and shall be subject to the terms and conditions including, but not limited to, connection fees and service charges, operation and maintenance requirements, time of use and reporting or notification requirements.

13.22.140 Rates, Fees, Charges and Deposits

on case-by-case basis. Prior to approval, the user must comply with the requirements established by this Chapter and any other requirements imposed by IEUA, DPH, or any other regulatory agency that has jurisdiction over such use.

13.22.100 Conditions of Service

(A) Prior to obtaining Recycled Water Service, the User must enter into a Recycled Water Use Agreement with the City. Recycled water use shall be subject to terms and conditions established in the agreement, and in accordance with this Chapter and other applicable codes, rules, and regulations. If any of the conditions of service are not satisfied at all times, the Recycled Water Use Agreement may be revoked after which all recycled water service shall cease:

(B) Pursuant to the terms of the agreement, the City shall not be liable for any damage by recycled water or resulting from:

(1) Defective plumbing.
(2) Broken or faulty services or recycled water mains.
(3) On-site facilities failures.
(4) High or low pressure conditions.
(5) Interruptions of service.
(6) Any inappropriate or illegal use or management practices.

(C) All Recycled Water will be provided to the user in the conditions and quantity specified in the Recycled Water Use Agreement.

(D) Recycled Water use will not be subject to supply specific use regulations during drought periods.

(E) Recycled Water Service may be terminated whenever the quality of the recycled water does not comply with the requirements of the regulatory agencies, or at any time the provisions of this Chapter, or the conditions specified in the Recycled Water Use Agreement are violated.

13.22.110 Other Applicable Rules and Codes

Other guidelines, rules and regulations, ordinances and specifications that may be used or applied by the Administrator to govern the use of Recycled Water within the City include, but not limited to:

(A) Regulations pertaining backflow prevention, billing, deposits, penalties, delinquencies, and metering for potable water as established in Chapters 13.04, 08, and 12 of the Upland Municipal Code;
(B) IEUA Regional Recycled Water Distribution System Ordinance;
(C) Regulations governing water reclamation (Title 22, Division 4 of the California Code of Regulations);
(D) Regulations Relating to Cross-Connections (Title 17 of the California Code of Regulations);

13.22.080 Determination of Recycled Water Use Area

(A) General

(1) The City Council may, from time to time, revise the Recycled Water Master Plan and recommend location(s) where potable water service should be replaced with recycled water. The City Council may request modifications to existing on-site water facilities to provide recycled water and/or require construction of recycled water systems in new developments.

(2) The City Council may enter into any agreement, consistent with the City's goals and objectives, to provide recycled water to areas or locations outside the City's service area.

(B) Existing Potable Water Service

The City Council may make determinations of areas or locations where existing potable water should be replaced with recycled water. In such case, notices of recommendation shall be mailed to affecting users or owners, explaining reasons for potable water use replacement, and procedures or transitional steps needed to facilitate recycled water use.

(C) New recycled water service

(1) Upon receiving request or submittal of a tentative map, land use permit, other proposed land development for use of recycled water, the Administrator shall determine if recycled water service can be economically and/or technically provided to the requested area. Based upon such determination, the use of recycled water and construction of recycled water distribution system or facility in new development may be required as conditions of approval of any development application or permit.

(2) Upon receiving a request or submittal of a proposed alteration or remodeling of a multi-family, commercial or industrial structure, which substantially increases its area, volume or size, for recycled water service, the Administrator shall make preliminary determinations if recycled water service can be economically and technically provided. Based upon such determination, the use of recycled water and construction of recycled water distribution system or facility may be required as conditions of approval of such request or submittal.

(3) The Administrator may require the use of recycled water for approved uses, and refuse or otherwise restrict potable water service when recycled water is available and feasible for use.

13.22.90 Authorized Uses

Uses of recycled water include only those uses approved by the California State Department of Public Health (DPH) and for which Title 22 of the California Code of Regulations provides treatment requirements. Each such use will be considered for approval

including the division therein with jurisdiction over City.

(AU) "Secondary Effluent" shall mean any oxidized wastewater that has been treated by gravity sedimentation to remove settled solids remaining after the primary biological treatment process.

(AV) "Service" shall mean the delivery of Recycled Water to a User.

(AW) "Service Connection" shall mean City facilities between the City recycled water distribution system and the customer's meter, including, but not limited to, the meter, meter box, valves, and piping equipment.

(AX) "Standard Specifications" shall mean the specifications approved by the City for construction of Recycled Water Facilities.

(AY) "Tertiary Effluent" shall mean any secondary effluent which has been filtered and disinfected, and meets all applicable requirements under Title 22.

(AZ) "Unauthorized Discharge" shall mean any release of recycled water that violates any applicable Federal, State, County or City statutes, regulations, chapters, contracts or other requirements.

(BA) "Use Area" shall mean the specific area designated to be served with recycled water through on-site recycled water facilities.

(BB) "User" shall mean any person, group, firm, partnership, corporation, association or agency accepting recycled water from the City's recycled water facilities for use in accordance with this Chapter. "Applicant," "Owner," or "Customer" are defined terms that also mean as User.

(BC) "Windblown Spray" shall mean any dispersed, airborne particles of recycled water capable of being transmitted through the air to a location other than that for which the direct application of recycled water is approved.

13.22.060 Administration

Except as otherwise provided in this Chapter the Administrator shall administer, implement, and enforce the provisions of this Chapter. The Administrator may, at his/her discretion, delegate any or all of these powers and duties to his/her designee.

13.22.070 Applicability

This Chapter shall apply to all users of the City's potable and recycled water system within the City and to users outside the City's service area or boundary who, by permit, contract or agreement, are or become users of the City's potable and recycled water system.

(AJ) "Ponding" shall mean the retention of recycled water on the ground surface or human-made surface for a period of time following the cessation of an approved recycled water use activity, such that potential hazard to the public health may result, as determined by regulatory agencies.

(AK) "Potable Water" shall mean water which conforms to the Federal, State and local drinking water standards adopted, enforced or administered by the City.

(AL) "PSI" shall mean pounds per square inch.

(AM) "Recycled Water" shall mean water, as a result of treatment of wastewater, is suitable for direct beneficial use or a controlled use that otherwise would not occur. The treatment of wastewater is accomplished pursuant to and in accordance with the criteria set forth in Title 22, Division 4 of the California Code of Regulations or its successor.

(AN) "Recycled Water Facilities" shall mean the systems, structures, and the like, used in the treatment, storage, pumping, transmission and distribution of recycled water.

(AO) "Recycled Water Use Agreement" shall mean an agreement between the user and the City to use recycled water in compliance with all applicable rules and regulations. Such agreement shall be subject to approved by the City Manager, Administrator and City Attorney.

(AP) "Recreational Impoundment" shall mean a body of recycled water used for recreational activities including, but not limited to, fishing, boating, and/or swimming. Allowable uses will depend on treatment level of the recycled water.

(AQ) "Reduced Pressure Principle Backflow Prevention Device" shall mean a reduced pressure principle backflow prevention device (RP) that, as a minimum, conforms to the AWWA Standard C506-78 (R83), adopted January 28, 1978, and its latest revised standard (presently the AWWA Standard C511-07, published June 24, 2007) for reduced-pressure principle backflow prevention assembly, which is herein incorporated by reference or any City approved alternate.

(AR) "Regulatory Agency" shall mean any public entity legally constituted by Federal, State, County and/or City statutes with the authority to regulate and protect health and water quality with jurisdiction within City.

(AS) "Runoff' shall mean the flow of water along natural or human-made surfaces away from the designated use area.

(AT) "RWQCB" shall mean the California Regional Water Quality Control Board,

blending, rinsing, washing, or cooling purposes.

(Z) "Infiltration Rate" shall mean the rate at which water penetrates the soil surface and enters the soil.

(AA) "Interim Service" shall apply to areas where Recycled Water is not immediately available when the Use Area is ready for construction, and if the City has determined that Recycled Water will be supplied in the future, On-Site facilities shall be designed to use Recycled Water. In the interim, potable or other suitable water may be supplied to the On-Site Facilities through an "Interim Service" connection.

(AB) "Landscape Impoundment" shall mean a body of water containing recycled water, which is used for aesthetic or irrigation purposes and which is not intended for public contact or ingestion.

(AC) "Landscape Irrigation/Use" shall mean recycled water used for the propagation and maintenance of trees, shrubs, ground cover and turf used for erosion control and aesthetic value, not for resale/profit purposes.

(AD) "Non-potable Water" shall mean water that has not been treated for, or is not acceptable for human consumption, in conformance with Federal, State and City administered water standards. Non-potable water includes recycled water.

(AE) "Off-site Facilities" shall mean all existing or proposed facilities under the control of the IEUA or the City, from the source of supply to the point of connection with the customer's on-site facilities, up to and including the City's recycled water meter and meter box.

(AF) "On-site Facilities" shall mean all existing or proposed facilities within property under the control of the customer, normally downstream of the City's recycled water meter and meter box.

(AG) "On-site Recycled Water Supervisor" shall mean a qualified person designated by a recycled water user and approved by the City to be responsible for the safe and efficient operation of the user's recycled water system. This person shall be knowledgeable in the operation of the recycled water system and in the application of Federal, State and ~~local~~ City guidelines, criteria, standards, and rules and regulations governing the use of recycled water.

(AH) "Open Space" shall mean land that has been designated to remain undeveloped or developed in a manner authorized by City zoning standards for such use or uses. These areas may receive recycled water service for agricultural or landscape irrigation, or other approved uses.

(AI) "POC" shall mean point of connection at the recycled water service meter.

(K) "Auxiliary Water Supply" shall mean any water supply on or available to the premises other than the City's potable water.

(L) "AWWA" shall mean the American Water Works Association.

(M) "City" shall mean the City of Upland, California.

(N) "City Council" shall mean the City Council of the City of Upland.

(O) "Commercial/Industrial Use" shall mean the water used for toilets, urinals, decorative fountains, decorative indoor and outdoor landscape, industrial process such as rinsing, washing, cooling, flushing, circulation, or construction; and other uses approved by the City.

(P) "Commodity Charge" shall mean a charge imposed by the City for all metered, recycled water used.

(Q) "Cross-Connection" shall mean any unapproved and/or unprotected, actual or potential, connection between any part of a potable water system and any equipment, source, or system containing water or other substances not approved as safe and potable for human consumption.

(R) "Direct Beneficial Use" shall mean the use of recycled water 'which has been transported from the point of production to the point of use, without an intervening discharge to waters of the State.

(S) "Administrator" shall mean the Public Works Director of the City of Upland or his/her authorized designee.

(T) "Discharge" shall mean any release or distribution of recycled water to a use area or disposal site/mechanism. Such discharges are subject to approval by the City.

(U) "DPH" shall mean the California State Department of Public Health or its successor.

(V) "Double Check Valve Assembly" shall mean a double check valve (DC) that, as a minimum, conforms to the AWWA Standard C506-78 (R83), adopted January 28, 1978, and its latest revised standard (presently the AWWA Standard C510-07, published June 24, 2007) for double check valve backflow prevention assembly, which is herein incorporated by reference or any Administrator approved alternate.

(W) "Greenbelt Areas" shall mean those areas including, but not limited to, parkways, parks, right-of-ways, and landscaping within and/or surrounding a parcel or series of parcels.

(X) "HCF" shall mean a unit of measure equaling one hundred (100) cubic feet or 748 gallons.

(Y) "Industrial Process Water" shall mean the water used in industrial facilities for

feasible. Recycled water shall be the primary source of supply for commercial and industrial uses, whenever available and/or feasible.

13.22.040 Priority

Connection to the Recycled Water System shall be provided on a basis that best advances the policy specified in Sec. 13.22.030.

13.22.050 Definitions

Unless the context specifically indicates otherwise, the following terms and phrases, as used in this Chapter, in addition to the definitions set forth in Title 22, Division 4, Chapter 3, Regulations of the California Code of Regulations, shall have the meanings hereinafter designated.

(A) "Administrator" shall mean the Public Works Director of the City of Upland or his/her authorized designee.

(B) "Agency" shall mean the Inland Empire Utilities Agency (IEUA).

(C) "Agricultural Use" shall mean water used for the production of crops and/or livestock.

(D) "Air-Gap Separation" shall mean a physical break between a supply pipe and a receiving vessel. The air gap shall be at least double the diameter of the supply pipe, measured vertically from the flood rim of the receiving vessel to the supply pipe; however, in no case shall this separation be less than one (1) inch.

(E) "Applicant" shall mean any person, group, firm, partnership, corporation, association, or agency that applies for recycled water service.

(F) "Application Rate" shall mean the rate at which irrigation water is applied to an approved Use Area, expressed in gallons per minute.

(G) "Approved Use" shall mean an application of recycled water in a manner, and for a purpose, designated in a Recycled Water Use Agreement in compliance with applicable State and local rules, regulations and ordinances.

(H) "Approved Use Area" shall mean a site with well-defined or readily identifiable boundaries designated in a Recycled Water Use Agreement in compliance with applicable rules and regulations.

(I) "As-built Drawings" shall mean the record drawings that show the completed facilities as constructed or modified as approved and acceptable by the City.

(J) "Automatic System" shall mean the electronically actuated controllers, valves, and associated equipment used to program and operates irrigation systems for the efficient application of recycled water.

"Chapter 13.22 REGULATIONS FOR THE AVAILABILITY AND USE OF RECYCLED WATER"

13.22.010 Authority

Recycled water use is regulated by the California Regional Water Quality Control Board (RWQCB). In accordance with waste discharge requirements for water reclamation projects, the RWQCB requires control mechanisms to regulate facilities distributing recycled water. Article 2 of Chapter 7 of Division 7 of the California Water Code establishes a State policy to encourage the use of recycled water. Permission to use recycled water is based on the ability of IEUA to adequately treat domestic wastewater to the point that the recycled water (effluent) meets the requirements of existing Title 22, Chapter 3 regulations of the California Code of Regulations. These regulations were adopted to ensure proper health protection and specify the treatment degree to meet the needs of the intended applications.

13.22.020 Purpose and Objectives

The purpose of this Chapter is to establish procedures, specifications, and limitations for the safe and orderly development and operation of recycled water facilities and systems within the City's service area, and adopt rules and regulations controlling such use.

The objectives of this Chapter include:

(A) Achieve conservation of potable water supplies by using recycled water for current and future demands. Recycled water uses may include, but are not limited to:
(1) Agricultural irrigation,
(2) Commercial uses,
(3) Construction use,
(4) Industrial processes,
(5) Landscape irrigation,
(6) Landscape and/or recreational impoundments,
(7) Wildlife habitat, and
(8) Sanitary uses (including flushing toilets and urinals).

(B) Provide regulations which prevent direct human consumption of recycled water by establishing health and safety standards that include, but are not limited to, imposing requirements that mandate:
(1) Adherence to all applicable rules and regulations,
(2) Posting of warning signs by the user, and
(3) A cross-connection/backflow prevention program.

(C) Provide regulations which control runoff of recycled water through monitoring of the installation and operation of all recycled water facilities and use areas.

(E) Require the regular monitoring of recycled water quality.

13.22.030 Policy

It is the policy of the City that recycled water shall be used for any purposes approved for recycled water use, when it is economically, technically, and institutionally

ORDINANCE NO. 1839

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF UPLAND CALIFORNIA ADDING CHAPTER 13.22, "REGULATIONS FOR THE AVAILABILITY AND USE OF RECYCLED WATER", TO TITLE 13, "PUBLIC SERVICES", OF THE UPLAND MUNICIPAL CODE.

THE CITY COUNCIL OF THE CITY OF UPLAND DOES HEREBY ORDAIN AS FOLLOWS:

WHEREAS, the water resources of the City of Upland are limited and of a finite supply; and

WHEREAS, the general health, safety and welfare of the public requires that the water resources available to the City of Upland be utilized for maximum benefit; and

WHEREAS, the City of Upland supports the goals of protecting, conserving, recycling, and reuse of natural resources to help meet future water demands; and

WHEREAS, new water supplies will greatly benefit the City of Upland; and

WHEREAS, the Inland Empire Utilities Agency (IEUA) has developed a regional water reclamation project to serve the City of Upland; and

WHEREAS, Federal and State laws regulate the types, quantities, and quality of recycled water; and

WHEREAS, recycled water is safe, reliable, and drought-proof and provides a cost-effective solution to serve irrigation and other non-potable water demands; and

WHEREAS, recycled water use will offset the increased demand for domestic or potable water; and

WHEREAS, IEUA and the City of Upland are aggressively moving forward with a recycled water distribution system to maximize the use of recycled water; and

WHEREAS, the City Council of the City of Upland approved and adopted the Recycled Water Master Plan on September 22, 2008 for the development of regional and local recycled water supply system; and

WHEREAS, the City Council of the City of Upland finds that in order to protect the health, safety and welfare of the residents of the City of Upland and comply with Federal and State law, it is necessary to enact this ordinance to regulate the availability and use of recycled water within the City.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF UPLAND, CALIFORNIA, DOES RESOLVE, DECLARE, DETERMINE AND ORDER AS FOLLOWS:

SECTION 1. Chapter 13.22, "Regulations for the Availability and Use of Recycled Water" is hereby added to Title 13, "Public Services" of the Upland Municipal Code to read, in words and figures, as follows:

(A) All rates and fees regarding Recycled Water service, including administrative costs, shall be set from time to time by resolution of the City Council.

(B) Applicant for Recycled Water service shall pay for his/her fair share for the construction of facilities needed to deliver Recycled Water to his/her property or use area. All fees and estimated construction costs shall be paid prior to construction; however, the City may reimburse the applicant for a portion of the cost of such facilities as described in Subsection (c) of this Section.

(C) The City, in its sole discretion, may contribute to the cost of designing and/or constructing the Facilities needed to deliver Recycled Water to an Applicant's property or use area. The City may, in its sole discretion, under take one or more of these options:

(1) Reimburse an Applicant for costs incurred to install oversized facilities in the public right-of-way; and/or
(2) Elect to participate in or construct pipelines, reservoirs, pumping stations or other facilities.

13.22.150 Size, Location, and Installation of Service Line

Recycled Water service line shall be extended by the Owner to a curb line or property line of the Owner's property, abutting on a public street, highway, road or City easement in which a Recycled Water main is installed. The size and location and/or type of Recycled Water service line, service connection, meter, backflow protection device, and any/all other appurtenances are subject to prior review and approval by the City.

13.22.160 Service Connection Limitations

Recycled Water service shall be subject to the following conditions:

(A) A Recycled Water service connection and its corresponding meter shall not be used to supply any real property except that which is specified in the Recycled Water Use Agreement. Expressly prohibited use includes, but not limited to, supplying Recycled Water to an adjoining property of a different owner, or to supply property of the same owner across a road, street or other public right-of-way. When a property provided with recycled water connection and corresponding meter is subdivided, such connection and meter shall be considered as serving solely the lot or parcel of land on which the meter is located. Additional recycled water mains and/or recycled water service lines will be required for all subdivided areas in accordance with this Chapter;

(B) Private irrigation systems for common interest subdivisions, home owners association maintained real property and other developments where landscaping around homes and in common areas are served with one meter, shall not be allowed to cross public roads, easements, or other public rights-of-way without City approval pursuant to an encroachment permit; and/or

(C) All Recycled Water used on any property where a meter is installed must pass

through the meter prior to entering property. User shall be responsible and charged for Recycled Water used at his/her property.

(D) When the Recycled Water uses or conditions, as determined by the City or other regulatory agencies, represent a clear and immediate hazard to the City Potable and/or Recycled Water supply that cannot be immediately removed or corrected, the City shall terminate Recycled Water use. Conditions or uses that create a basis for termination include, but are not limited to, refusal to install, test or repair a required backflow prevention device.

13.22.170 Service Pressure

There shall be not less than ten (10) psi differential between an Owner's Potable Water supply line and the Owner's Recycled Water service line. The Potable Water service line shall, at all times, be maintained at the higher pressure. Site-specific conditions may result in pressure differentials being impractical. In such cases, other design and operational measures can be taken, including proper pipe identification practices, ensuring adequate horizontal and vertical separation distances between potable and non-potable systems and maintaining accurate "as-built" maps.

13.22.180 Relocation of Recycled Water Service Lines

If a Recycled Water service line installed according to the directions of the User be of the wrong size, or installed at a wrong location or depth, the User shall, at his/her sole cost and expense, cause the line to be abandoned and/or relocated or replaced as is required to conform to all applicable law and policy.

13.22.190 Protective Measures

The following provisions are intended to protect the City's Potable Water supplies against actual, undiscovered, unauthorized, or potential Cross-Connections to the User's Recycled Water system. These provisions are in addition to, not in lieu of, the controls and requirements of other regulatory agencies.

(A) Approved backflow prevention devices on the City's Potable Water services to the use area as required in these provisions, shall be provided, installed, tested, and maintained according to Chapter 13.12. These devices shall be located on the property served immediately downstream of the meter. All devices shall be readily accessible for testing and maintenance and no device shall be submerged at any time.

(B) When a request for Recycled Water service is initiated, Applicant must provide sufficient information, including plumbing and building plans, for determination of the level of backflow protection required. Proper backflow protection, determined by the City and other regulatory agencies, shall then be installed and tested according to Chapter 13.12 before recycled water service is provided.

(C) Each time there is a change of User on any commercial or industrial premise,

the Owner or User shall notify the City immediately for reassessing the required level of protection of the Potable Water supply. In addition, any alterations to the User's existing on-site Recycled Water Facilities that may affect the required Potable Water protection, the City must be immediately informed.

(D) The City and representatives of any governing agencies at their discretion may inspect any property provided with recycled water service by the City. The inspection shall serve to determine if any actual or potential Cross-Connections exist. The Owner or User shall provide full cooperation in facilitating the inspection.

(E) When protection is required by the Administrator, an approved backflow protection device for potable water supplies shall be provided as follows:

(1) Each water service connection that supplies Potable Water to a premise having an auxiliary water supply (including Recycled Water) that is not accepted as a potable source by the City and/or is not approved for potable use by the DPH, shall be protected against backflow from the premises into the City potable water system.

(2) Each water service connection supplying Potable or Recycled Water to a premises on which any substance is handled in such a fashion as to permit entry into the City water systems (potable or recycled) from the premises shall be protected against backflow. This shall include, but not limited to, the handling of fertilizers, process waters, waters originating from any of the City water systems that have been subject to deterioration in quality, and agricultural use.

(3) City's approved backflow devices shall be installed where premises have complex piping arrangement that is vulnerable to be at risk of having a Cross-Connection or where not all portions of the premises are readily accessible for inspection.

(4) Backflow protection shall be required at premises where there has been a history of cross-connections being established.

(F) Additional Protective Measures:

(1) Water meters used for Recycled Water service shall be tagged or purple color-coded (color pantone 512 or 522), or otherwise distinguished as such per AWWA standards. These meters shall not be interchanged or used for Potable Water service after repairs and/or meter testing has been performed.

(2) The City may conduct a periodic inspection of the Recycled Water Facilities to determine if all identifying items are still clearly discernable. Any items or equipment failing to pass such inspection shall be immediately replaced, repaired or refurbished as needed, by the User. These items include:

(i) Warning tags or tapes;
(ii) Painted surfaces;

(iii) Identification tape;
(iv) Covers, caps, signs; and
(v) Other items that indicate recycled water is being used.

(3) To determine the existence of any cross-connections or backflow conditions into the potable water system, periodic testing by DPH approved methods will be performed by the City and/or other regulatory agencies.

13.22.200 Types of Protection

The level of protection required shall be related to the degree of potential hazard that exists on the premises served, as determined by the City or applicable regulatory agencies.

13.22.210 Testing and Maintenance of Backflow Prevention Devices

The User is responsible for causing all backflow prevention devices to be tested and maintaining them in an operating condition satisfactory to the City. Testing shall be done not less than at least once a year by a San Bernardino County certified backflow prevention tester. More frequent testing may be required if successive inspections indicate repeated failures. Any and all backflow prevention devices shall be repaired, overhauled and/or replaced whenever they are found to be defective. These devices shall also be tested by a San Bernardino County certified backflow prevention tester immediately after they are installed, relocated or repaired. All inspections, tests and repairs shall be performed at the User's expense. The User shall maintain records of all such tests, repairs and overhauls. These records shall be submitted to the City, annually, and made available to the City and/or DPH, upon request.

13.22.220 Facilities Design

(A) The design of Off-Site Facilities, including the preparation of plans and construction specifications shall be conducted under the responsibility of an engineer registered in the State of California. The design of User's On-Site Facilities that will use Recycled Water, and all preparations of plans and construction specifications, shall be stamped and signed by a State of California Registered Landscape Architect or Civil Engineer, unless otherwise approved by the City.

(B) Before the City grants final approval to any system that uses Recycled Water, as-built drawings of the system shall be provided to the City. The installed system shall be tested in accordance with the City's standards to ensure that the system is in full compliance with the rules and regulations governing Recycled Water use.

(C) All Off-Site and On-Site Recycled Water Facilities shall be designed and constructed according to the requirements, conditions, and standards and specifications adopted or used by the City to ensure that this system is in full compliance with this Chapter. Recycled Water systems, both On-Site and Off-

Site, shall be separate and independent of any Potable Water systems.

(D) Where the Use Area contains dual or multiple water systems, the exposed portions of pipelines shall be identified at sufficient intervals as specified by the City's standards or the Administrator.

(E) Areas irrigated with Recycled Water must be kept completely separated from domestic water wells and reservoirs pursuant to the following standards. Recycled Water shall not be applied or allowed to migrate to within fifty (50) feet of any well used for domestic supply. No impoundment of Recycled Water shall be located within hundred (100) feet of any domestic water well, unless it can be demonstrated to the Administrator that special circumstances justify lesser distances to be acceptable.

(F) Adequate means of notification should be provided to inform the public, employees and others that Recycled Water is being used. Conspicuous signs with appropriate wording that can be clearly read should be placed at adequate intervals, as required by the City's standard or the Administrator, around the authorized Use Area.

(1) Golf courses should print messages on score cards in a different color indicating Recycled Water is being used. Water hazards containing Recycled Water should be posted with appropriate signs that clearly give note of the use of Recycled Water.

(2) Signs in other languages, in addition to English, should also be used where there are non-English speaking ethnic communities using the public area where Recycled Water is used.

(G) Off-Site Facilities:

(1) Any Off-Site Recycled Water distribution facilities required to serve existing or new developments within the City shall be provided by the Applicant, Owner, or User at their expense, unless it is determined that it is a City benefit to construct these capital facilities.

(2) Plans and specifications for all Recycled Water distribution facilities shall be submitted to and approved by the City and/or other regulatory agencies with jurisdiction and all permits obtained prior to commencement of construction.

(H) On-Site Facilities

(1) User or Owner of the property shall be responsible for all costs associated with On-Site Recycled Water Facilities.

(2) When City's standards require a higher quality material, equipment, design or construction method than that required by other governing codes, rules and regulations, the City's standards shall take precedence.

(I) Conditions relating to Interim Service condition are:

(1) The City anticipates Recycled Water will be available to the Use Area within five (5) years of the time Interim Service is initiated.

(2) User or Owner of the Use Area must enter a Recycled Water Use Agreement with the City.

(3) User or Owner of the Use Area must agree to perform or pay for all work necessary to remove the interim connection and make connections to the permanent Recycled Water system at the time the Recycled Water system is installed.

(4) An approved backflow prevention device is required on the Interim Service for Potable Water service. The backflow prevention device shall be at the POC with the interim supply system and a part of the On-Site Recycled Water Facilities.

(5) All costs of connection for Interim Service and future Recycled Water service shall be borne by the User or Owner.

(6) When Recycled Water is available to the site, an inspection of the On-Site facilities will be conducted by the Administrator to verify that the facilities are still in compliance with the Recycled Water Use Agreement. Recycled Water service shall be provided on verification of compliance. If the facilities are not in compliance, the User or Owner is required to make any necessary corrections.

13.22.230 Construction

(A) Construction of all new Recycled Water Facilities will follow standards and specifications adopted or used by the City and the American Water Works Association Construction Guidelines for Recycled Water Facilities.

(B) Where it is planned that an existing non-recycled water system shall be converted to a Recycled Water Facility, the facility to be converted to use Recycled Water shall be investigated in detail at the User's or Owner's expense, to determine the measures required to bring its system into full compliance with this Chapter. No existing Potable Water facilities shall be connected to or incorporated into the Recycled Water system without approval from the City and DPH.

(C) If, due to On-Site failure of a Recycled Water system, the City determines that it is necessary to convert On-Site Facilities from Recycled Water system to Potable Water system it shall be the responsibility of the User or Owner to pay all costs for such conversion. Conversion costs may include, but not be limited to, the following:

(1) Isolation of the Recycled Water supply. Service shall be removed and plugged at the City's main or abandoned in a manner approved by the City.

(2) Installation of approved backflow prevention devices, as determined by the City, on all potable, and/or other water meter connections.

(3) Removal of any/all special Recycled Water quick couplers. The user shall be responsible for replacement with quick couplers approved for Potable Water systems.

(4) Notification to all On-Site personnel involved.

(5) Removal of all warning labels/signs.

(6) Installation of any/all Potable Water Facilities and payment of any associated capacity fees, as established in Chapter 13.12 of the City's Municipal Code.

(7) System flushing, disinfecting, decontamination, and water quality analyses, as required by the City and/or other regulatory agencies.

13.22.240 Off-Site Facilities

The City and/or IEUA shall be responsible for the operation, maintenance and surveillance of all Off-Site Recycled Water systems, including, but is not limited to Recycled Water pipelines, valves, connections, storage facilities, and other related equipment and property up to and including the meter. Only the City and/or IEUA personnel and their representatives shall operate, adjust, change, alter, move or relocate any portion of their respective Off-Site Recycled Water Facilities.

13.22.250 On-Site Facilities

(A) General

(1) User or his/her designated On-site Recycled Water Supervisor shall be responsible for the operation, surveillance, repair, and maintenance of all On-Site Recycled Water Facilities; and

(2) The City shall have the right to enter User's Use Area to monitor and inspect all On-Site Recycled Water facilities. Where necessary, keys and/or lock combinations shall be issued to the City for such access.

(B) User shall have the following responsibilities pertaining to operation of On-Site facilities:

(1) Ensure that all operations personnel are trained and familiarized with the use of Recycled Water,

(2) Furnish their operations personnel with maintenance instructions, irrigation schedules, controller charts, and as-built drawings to ensure proper operation in accordance with the on-site facilities design and applicable rules

and regulations pertaining to the use of Recycled Water;

(3) Prepare and submit to the City one reproducible set of as-built drawings of On-Site Recycled Water system and facilities;

(4) Notify the City all updates or proposed changes, modifications, or additions to the On-Site Facilities and operations for review and approval prior to construction or implementation. All updates and proposed changes shall comply with this Chapter, the Recycled Water Use Agreement and any other applicable rules and regulations;

(5) Ensure that the operation and maintenance of all Recycled Water Facilities remain in accordance with this Chapter, the Recycled Water Use Agreement and any other applicable rules and regulations;

(6) Operate and control the system in order to prevent direct human consumption of Recycled Water and to control and limit runoff. User or Owner of the Use Area shall be responsible for any and all subsequent uses of Recycled Water. Operation and control measures to be utilized in this regard shall include where appropriate, but not limited to:

(i) Minimizing discharge onto areas not under control of User or Owner to minimize public contact. Full circle sprinklers shall not be used adjacent to sidewalks, roadways, and property lines to confine the Recycled Water to its intended Use Area;

(ii) Operating the On-Site Recycled Water Facilities during periods of minimal human use of the service area, and allowing a maximum dry-out time before the irrigated area will be used by the public;

(iii) Providing adequate first aid kits on the Use Area, and promptly treating all cuts and abrasions to prevent infection. If infection is likely, a physician should be consulted;

(iv) Taking any other precautionary measures to minimize direct contact with Recycled Water. User's or Owner's employees, residents, and the public should not be subjected to Recycled Water sprays;

(v) Applying Recycled Water at a rate that does not exceed the infiltration rate of the soil. Where varying soil types are present, the design and operation of the Recycled Water Facilities shall be compatible with the lowest infiltration rate of the soils present;

(vi) Protecting all drinking fountains located within the approved use area, by location and/or a structure from contact with Recycled Water to the maximum extent possible. Windblown spray, direct application through irrigation or other approved uses are considered sources of recycled water. Protection shall be by design, construction practice, or system operation; and

(vii) Protecting facilities that may be used by the public, including but not limited to, eating surfaces and playground equipment located within the approved use areas, by seating and/or structure from contact with Recycled Water to the maximum extent possible. Windblown spray, direct contact by irrigation application, or other approved uses are considered sources of Recycled Water. Protection shall be by design, construction practice, or system operation.

(C) User shall enforce the following prohibitions:

(1) Cross-Connections, as defined by the California Code of Regulations, Title 17, resulting from the use of Recycled Water or from the physical presence of a Recycled Water service, whether by design, construction practice, or system operation, are prohibited;

(2) Discharge of Recycled Water for any purposes, in areas other than the Use Area specifically approved in the Recycled Water Use Agreement, and without the prior approval of the City, is prohibited;

(3) Use or installation of permanent hose bibs on any water system that presently operates or is designed to operate with Recycled Water is prohibited;

(4) Conditions that directly or indirectly cause Recycled Water to pond either within or outside of the approved Use Area, whether by design, construction practice, or system operation are prohibited, unless designed specifically for ponding and approved by City;

(5) Conditions that directly or indirectly cause runoff of Recycled Water onto areas outside of approved Use Area, whether by design, construction practice, or system operation, are prohibited;

(6) Use of Recycled Water for any purposes other than the Use Area specifically approved in the Recycled Water Use Agreement, and without the prior approval of the City, is prohibited; and

(7) Conditions that directly or indirectly permit windblown spray to pass outside of the approved Use Area, whether by design, construction practice, or system operation, are prohibited.

13.22.260 Monitoring and Inspection

The City will monitor and inspect the entire recycled distribution facility, including both off-site and on-site facilities. The City will conduct monitoring programs, maintain records as deemed necessary, inspect on-site facilities for compliance with these rules and regulations, and provide reports as requested by DPH or other regulatory agencies. For these purposes, the City will have the right to enter user's premises, especially during hours

of recycled water system operation, to inspect on-site recycled water facilities and approved use areas, to verify that the user's irrigation practices conform to this Chapter or Ordinance and the Recycled Water Use Agreement.

13.22.270 Maintenance Responsibility

(A) User or Owner is responsible for maintaining all On-Site facilities that are under his/her ownership; and

(B) No person shall place, dispose, deposit or permit the placement, disposal, deposit of oil, toxic, hazardous or contaminated liquid or waste, trash, soil, building materials or any other substances, objects, or obstructions in, on, or around meter boxes or other City facilities. No person shall allow or permit meter boxes or other City facilities from becoming obstructed or obscured by trees, shrubs, plants or in any other manner so as to impede their use or access or make their location difficult to determine. If such substances, objects, or obstructions are not cleaned and removed or are permitted to obscure or impede use or access to such facilities, the City may accomplish the cleaning and removal at user's expense. The City will provide reasonable notice to user before assessing such charge.

SECTION 2. If any section, subsection, sentence, clause, phrase, or portion of this Ordinance is for any reason held to be invalid or unenforceable by a court of competent jurisdiction, the remaining portions of this Ordinance shall nonetheless remain in full force and effect. The people of the City of Upland hereby declare that they would have adopted each section, subsection, sentence, clause, phrase, or portion of this Ordinance, irrespective of the fact that any one or more sections, subsections, sentences, clauses, phrases, or portions of this Ordinance be declared invalid or unenforceable.

SECTION 3. The City Clerk shall cause this Ordinance to be published in a newspaper of general circulation printed and published in the county and circulated in the City within fifteen (15) days after its passage, in accordance with Section 36933 of the Government Code, shall certify to the adoption and publication of this Ordinance, and shall cause this Ordinance and its certification, together with proof of publication, to be entered in the Book of Ordinances of the Council of this City.

The foregoing ordinance was PASSED, APPROVED AND ADOPTED by the City Council of the City of Upland on the 26th day of January, 2009.

John V. Pomierski

John V. Pomierski, Mayor

ATTEST:

Stephanie A. Mendenhall

Stephanie A. Mendenhall, City Clerk

I, Stephanie A. Mendenhall, City Clerk of the City of Upland, California, do hereby certify that the foregoing Ordinance was introduced at a regular meeting of the City Council of the City of Upland held on the 12th day of January 2009, and was adopted at a regular meeting of the City Council of the City of Upland on the 26th day of January, 2009, by the following roll call vote:

AYES: Mayor Pomierski, Councilmembers Brandt, Musser, Thomas, Willis

NOES: None ABSENT: None ABSTAINED: None

Stephanie A. Mendenhall, City Clerk

ORDINANCE NO. 45

AN ORDINANCE OF THE CUCAMONGA VALLEY WATER DISTRICT OF SAN BERNARDINO COUNTY, CALIFORNIA, FIXING RATES, RULES AND REGULATIONS FOR SERVICE OF RECYCLED WATER WITHIN THE DISTRICT

The Board of Directors of the Cucamonga Valley Water District of San Bernardino County, California, does ordain as follows:

SECTION 1: STATEMENT OF POLICY AND DECLARATION OF PURPOSE

1.1 Purpose. The purpose of this Ordinance is to establish procedures, specifications, and limitations for the safe use and operation of recycled water facilities and systems within the District's service area, and adopt rules and regulations controlling such use.

1.2 Policy. It is the policy of the District that recycled water be used for any and all purposes approved by State regulations for recycled water use. Recycled water will be the primary source of supply for commercial and industrial uses, whenever available and/or feasible. Use of potable water for commercial and industrial uses shall be contrary to District policy, shall not be considered the most beneficial use of a natural resource, and shall be avoided to the maximum extent feasible.

(a) The people of the State of California have a primary interest in the development of facilities to recycle water containing waste to supplement existing surface and underground water supplies and to assist in meeting the future water requirements of the State (Water Code Section 13510 et seq.) Conservation of all available water resources requires the maximum reuse of recycled water for beneficial use. (Water Code Section 461) The State of California has declared that continued use of potable water for irrigation and for certain other uses may be an unreasonable use of such water where recycled water is available (Government Code Section 65602(e); Water Code Section 13550 et seq.; California Code of Regulations, Title 22, Section 60301 et seq.)

(b) It is the policy of the District that recycled water shall be used within the jurisdiction of the District whenever and wherever: (1) there is not an alternative higher or better use for the recycled water; and (2) its use is

consistent with legal requirements, preservation of public health, the safety and welfare of the public, and protection of the environment.

2.1 Authority. Recycled water use is regulated by the California Regional Water Quality Control Board, Santa Ana Region (RWQCB). In accordance with waste discharge requirements for water reclamation projects, the RWQCB requires control mechanisms to regulate facilities distributing recycled water. Article 2 of Chapter 7 of Division 7 of the California Water Code establishes a State policy to encourage the use of recycled water. Permission to use recycled water is based on Inland Empire Utilities Agency's ability to adequately treat domestic wastewater to the point that the recycled water (effluent) meets the requirements of existing Title 22, Chapter 3 regulations of the California Code of Regulations. These regulations were adopted to ensure proper health protection and specify the treatment degree to meet the needs of the intended applications.

SECTION 3. PRIORITIES AND GOALS

3.1 Priority. Connection to the Recycled Water System shall be provided on a first-come, first-served basis, as long as infrastructure and recycled water supplies are available.

3.2 Goals. The goals of this Ordinance are as follows:

(a) Achieve conservation of potable water supplies by using recycled water for current and future demands. Recycled water uses may include:

(1) Agricultural irrigation

(2) Commercial uses (including flushing toilets and urinals)

(3) Construction use

(4) Industrial processes

(5) Landscape irrigation

(6) Landscape and/or recreational impoundments

(7) Wildlife habitat

(8) Groundwater recharge.

(b) Maintain recycled water quality through a stringent pretreatment program for industrial wastewater.

(c) Prevent direct human consumption of recycled water through:

(1) Adherence to all applicable rules and regulations

(2) Posting of warning signs by the user

(3) Cross-connection/backflow prevention program.

(d) Control runoff of recycled water through monitoring of the installation and operation of all recycled water facilities and use areas.

(e) Monitor recycled water quality.

SECTION 4: DEFINITIONS.

4.1 Unless the context specifically indicates otherwise, the following terms and phrases, as used in this Chapter, in addition to the definitions set forth in Title 22, Division 4, Chapter 3, Regulations of the California Code of Regulations, shall have the meanings hereinafter designated.

(a) **"Administrator"** shall mean the General Manager/CEO of the Cucamonga Valley Water District (CVWD) or his/her authorized representative.

(b) **"Agency"** shall mean the Inland Empire Utilities Agency (IEUA).

(c) **"Agricultural Use"** shall mean water used for the production of crops and/or livestock. Agricultural uses include, but are not limited to, the growing of field and nursery crops, row crops, trees and vines and the feeding of fowl and livestock.

(d) **"Air-Gap Separation"** shall mean a physical break between a supply pipe and a receiving vessel. The air gap shall be at least double the diameter of the supply pipe, measured vertically from the flood rim of the receiving vessel to the supply pipe; however, in no case shall this separation be less than one (1) inch.

(e) **"Applicant"** shall mean any person, group, firm, partnership, corporation, association, or agency that applies for recycled water service.

(f) **"Application Rate"** shall mean the rate at which irrigation water is applied to a design or use area, expressed in gallons per minute.

(g) **"Approved Use"** shall mean an application of recycled water in a manner, and for a purpose, designated in a Recycled Water Use Agreement in compliance with applicable State and local rules and regulations and the provisions of this Ordinance.

(h) **"Approved Use Area"** shall mean a site with well-defined boundaries designated in a Recycled Water Use Agreement in compliance with applicable rules and regulations.

(i) **"As-built Drawings"** shall mean the record drawings that show the completed facilities as constructed or modified.

(j) **"Automatic System"** shall mean the electronically actuated controllers, valves, and associated equipment used to program and operate irrigation systems for the efficient application of recycled water.

(k) **"Auxiliary Water Supply"** shall mean any water supply on or available to the premises other than the District's potable water.

(l) **"AWWA"** shall mean the American Water Works Association.

(m) **"Board of Directors"** shall mean the Board of Directors of the Cucamonga Valley Water District.

(n) **"Commercial/Industrial Use"** shall mean the water used for non-body contact uses such as toilets, urinals, decorative fountains, decorative indoor and outdoor landscape, industrial process such as rinsing, washing, cooling, flushing, circulation, or construction; and other uses approved by the District.

(o) **"Cross-Connection"** shall mean any unapproved and/or unprotected, actual or potential, connection between any part of a potable water system and any equipment, source, or system containing water or other substances not approved as safe and potable for human consumption.

(p) **"Direct Beneficial Use"** shall mean the use of recycled water which has been transported from the point of production to the point of use, without an intervening discharge to waters of the State.

(q) **"Discharge"** shall mean any release or distribution of recycled water to a use area or disposal site/mechanism. Such discharges are subject to approval by the District.

(r) **"District"** shall mean Cucamonga Valley Water District of San Bernardino County, State of California.

(s) **"DHS"** shall mean the California Department of Health Services.

(t) **"Double Check Valve Assembly"** shall mean a double check valve (DC) that as a minimum, conforms to the AWWA Standard C506-78 (R83) adopted on January 28, 1978 for Double Check Valve Type Backflow Prevention Devices which is herein incorporated by reference.

(u) **"Greenbelt Areas"** shall mean those areas including, but not limited to, golf courses, cemeteries, parkways, parks, right-of-ways, and landscaping within and/or surrounding a community.

(v) **"HCF**" shall mean a unit of measure equaling one hundred (100) cubic feet or 748 gallons.

(w) **"Industrial Process Water"** shall mean the water used in industrial facilities for blending, rinsing, washing, or cooling.

(x) **"Infiltration Rate"** shall mean the rate at which water penetrates the soil surface and enters the soil profile.

(y) **"Landscape Impoundment"** shall mean a body of water containing recycled water, which is used for aesthetic or irrigation purposes and which is not intended for public contact or ingestion.

(z) **"Landscape Irrigation/Use"** shall mean recycled water used for the propagation and maintenance of trees, shrubs, ground cover and turf used for erosion control and aesthetic value, not for resale/profit purposes.

(aa) **"Non-potable Water"** shall mean water that has not been treated for, or is not acceptable for human consumption, in conformance with Federal, State and local water standards. Non-potable water includes recycled water.

(ab) **"Off-site Facilities"** shall mean all existing or proposed facilities under the control of IEUA or the District, from the source of supply to the point of connection with the customer's on-site facilities, up to and including the District's recycled water meter and meter box. Such

facilities shall include, without limitation, recycled water transmission mains, recycled water pipelines, reservoirs, pumping stations, treatment plants and other appurtenances and property.

(ac) **"On-site Facilities"** shall mean all existing or proposed facilities within property under the control of the customer, normally downstream of the District's recycled water meter and meter box.

(ad) **"On-site Recycled Water Supervisor"** shall mean a qualified person designated by a recycled water user and approved by the District to be responsible for the safe and efficient operation of the user's recycled water system. This person shall be knowledgeable in the operation of the recycled water system and in the application of Federal, State and local guidelines, criteria, standards, and rules and regulations governing the use of recycled water.

(ae) **"Open Space"** shall mean land that has been designated to remain undeveloped. These areas may receive recycled water service for agricultural or landscape irrigation, or other approved uses.

(af) **"POC"** shall mean the point of connection at the recycled water service meter.

(ag) **"Ponding"** shall mean the retention of recycled water on the ground surface or human-made surface for a period of time following the cessation of an approved recycled water use activity, such that potential hazard to the public health may result, as determined by regulatory agencies.

(ah) **"Potable Water"** shall mean water which conforms to the latest Federal, State and local drinking water standards.

(ai) **"PSI"** shall mean Pounds per Square Inch. This is a common unit expression of pressure measurement.

(aj) **"Recycled Water"** shall mean water, which as a result of treatment of wastewater, is suitable for direct beneficial use or a controlled use that otherwise would not occur. The treatment of wastewater is accomplished in accordance with the criteria set forth in Title 22, Division 4, of the California Code of Regulations.

(ak) **"Recycled Water Commodity Rate"** shall mean a charge imposed by the District for all metered, recycled water used.

(al) **"Recycled Water Facilities"** shall mean the systems, structures, etc, used in the treatment, storage, pumping, transmission and distribution of recycled water.

(am) **"Recycled Water Use Agreement"** shall mean an agreement between the user and the District to use recycled water in compliance with all applicable rules and regulations.

(an) **"Recreational Impoundment"** shall mean a body of recycled water used for recreational activities including, but not limited to, fishing, boating, and/or swimming. Allowable uses will depend on treatment level of the recycled water.

(ao) **"Reduced Pressure Principle Backflow Prevention Device"** shall mean a reduced pressure principle backflow prevention device (RP) that as a minimum, conform to the AWWA Standard C506-78 (R83) adopted on January 28, 1978 for Reduced Pressure Principle Type Backflow Prevention Devices which is herein incorporated by reference.

(ap) **"Regulatory Agency"** shall mean any public entity legally constituted by Federal, State and local statutes to protect health and water quality.

(aq) **"Runoff"** shall mean the flow of water along natural or human-made surfaces away from the designated use area.

(ar) **"RWQCB"** shall mean the California Regional Water Quality Control Board, Santa Ana Region.

(as) **"Secondary Effluent"** shall mean any oxidized wastewater that has been treated by gravity sedimentation to remove settled solids remaining after the primary biological treatment process.

(at) **"Service"** shall mean the delivery of recycled water to a user.

(au) **"Service Connection"** shall mean District facilities between the District recycled water distribution system and the customer's meter, including, but not limited to, the meter, meter box, valves, and piping equipment.

(av) **"Standard Specifications"** shall mean the specifications approved by the District for construction of recycled water facilities.

(aw) **"Tertiary Effluent"** shall mean any secondary effluent which has been filtered and disinfected, and meets all applicable requirements under

Title 22. Allowable uses for tertiary effluent shall include body contact and irrigation of human food crops.

(ax) "Unauthorized Discharge" shall mean any release of recycled water that violates any applicable Federal, State, or local statutes, regulations, Ordinances, contracts or other requirements.

(ay) "Use Area" shall mean the specific area designated to be served with recycled water through on-site recycled water facilities.

(az) "User" shall mean any person, group, firm, partnership, corporation, association or agency accepting recycled water from the District's recycled water facilities for use in accordance with this Ordinance. "Applicant," "Owner," or "Customer" are terms that are to be considered as users.

(ba) "Windblown Spray" shall mean any dispersed, airborne particles of recycled water capable of being transmitted through the air to a location other than that for which the direct application of recycled water is approved.

SECTION 5: ADMINISTRATOR

5.1 Except as otherwise provided herein, the General Manager/CEO shall administer, implement, and enforce the provisions of this Ordinance. The General Manager/CEO may, at his/her discretion, delegate any or all of these powers and duties.

SECTION 6: SERVICE AREA

6.1 The rules and regulations contained in this Ordinance apply to recycled water service to lands and/or improvements lying within the legal boundaries of the District, to properties contiguous to the District under the same ownership as abutting lands within the District or its designated service boundary. Recycled water service shall be provided to a specific service area when related distribution facilities are completed and service becomes available. Recycled water may also be provided to other agencies outside the District's service area.

6.2 Determination of recycled use area.

(a) General

(1) The Board of Directors may adopt and periodically review the District's Recycled Water Master Plan and recommend where water service should be made with recycled water in place of potable water. The Master Plan shall be in accordance with the requirements of DHS and RWQCB. Where it is determined recycled water is, or will be available within five (5) years, the District is authorized to request modifications to existing on-site water facilities and require construction of recycled water systems in new developments.

(2) The Board of Directors may enter into agreements with surrounding cities and/or other agencies to provide recycled water to those areas.

(b) Existing potable water service

(1) The Board of Directors may make determinations of areas where existing potable water use should be replaced with recycled water use.

(2) A notice of the determination to use recycled water shall be mailed to the current owner, explaining the reasons for use and resultant procedures needed to facilitate recycled water use as well as the proposed conditions and schedule for the proposed conversion. Partial or full conversion of existing customers to recycled water use may be mandated only as allowed or required by law.

(3) If a current customer would like to enter into a recycled water use agreement to receive recycled water, he/she/it must submit an application for a recycled water permit to the District for review, along with any required application fee. The District shall then review the application for completeness and contact the customer regarding the potential provision of service and the recycled water use agreement. The application and agreement shall conform with requirements of the applicable rules and regulations. If the customer does not agree to the terms for the provision of recycled water service under a recycled water use agreement, or if the District determines that recycled water is not available for the proposed use, the District may, in its sole and absolute discretion, refuse to provide such service.

(c) New recycled water service

(1) On submittal by applicant of a tentative map, land use permit, other proposed land development/land use, or request for

recycled water service, the Administrator shall make preliminary determinations if recycled water service can be provided to the area in question. Based upon such determinations, use of recycled water and construction of recycled water distribution systems or other facilities within a new development for the use of recycled water, and the application for a service, may be required as conditions of approval of any development application, in addition to any other conditions of the new industrial, commercial or residential development.

(2) Upon submittal by applicant of a proposed alteration or remodeling of multi-family, commercial or industrial structures which substantially increase a facility's area, volume or size, or upon request for recycled water service, the Administrator shall make preliminary determinations if recycled water service can be provided to the area in question. Based upon such determinations, use of recycled water and construction of recycled water distribution systems or other facilities, and the application for such use, may be required as conditions of approval of any application, in addition to other conditions of approval for the alteration or remodel.

(3) The Administrator may require the use of recycled water for approved uses, and refuse or otherwise restrict potable water service when

SECTION 7: AUTHORIZED USES AND CONDITIONS OF SERVICE

7.1 Authorized Uses: Uses of recycled water include only those uses approved by the California State Department of Health Services (DHS) and for which Title 22 of the California Code of Regulations provides treatment requirements. Each such use will be considered for approval on case-by-case basis. Prior to approval, the user must comply with the requirements established by this Ordinance and any other requirements imposed by the Inland Empire Utilities Agency, DHS, or any other regulatory agencies that have jurisdiction over such use.

7.2 Conditions of service. Prior to obtaining recycled water service, the user must enter into a Recycled Water Use Agreement with the District (See Section 9). Recycled water use shall be subject to terms and conditions established in the agreement, and in accordance with this Ordinance, and other applicable codes, rules, and regulations. If any of the conditions of service are not satisfied at all times, the Recycled Water Use Agreement

may be revoked by the Administrator after which all recycled water service shall cease.

(a) The District shall not be liable for any damage by recycled water or resulting from:

(1) Defective plumbing

(2) Broken or faulty services or recycled water mains

(3) On-site facilities failures

(4) High or low pressure conditions

(5) Interruptions of service

(6) Any inappropriate or illegal use or management practices.

(b) All recycled water will be provided to the user in the conditions and quantity specified in the Recycled Water Use Agreement.

(c) Recycled water use will not be subject to the same restrictions as potable water during drought conditions and will be supplied as available.

(d) Recycled water service may be terminated whenever the quality of the recycled water does not comply with the requirements of the regulatory agencies, or at any time the provisions of this Ordinance, or the conditions specified in the Recycled Water Use Agreement are violated.

7.3 Other applicable rules and codes. Other guidelines, rules and regulations, ordinances, specifications that may be applied by the Administrator to govern the use of recycled water within the District include:

(a) Regulations that deal with backflow prevention, billing, deposits, penalties, delinquencies, and metering for potable water as established in Ordinance Nos. 29-A and 30-E of the Cucamonga Valley Water District.

(b) Regional Recycled Water Distribution System Ordinance (Ordinance No. 69, Inland Empire Utilities Agency.)

(c) Water Reclamation (Title 22, Division 4 of the California Code of Regulations.)

(d) Regulations Relating to Cross-Connections (Title 17 of the California Code of Regulations.)

(e) Guidelines for Distribution Of Non-potable Water (California-Nevada Section (AWWA).

SECTION 8: RECYCLED WATER SERVICE APPLICATION

8.1 Application for Service Connection: An application for a service connection must be made on a form furnished by the District. The applicant shall provide the District with the anticipated recycled water demand (maximum gallons per minute) and shall specify the size of the water meter that is desired; however the District ultimately reserves the right to determine the size of the service connection and meter. The applicant shall also specify the property to be served. The information supplied by the applicant shall be considered as authoritative and final. If any error in such application shall cause installation of a service connection that is improper, either in size or location, the cost of all changes required shall be borne by the applicant. The steps for obtaining recycled water service are as follows:

(a) The user completes and submits a recycled water service application, including existing facility "as-built" drawings or proposed facility plans as appropriate, description of where and how recycled water use is proposed, and any other information pertinent to the use of recycled water as requested by the Administrator.

(b) An engineering report prepared by a properly qualified engineer registered in California and experienced in the field of wastewater treatment describing proposed/requested recycled water use(s) must be submitted to DHS for approval. The District or Inland Empire Utilities Agency may prepare the report on behalf of the user, provided that the user pays all costs associated with the preparation of the report. The report shall contain:

(1) A description of the design of the proposed reclamation system

(2) A means for compliance with these regulations and any other features specified by the regulatory agency

(3) A contingency plan which will assure that no untreated or inadequately treated wastewater will be delivered to the use area.

(c) The user and the District will address any concerns that the DHS may have regarding the Engineering Report and revise the report accordingly.

(d) Once the DHS approves the engineering report, the applicant will enter into a Recycled Water Use Agreement with the District, and pay any applicable fees.

(f) The Administrator will schedule a start-up test of on-site recycled water system to ensure that cross-connections do not exist.

(g) Upon the successful completion of the test, the Administrator may authorize recycled water service to begin.

SECTION 9: RECYCLED WATER USE AGREEMENT

9.1 Recycled Water Use Agreement: Every applicant agreeing to receive recycled water shall sign a recycled water use agreement (to be furnished by the District) and shall be subject to the following conditions:

(a) The applicant shall pay any specified connection fees, service line charges and other charges, and adhere to the requirements prescribed by this Ordinance and to any additional requirements required by other agencies governing recycled water use.

(b) In order to maintain acceptable operating conditions throughout the recycled water system, the Administrator may schedule recycled water use for specific applications. Such scheduling may involve programming deliveries to different users and/or to various portions of a single users on-site system. Any scheduling shall consider the operating constraints of the affected users.

(c) The Administrator may temporarily terminate recycled water service at any time recycled water produced by the Inland Empire Utilities Agency reclamation plant does not meet the requirements of the regulatory agencies. Recycled water service would, in such case, be restored when the recycled water meets the governing requirements.

(d) At a minimum, the Recycled Water Use Agreement shall include the following:

(1) Names and addresses of owner the property and user of the recycled water.

(2) A statement that no changes in the proposed system will be undertaken without amending the Agreement.

(3) A statement that the applicant recognizes potential penalties for violation of this Ordinance and any regulatory agencies.

(4) A copy of the DHS approved Engineering Report.

(5) Specific quantity of recycled water to be used, including estimated average annual use in acre-feet, and the maximum gallons per minutes (GPM) needed at the point of connection (POC) as shown on the plans.

(6) Approved uses.

(7) A statement that the Agreement shall be cancelled or amended if:

(i) A change of recycled water use occurs.

(ii) A change in the piping system has been implemented without prior approval.

(iii) A violation of these rules and regulations occurs and results in a system turn-off.

SECTION 10: RATES, FEES, CHARGES AND DEPOSITS

10.1 Rates and Charges: All rates and charges regarding recycled water service and their administrative costs shall be established by the Board of Directors and incorporated into this Ordinance as Exhibit “A”. Any approved changes in rate and charge schedules shall be automatically adopted into this ordinance.

10.2 Fees: Applicants for recycled water service shall pay their fair share for the construction of facilities needed to deliver recycled water to the applicant's property. All fees and estimated construction costs shall be paid prior to construction; however, the District may reimburse the applicant for a portion of the cost of such facilities as described in Subsection (a) of this Section.

(a) Under certain circumstances, the District may contribute to the cost of designing and/or constructing the facilities needed to deliver recycled water to an applicant's property. Subject to the availability of funds, the District may:

(1) Reimburse an applicant for costs incurred to install oversized facilities in the public right-of-way.

(2) Elect to participate in or construct pipelines, reservoirs, pumping stations or other facilities, as it determines necessary, and/or as funds are available.

SECTION 11: RECYCLED WATER SERVICES

11.1 Size, location, and installation of service line. Recycled water service lines shall be extended by the property owner/developer to a curb line or property line of the customer's property, abutting on a public street, highway, road or District easement in which recycled water mains are installed. The size and location and/or type of recycled water service lines, service connections, meters, backflow protection devices, and any/all other appurtenances are subject to review and approval by the District.

11.2 Service connection limitations. Recycled water service shall be subject to the following conditions:

(a) A recycled water service connection and its corresponding meter shall not be used to supply adjoining property of a different owner, or to supply property of the same owner across a road, street or other public right-of-way. When a property provided with a recycled water connection and corresponding meter is subdivided, such connection and meter shall be considered as serving the lot or parcel of land on which the meter is located. Additional recycled water mains and/or recycled water service lines will be required for all subdivided areas in accordance with this Ordinance.

(b) Private irrigation systems for homeowner's associations and other developments where landscaping around homes and in common areas are served with one meter, shall not be allowed to cross public roads, easements, or other public rights-of-way without District approval.

(c) All recycled water used on any property where a meter is installed must pass through the meter. Customers shall be held responsible and charged for all recycled water passing through their meters.

11.3 Service pressure. According to AWWA "Guidelines for Distribution of Non-Potable Water (1992)," it is desirable that a pressure differential of 10 psi or greater be maintained with the potable water supply having the higher pressure. Site-specific conditions may result in pressure differentials being

impractical. In such cases, other design and operational measures may provide the necessary degree of protection including proper pipe identification practices, ensuring adequate horizontal and vertical separation distances between potable and non-potable systems and maintaining accurate “as-built” maps, implementing a comprehensive recycled water program elements into the existing cross-connection control program, and development of employee training/awareness programs.

11.4 Relocation of recycled water service lines. Should a recycled water service line installed according to the directions of the owner or user be of the wrong size, or installed at a wrong location or depth, the cost of relocation or removal shall be paid for by the user.

SECTION 12: SYSTEM PROTECTION

12.1: Protective Measures: The following provisions are intended to protect the District's potable water supplies against actual, undiscovered, unauthorized, or potential cross-connections to the user's recycled water system. These provisions are in addition to, not in lieu of, the controls and requirements of other regulatory agencies. These provisions are in accordance with Title 17 (Public Health) of the California Code of Regulations.

(a) Approved backflow prevention devices on the District's potable water services to the property as required in these provisions, shall be provided, installed, tested, and maintained according to District Ordinance No. 29-A. These devices shall be located at the property line served immediately downstream of the meter. All devices shall be readily accessible for testing and maintenance and no device shall be submerged at any time.

(b) When a request for recycled water service is initiated, the applicant must provide sufficient information, including plumbing and building plans, to enable the Administrator and other regulatory agencies to determine the level of backflow protection required. The proper backflow protection, as determined by the Administrator and other regulatory agencies, shall then be installed and tested according to Ordinance No. 29-A before recycled water service is provided.

(c) Each time there is a change of tenant on any commercial or industrial premise, the owner or user shall notify the Administrator immediately. The Administrator will then reassess the level of protection required. In addition, any alterations to existing on-site facilities that may affect required protection level must be reported immediately to the Administrator.

(d) At their discretion, representatives of any health agency having jurisdiction, and the Administrator, may inspect any property provided recycled water service by the District. The inspection shall serve to determine if any actual or potential cross-connections exist. The owner or user shall provide full cooperation in facilitating the inspection.

(e) Where protection is required, an approved backflow protection device for potable water supplies shall be provided as follows:

(1) Each District water service connection that supplies potable water to a premises having an auxiliary water supply (including recycled water) that is not accepted as a potable source by the Administrator, and/or is not approved for potable use by DHS, shall be protected against backflow from the premises into the District's potable water system.

(2) Each District water service connection supplying potable or recycled water to a premises on which any substance is handled in such a fashion as to permit entry into the District water systems (potable or recycled) from the premises shall be protected against backflow. This shall include, but not limited to, the handling of fertilizers, process waters, waters originating from any of the District water systems that have been subject to deterioration in quality, and agricultural use.

(3) Approved backflow devices shall be installed where premises have intricate plumbing and piping arrangements or where not all portions of the premises are readily accessible for inspection.

(4) Appropriate backflow protection may be required at premises where there has been a history of cross-connections being re-established.

(f) Other Measures

(1) Water meters used for recycled water service shall be tagged or color-coded purple, color pantone 512 or 522, or otherwise distinguished as such per AWWA standards. These meters shall not be interchanged or used for potable water service after repairs and/or meter testing have been performed.

(2) Periodic inspection by the District of the recycled water facilities will determine if all identifying items are still clearly discernable. If not, they shall be replaced, repaired or refurbished as needed, by the user. These items include:

(i) Warning tags

(ii) Painted surfaces

(iii) Warning tape

(iv) Identification tape

(v) Covers, caps, signs

(vi) Other items that indicate recycled water is being used.

(3) To determine the existence of any cross-connections or backflow conditions into the potable water system, periodic testing by DHS approved methods will be performed by the Administrator and/or other regulatory agencies.

(4) In the event of contamination or pollution of a District potable water system due to a cross-connection or other failure, the DHS, the Administrator, and the IEUA shall be promptly notified by telephone so that appropriate and immediate measures may be taken to correct the problem.

(5) The State and County Health Departments, the Administrator, and the IEUA shall be kept informed by written document of the identity of the person responsible for the user's recycled water system on all premises concerned with these rules and regulations. At each authorized use area, an 'On-site' Recycled Water Supervisor shall be designated. This supervisor shall be responsible for:

(i) The installation and use of all components of the on-site recycled water system(s)

(ii) Prevention of cross-connections

(iii) Change in use of recycled water.

(g) When the recycled water uses or conditions, as determined by the Administrator or other regulatory agency, represent a clear and immediate hazard to the District potable and/or recycled water supply that cannot be immediately removed or corrected, the Administrator shall terminate recycled water use. Conditions or uses that create a basis for termination include, but are not limited to, refusal to install, test or repair a required backflow prevention device.

12.2 Types of protection: The level of protection required shall be related to the degree of potential hazard that exists on the premises served, and will be determined by the Administrator.

12.3 Testing and maintenance of backflow prevention devices: The user is responsible for testing all backflow prevention devices and maintaining these devices in a satisfactory operating condition. Testing shall be performed at least once a year by a San Bernardino County certified backflow prevention tester. More frequent testing may be required if successive inspections indicate repeated failures. The backflow prevention devices shall be repaired, overhauled and/or replaced whenever they are found to be defective. These devices shall also be tested immediately after they are installed, relocated or repaired. All inspections, tests and repairs shall be performed at the user's expense. The user shall maintain records of all such tests, repairs and overhauls. These records shall be submitted to the Administrator, annually, and made available to the DHS, on request.

SECTION 13 FACILITIES DESIGN

13.1 Off-site Facilities

(a) Any off-site recycled water distribution facilities required to serve existing or new developments of the property within the District, as determined by the Administrator, shall be provided by the applicant, owner, or customer at their expense, unless the Administrator determines it is a District benefit to construct these capital facilities.

(b) The design of off-site facilities, including the preparation of plans and construction specifications shall be under the responsibility of an engineer registered in the State of California. The design of customer (on-site) facilities that will use recycled water, and preparations of plans and construction specifications, shall be stamped and signed by a State of California Registered Landscape Architect or Civil Engineer, unless otherwise approved by the Administrator.

(c) All off-site and on-site recycled water facilities shall be designed and constructed according to the requirements, conditions, and standards as adopted in the District Standard Specifications to ensure that this system is in full compliance with this Ordinance. Recycled water systems, both on-site and off-site, shall be separate and independent of any potable water systems.

(d) Before the Administrator grants final acceptance of any system using recycled water, as-built drawings of the system shall be provided. The installed system shall be tested in accordance with the District

Standard Specifications to ensure that the system is in full compliance with these rules and regulations.

(e) Plans and specifications for all recycled water distribution facilities shall be submitted to and approved by the Administrator, and other regulatory agencies, in advance of construction.

(f) The District will assume responsibility for providing recycled water service to the point of connection of such development on transfer, to the District, of the title to all off-site recycled water systems and any necessary easements. All easements shall be in a form acceptable to the Administrator, and not subject to outstanding obligations to relocate such facilities or any deeds of trust, except in instances where such is determined by the Administrator to be in the best interest of the District.

(g) The District and the property owner or developer may enter into a reimbursement agreement for the portions of a recycled water system that are required to be oversized with capaDistrict to supply more recycled water than the property owner or developer requires. The determination to enter into a reimbursement agreement, and the specific items that are the subject of reimbursement, will be made by the District.

13.2 On-site Facilities

(a) The user or the owner of the property shall be responsible for all costs associated with on-site recycled water facilities.

(b) When District Standards and Specifications require a higher quality material, equipment, design or construction method than that required by other governing codes, rules and regulations, the District Standards and Specifications shall take precedence.

(c) Where the premises contain dual or multiple water systems, the exposed portions of pipelines shall be identified at sufficient intervals.

(d) Areas irrigated with recycled water must be kept completely separated from domestic water wells and reservoirs. Recycled water shall not be applied or allowed to migrate to within fifty (50) feet of any well used for domestic supply. No impoundment of recycled water shall be located within hundred (100) feet of any domestic water well, unless it can be demonstrated that special circumstances justify lesser distances to be acceptable.

(e) In areas where recycled water is not immediately available when the use area is ready for construction, and if the District has determined

that recycled water will be supplied in the future, on-site facilities shall be designed to use recycled water. Provisions shall be made to allow for connection to the District off-site recycled water facilities, when available. In the interim, potable or other suitable water may be supplied to the on-site facilities through an "interim service connection."

When the switch over from potable water to recycled water is made, the potable water line will be properly physically separated and blind-flanged to protect the domestic supply and avoid any future reconnection. In such cases, besides an initial cross-connection inspection, the District shall conduct appropriate shutdown tests at both water lines prior to the use of recycled water. The report of the inspection and shutdown tests shall be maintained on file and summary of the findings shall be submitted to DHS within two weeks of the beginning of the recycled water use. Shutdown tests shall be performed and repeated as required by DHS.

(1) Conditions of interim service are:

(a) The District anticipates recycled water will be available to the site within 5 years of the time interim service is initiated.

(b) The user or the owner of the property must sign a Recycled Water Use Agreement.

(c) The user or the owner of the property must agree to perform or pay for all work necessary to remove the interim connection and make connections to the permanent recycled water system at the time the recycled water system is installed.

(d) An approved backflow prevention device is required on the interim service. The backflow prevention device shall be at the point of connection with the interim supply system and a part of the on-site recycled water facilities.

(e) Future recycled water users will pay for the following:

(i) Cost of constructing and abandoning the interim service and cost of constructing the recycled water service.

(ii) Applicable recycled water fees at the time service becomes available.

(iii) Applicable interim water rates for the type of water delivered through the interim service.

(f) When recycled water is available to the site, an inspection of the on-site facilities will be conducted by the Administrator to verify that the facilities are still in compliance with the Recycled Water Use Agreement. Recycled water service shall be provided on verification of compliance. If the facilities are not in compliance, the Administrator shall notify the user to make any necessary corrections.

13.3 Miscellaneous

(a) Adequate means of notification should be provided to inform the public, employees and others that recycled water is being used. Conspicuous signs with appropriate wording that can be clearly read should be placed at adequate intervals around the authorized use area.

(b) Golf courses should print messages on score cards in a different color indicating recycled water is being used. Water hazards containing recycled water should be posted with appropriate signs.

(c) Languages in addition to English should be used on signs where appropriate.

SECTION 14: CONSTRUCTION

14.1 New Facilities: Construction of all new recycled water facilities will follow District Standards and Specifications and the American Water Works Association Construction Guidelines for Recycled Water Facilities.

14.2 Conversion to Recycled System: Where it is planned that an existing non-recycled water system shall be converted to a recycled water facility, the facilities to be converted to recycled water shall be investigated in detail at the user's expense, to determine the measures required to bring the system into full compliance with this Ordinance. No existing potable water facilities shall be connected to or incorporated into the recycled water system without District and DHS approvals.

14.3 Recycled System Failure: If, due to on-site failure of the recycled water system, the Administrator determines that it is necessary to convert on-site facilities from a recycled water supply to a potable water supply, it shall be the responsibility of the user to pay all costs for such conversion. Conversion costs may include, but not be limited to, the following:

(a) Isolation of the recycled water supply. Service shall be removed and plugged at the District's main or abandoned in a manner approved by the Administrator.

(b) Installation of approved backflow prevention devices, as determined by the Administrator, on all potable, and/or other water meter connections.

(c) Removal of any/all special recycled water quick couplers. The user shall be responsible for replacement with quick couplers approved for potable water systems.

(d) Notification to all on-site personnel involved.

(e) Removal of all warning labels/signs.

(f) Installation of any/all potable water facilities and payment of any associated District fees, as established in Ordinance No. 30-E, Exhibit "A".

(g) System flushing, disinfecting, decontamination, and water quality analyses, as required by the District and/or other regulatory agencies.

SECTION 15: OPERATION AND MAINTENANCE OF FACILITIES

15.1 Off-site Facilities. The District and/or the Inland Empire Utilities Agency shall be responsible for the operation, maintenance and surveillance of all off-site recycled water systems. This includes but is not limited to recycled water pipelines, valves, connections, storage facilities, and other related equipment and property up to and including the meter. Only District and/or the Inland Empire Utilities Agency personnel and their representatives shall operate, adjust, change, alter, move or relocate any portion of their respective off-site recycled water facilities.

15.2 On-site Facilities. The operation, surveillance, repair, and maintenance of all customer recycled water facilities are the responsibility of the user or owner and his designated "On-site" Recycled Water Supervisor. The user or owner is responsible for maintaining all on-site facilities that are under ownership of parties other than the District and shall have the following responsibilities pertaining to operation of on-site facilities:

(a) Ensure that all operations personnel are trained and familiarized with the use of recycled water.

(b) Furnish their operations personnel with maintenance instructions, irrigation schedules, controller charts, and as-built drawings to ensure proper operation in accordance with the on-site facilities design and these rules and regulations.

(c) Prepare and submit to the Administrator one reproducible set of as-built drawings.

(d) Notify the Administrator of all updates or proposed changes, modifications, or additions to the on-site facilities and operations for review and approval prior to construction or implementation. All updates and proposed changes shall comply with this Ordinance, the Recycled Water Use Agreement and any other applicable rules and regulations.

(e) Ensure that the operation and maintenance of all recycled water facilities remain in accordance with this Ordinance, the Recycled Water Use Agreement and any other applicable rules and regulations.

(f) Operate and control the system in order to prevent direct human consumption of recycled water and to control and limit runoff. The user or the owner of the property shall be responsible for any and all subsequent uses of the recycled water. Operation and control measures to be utilized in this regard shall include where appropriate, but not limited to:

(1) Minimizing discharge onto areas not under control of the user so as to minimize public contact. Full circle sprinklers shall not be used adjacent to sidewalks, roadways, and property lines in order to confine the discharge to the use area.

(2) Operating the on-site recycled water facilities during periods of minimal human use of the service area, and allowing a maximum dry-out time before the irrigated area will be used by the public.

(3) Providing adequate first aid kits on the premises, and promptly treating all cuts and abrasions to prevent infection. If infection is likely, a physician should be consulted.

(4) Taking any other precautionary measures to minimize direct contact with recycled water. User's employees, residents, and the public should not be subjected to recycled water sprays.

(5) Applying recycled water at a rate that does not exceed the infiltration rate of the soil. Where varying soil types are present,

the design and operation of the recycled water facilities shall be compatible with the lowest infiltration rate of the soils present.

(6) Reporting to the Administrator any/all failures in the recycled water system that cause an unauthorized discharge of recycled water.

(7) Protecting all drinking fountains located within the approved use area, by location and/or a structure from contact with recycled water to the maximum extent possible. Windblown spray, direct application through irrigation or other approved uses are considered sources of recycled water. Protection shall be by design, construction practice, or system operation.

(8) Protecting facilities that may be used by the public, including but not limited to, eating surfaces and playground equipment located within the approved use areas, by seating and/or structure from contact with recycled water to the maximum extent possible. Windblown spray, direct contact by irrigation application, or other approved uses are considered sources of recycled water. Protection shall be by design, construction practice, or system operation.

(g) The user shall enforce the following prohibitions:

(1) Cross-connections, as defined by the California Code of Regulations, Title 17, resulting from the use of recycled water or from the physical presence of a recycled water service, whether by design, construction practice, or system operation, are prohibited.

(2) Discharge of recycled water for any purposes, in areas other than those specifically approved in the Recycled Water Use Agreement, and without the prior approval of the Administrator, is prohibited.

(3) Use or installation of permanent hose bibs on any customer water system that presently operates or is designed to operate with recycled water is prohibited.

(4) Conditions that directly or indirectly cause recycled water to pond either within or outside of the approved use area, whether by design, construction practice, or system operation are prohibited, unless designed specifically for ponding and approved by Administrator.

(5) Conditions that directly or indirectly cause runoff of recycled water onto areas outside of approved use areas, whether by design, construction practice, or system operation, are prohibited.

(6) Use of recycled water for any purposes other than those specifically approved in the Recycled Water Use Agreement, and without the prior approval of the Administrator, is prohibited.

(7) Conditions that directly or indirectly permit windblown spray to pass outside of the approved use area, whether by design, construction practice, or system operation, are prohibited.

SECTION 16: MONITORING AND INSPECTION

16.1 The Administrator will monitor and inspect the entire recycled distribution facility, including both off-site and on-site facilities. The Administrator will conduct monitoring programs, maintain records as deemed necessary, inspect on-site facilities to verify that the user's irrigation practices conform to this Ordinance and the Recycled Water Use Agreement, and provide reports as requested by DHS. For these purposes, the Administrator will have the right to enter the user's premises to monitor and inspect all on-site recycled water facilities. Where necessary, keys and/or lock combinations shall be issued to the Administrator to provide such access during hours of recycled water system operation.

SECTION 17: EMERGENCY CONNECTION

17.1 Temporary Connection: If the Administrator determines an emergency exists where all or parts of the recycled water system are unable to provide recycled water, the Administrator may approve an emergency temporary connection to the potable water system. Before such emergency temporary connection is made, the portion without recycled water shall be isolated by a physical or air gap separation from the remainder of the recycled water system. This isolation shall occur at either individual services or on the off-site system, as determined by the Administrator. An approved backflow prevention device shall be installed on the potable water lines in accordance with this Ordinance. The recycled water system shall be disinfected in accordance with DHS regulations prior to any use of potable water through the system. The emergency temporary connection shall be removed before connection to the recycled water system is re-established. Re-establishment of recycled water service must be inspected and approved by the Administrator prior to resuming delivery of recycled water.

SECTION 18: VIOLATIONS AND ENFORCEMENT

18.1 Non-Compliance with Ordinance: The recital of specified instances in this Ordinance wherein the District is authorized to discontinue service to the customer, is not to be construed as limiting the authority of said District to the instances specified. The District shall have the general right to discontinue service to any customer upon failure of compliance with, or violation or infraction of the Ordinance, or any amendments or additions thereto, or any Rules and Regulations adopted by the District in amplification hereof, which may then be in force, after notice has been given where the noncompliance with, or violation or infraction of this Ordinance by the customer results, or is likely to result, in a dangerous or unsanitary condition on the customer's premises, or in the District's water system or elsewhere, or where discontinuance of service is necessary to protect the District from fraud, imposition, loss or abuse.

SECTION 19: SEVERABILITY

19.1 If any section, subsection, sentence, clause or phrase of this Ordinance establishing rules and regulations for the use of recycled water is for any reason found to be invalid or unconstitutional, such decision shall not affect the remaining portions of this Ordinance. The Board of Directors declares that it would have approved this Ordinance by section, subsection, sentence, clause, or phrase irrespective of the fact that any one or more of the sections, subsections, sentences, clauses or phrases be declared invalid or unconstitutional.

SECTION 20: ADOPTION

20.1 This Ordinance shall become effective immediately upon its adoption.

ADOPTED this _____ day of _____, 2005.

_____

Henry L. Stoy, President
of Board of Directors

ATTEST:

_____
Robert A. DeLoach, Secretary
of Board of Directors

ORDINANCE 31

AN ORDINANCE OF THE BOARD OF DIRECTORS OF THE MONTE VISTA WATER DISTRICT, COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, TO PROVIDE FOR THE REGULATION AND USE OF RECYCLED WATER WITHIN THE DISTRICT'S SERVICE AREA

The Board of Directors of the Monte Vista Water District (District) of San Bernardino County, California, does hereby ordain the following:

Section 1: Purpose and Statutory Authority

1. The purpose of this Ordinance is to establish procedures, specifications, and limitations for the safe and orderly development and operation of recycled water facilities and systems within the District's service area, and to adopt rules and regulations controlling such use.

2. Recycled water use is regulated by the California Regional Water Quality Control Board, Santa Ana Region (RWQCB). In accordance with waste discharge requirements for water reclamation projects, the RWQCB requires control mechanisms to regulate facilities distributing recycled water. Article 2 of Chapter 7 of Division 7 of the California Water Code establishes a State policy to encourage the use of recycled water. Permission to use recycled water is based on Inland Empire Utilities Agency's (IEUA) ability to adequately treat domestic wastewater to the point that the recycled water (effluent) meets the requirements of Title 22, Chapter 3 of the California Code of Regulations. These regulations were adopted to ensure proper health protection and specify the treatment degree to meet the needs of the intended applications.

Section 2: Policy, Priority and Goals

1. It is the policy of the District that recycled water be used for any purposes approved by State regulations for recycled water use, when it is economically, financially, technically, and institutionally feasible. Use of potable water for nondomestic uses when recycled water is available is contrary to the District policy, is not considered the most beneficial use of a natural resource, and shall be avoided to the maximum extent possible.

2. Connection to the District's Recycled Water System shall be provided on a first-come, first-served basis, as long as infrastructure and recycled water supplies are available.

3. The goals of this Ordinance are to do the following:
   a. Achieve conservation of potable water supplies by using recycled water for appropriate current and future demands. Recycled water uses as approved by the District's Board of Directors and which are in compliance with all applicable laws and regulations shall include:
      i. Agricultural irrigation;
      ii. Commercial uses;

iii. Construction use;
iv. Industrial processes;
v. Landscape irrigation;
vi. Landscape and/or recreational impoundments; and/or,
vii. Wildlife habitat.

b. Prevent direct human consumption of recycled water through:
   i. Strict compliance with all applicable rules, laws, and regulations;
   ii. Requiring the user to post adequate signs warning others that the water is recycled and non-potable; and,
   iii. Requiring cross-connection/backflow prevention programs.

c. Control runoff of recycled water through monitoring of the installation and operation of all recycled water facilities and use areas.

Section 3: Administration

Except as otherwise provided herein, the District's General Manager shall administer, implement, and enforce the provisions of this Ordinance. The General Manager may, in his discretion, delegate any or all of these powers and duties.

Section 4: Definitions

Unless the context specifically indicates otherwise, the following terms and phrases, as used in this Chapter, in addition to the definitions set forth in Title 22, Division 4, Chapter 3, Regulations of the California Code of Regulations, shall have the meanings hereinafter designated.

1. "Administrator" shall mean the General Manager of the Monte Vista Water District or his/her authorized representative.

2. "Agricultural Use" shall mean water used for the production of crops and/or livestock.

3. "Air-Gap Separation" shall mean a physical break between a supply pipe and a receiving vessel. The air gap shall be at least double the diameter of the supply pipe, measured vertically from the flood rim of the receiving vessel to the supply pipe; however, in no case shall this separation be less than one (1) inch.

4. "Applicant" shall mean any person, group, firm, partnership, corporation, association, or agency that applies for recycled water service.

5. "Approved Use" shall mean an application of recycled water in a manner, and for a purpose, designated in a Recycled Water Use Agreement in compliance with applicable State and local rules and regulations.

6. "Approved Use Area" shall mean a site with well-defined boundaries designated in a Recycled Water Use Agreement in compliance with applicable rules and regulations.

7. "As-built Drawings" shall mean the record drawings that show the completed facilities as constructed or modified.

8. "Auxiliary Water Supply" shall mean any water supply on or available to the premises other than the District's potable water.

9. "Board of Directors" shall mean the Board of Directors for the Monte Vista Water District.

10. "City" shall mean either the City of Montclair or the City of Chino, depending on the city in which a customer's property is located.

11. "Commercial and Industrial Use" shall mean the water used for decorative fountains; decorative indoor and outdoor landscape; industrial processes such as rinsing, washing, cooling, flushing, circulation, or construction; and other uses approved by the District.

12. "County" shall mean the County of San Bernardino, California.

13. "Cross-Connection" shall mean any unapproved and/or unprotected, actual or potential, connection between any part of a potable water system and any equipment, source, or system containing water or other substances not approved as safe and potable for human consumption.

14. "Discharge" shall mean any release or distribution of recycled water to a use area or disposal site/mechanism. Such discharges are subject to approval by the District.

15. "Infiltration Rate" shall mean the rate at which water penetrates the soil surface and enters the soil profile.

16. "Non-potable Water" shall mean water that has not been treated for, or is not acceptable for human consumption, in conformance with Federal, State and local water standards. Non-potable water includes recycled water.

17. "Off-site Facilities" shall mean all existing or proposed facilities under the control of the IEUA or the District, from the source of supply to the point of connection with the customer's on-site facilities, up to and including the District's recycled water meter and meter box.

18. "On-site Facilities" shall mean all existing or proposed facilities within property under the control of the customer, normally downstream of the District's recycled water meter and meter box.

19. "On-site Recycled Water Supervisor" shall mean a qualified person designated by a recycled water user and approved by the District to be responsible for the safe and efficient operation of the user's recycled water system. This person shall be knowledgeable in the operation of the recycled water system and in the application of Federal, State and local guidelines, criteria, standards, and rules and regulations governing the use of recycled water.

20. "Ponding" shall mean the retention of recycled water on the ground surface or manmade surface for a period of time following the cessation of an approved recycled water use activity, such that potential hazard to the public health may result, as determined by regulatory agencies.

21. "Potable Water" shall mean water which conforms to the latest Federal, State and local drinking water standards.

22. "Recycled Water" shall mean water which, as a result of treatment of wastewater, is suitable for direct beneficial use or a controlled use that otherwise would not occur. The treatment of wastewater is accomplished in accordance with the criteria set forth in Title 22, Division 4, of the California Code of Regulations.

23. "Recycled Water Facilities" shall mean the systems, structures, etc., used in the treatment, storage, pumping, transmission and distribution of recycled water.

24. "Recycled Water Use Agreement" shall mean an agreement between the user and the District to use recycled water in compliance with all applicable rules and regulations.

25. "Regulatory Agency" shall mean any public entity legally constituted by Federal, State and local statutes to protect health and water quality.

26. "Runoff" shall mean the flow of water along natural or manmade surfaces away from the designated use area.

27. "Service" shall mean the delivery of recycled water to a user.

28. "Service Connection" shall mean District facilities between the District recycled water distribution system and the customer's meter, including, but not limited to, the meter, meter box, valves, and piping equipment.

29. "*Standard Specifications*" shall mean the specifications approved by the District for construction of recycled water facilities.

30. "Unauthorized Discharge" shall mean any release of recycled water that violates any applicable Federal, State, or local statutes, regulations, ordinances, codes, contracts or other requirements.

31. "Use Area" shall mean the specific area designated to be served with recycled water through on-site recycled water facilities.

32. "User" shall mean any person, group, firm, partnership, corporation, association or agency accepting recycled water from the District's recycled water facilities for use in accordance with this Ordinance. "Applicant," "Owner," or "Customer" are terms that are to be considered as users.

33. "Windblown Spray" shall mean any dispersed, airborne particles of recycled water capable of being transmitted through the air to a location other than that for which the direct application of recycled water is approved.

Section 5: Service Area

The rules and regulations contained in this Ordinance apply to recycled water service to lands and/or improvements lying within the legal boundaries of the District, and to properties contiguous to the District under the same ownership as abutting lands within the District or its designated service boundary. Recycled water service shall be provided to a specific service area when related distribution facilities are completed and service becomes available.

Section 6: Determination of Recycled Water Use Area

1. General
   a. The Board of Directors may adopt a Recycled Water Master Plan or utilize the IEUA Recycled Water Master Plan designating current and potential areas for recycled water use. The Master Plan shall be in accordance with California Department of Public Health (DPH) and RWQCB requirements, and shall encourage recycled water use. The Master Plan shall be reviewed and updated as needed.
   b. The Board of Directors may review the Recycled Water Master Plan and recommend where water service should be made with recycled water in place of potable water. Where it is determined recycled water is, or will be, available within five (5) years, the District may request modifications to existing on-site water facilities and require construction of recycled water systems in new developments.
   c. The Board of Directors may enter into agreements with surrounding cities and/or other agencies to determine recycled water use service areas within the District and jurisdiction of those entities.

2. Existing potable water service
   a. The Board of Directors may make determinations of areas in which existing potable water use should be replaced with recycled water use.
   b. A notice of the determination to use recycled water shall be mailed to the current owner, explaining the reasons for use and resultant procedures needed to implement recycled water use.

3. New recycled water service
   a. On submittal by applicant of a tentative tract map, land use permit, other proposed land development/land use, or request for recycled water service, the Administrator shall make preliminary determinations if recycled water service can be provided to the area in question.
   b. The Administrator may require the use of recycled water for approved uses, and refuse or otherwise restrict potable water service when recycled water is available and approved for use.

Section 7: Authorized Uses

Uses of recycled water include only those uses approved by DPH and for which Title 22 of the California Code of Regulations provides treatment requirements. Each such use will be considered for approval on a case-by-case basis. Prior to approval, the user must comply with the requirements established by this Ordinance and any other requirements imposed by the IEUA, DPH, or any other regulatory agencies that have jurisdiction over such use.

Section 8: Conditions of Service

1. Prior to obtaining recycled water service, the user must enter into a Recycled Water Use Agreement with the District. Recycled water use shall be subject to the terms and conditions established in the Agreement, and in accordance with this Ordinance, and other applicable codes, rules, and regulations. If any of the conditions of service are not satisfied at all times by the owner or user, the Recycled Water Use Agreement may be revoked by the Administrator after which all recycled water service shall be terminated.

2. The District shall not be liable for any damage caused by recycled water or resulting from:
   a. Defective plumbing;
   b. Broken or faulty service connections or recycled water mains;
   c. On-site facilities failures;
   d. High or low pressure conditions;
   e. Interruptions of service;
   f. Any inappropriate or illegal use or management practices by user; and/or
   g. Recycled water quality.

3. All recycled water will be provided to the user in the conditions and quantity specified in the Recycled Water Use Agreement.

4. Recycled water use will not be subject to the same restrictions applicable to potable water during drought conditions and will be supplied as available.

5. Recycled water service shall be terminated whenever the quality of the recycled water does not meet the requirements of the regulatory agencies, or at any time the provisions of this Ordinance, or the provisions and conditions specified in the Recycled Water Use Agreement, are not satisfied.

6. Other guidelines, rules and regulations, ordinances, and specifications that may be applied by the General Manager to govern the use of recycled water within the District include, but are not limited to:
   a. Regulations pertaining to backflow prevention, billing, deposits, penalties, delinquencies, and metering for potable water as established in District Ordinances 27 and 28, as well as all other applicable District Ordinances and Resolutions;
   b. Regional Recycled Water Distribution System Ordinance (IEUA, Ordinance No. 63);

c. Water Reclamation Regulations (Title 22, Division 4 of the California Code of Regulations);

d. Regulations Pertaining to Cross-Connections (Title 17 of the California Code of Regulations); and

e. Guidelines for Distribution of Non-Potable Water (California-Nevada Section, American Water Works Association [AWWA]).

Section 9: Recycled Water Service Application

The steps to apply for recycled water service are as follows:

1. The Applicant shall complete and submit a recycled water service application on a District-provided form, including existing facility "as-built" drawings or proposed facility plans, as appropriate, description of where and how recycled water use is proposed, and any other information requested by the Administrator which is pertinent to the use of recycled water.

2. The Applicant shall prepare an Engineering Report describing proposed/requested recycled water use(s). The District may prepare the report on behalf of the Applicant, provided that the user pays all costs associated with the preparation of the report. The Engineering Report shall comply with DPH guidelines.

3. The completed Engineering Report shall be forwarded to DPH for its review and approval.

4. The Applicant and the District shall address any concerns that the DPH may have regarding the Engineering Report and revise the report accordingly.

5. After DPH approval of the Engineering Report, the Applicant shall enter into a Recycled Water Use Agreement with the District, and pay all applicable fees.

6. The Administrator or his/her designee shall conduct a start-up test of the on-site recycled water system to ensure that cross-connections do not exist.

7. Upon the successful completion of the start-up test and the determination that the on-site recycled water system is in full compliance with this Ordinance, the Administrator shall authorize recycled water service to begin.

Section 10: Recycled Water Use Agreement

Each Applicant agreeing to receive recycled water shall sign a Recycled Water Use Agreement furnished by the District and shall be subject to the following terms and conditions:

1. The Applicant shall pay all specified District connection fees, service line charges and other charges, and comply with all of the requirements prescribed by this Ordinance and any additional requirements specified by other agencies governing recycled water use.

2. In order to maintain acceptable operating conditions throughout the District's recycled water system, the Administrator may schedule recycled water use for specific applications. Such scheduling may involve programming deliveries to different users and/or to various portions of a single user's on-site system. Any such scheduling shall take into consideration the operating constraints of the affected users.

3. The Administrator will temporarily terminate recycled water service at any time recycled water produced by the IEUA reclamation plant does not meet the requirements of the regulatory agencies. In such a case, recycled water service will be restored at such a time as the recycled water meets the regulatory agency requirements.

4. At a minimum, the Recycled Water Use Agreement shall include the following:
   a. Names, addresses and telephone numbers of the owner the property, the user of the recycled water, and the On-site Recycled Water Supervisor.
   b. A statement that no changes in the proposed system will be undertaken without the prior amendment of the Agreement and written consent of the Administrator.
   c. A statement that the applicant recognizes and understands the potential penalties for violation of this Ordinance and any applicable regulatory agency's requirements.
   d. A copy of the DPH-approved Engineering Report.
   e. The specific quantity of recycled water to be used, including estimated average annual use in acre-feet, and the maximum gallons per minute needed at the point of connection as shown on the plans.
   f. Approved uses.
   g. A statement that the Agreement shall be cancelled or amended if:
      i. A significant change of either volume or use of recycled water occurs;
      ii. A change in the piping system has been implemented without prior District approval; or
      iii. A material violation of these rules and regulations occurs which results in a system turn-off.

Section 11: Rates, Fees, Charges and Deposits

1. All rates and fees regarding recycled water service including administrative costs shall be established by the Board of Directors pursuant to the provisions of the California Water Code Section 30000 et. seq. The water rates and associated fees shall be in accordance with the applicable Rate Resolution then in effect, as it may be established from time to time.

2. Applicants for recycled water service shall pay their fair share for the construction of facilities and infrastructure needed to deliver recycled water to the Applicant's property. All fees and estimated construction costs shall be paid prior to commencement of construction; however, the District may reimburse the applicant for a portion of the cost of such facilities as described in Subsection 3 of this Section.

3. Under certain circumstances, the District, in its sole discretion, may contribute to the cost of designing and/or constructing the facilities needed to deliver recycled water to the Applicant's property. Subject to the availability of funds, the District may:
   a. Reimburse an applicant for costs incurred to install oversized facilities in the public right-of-way; and/or
   b. Elect to financially participate in or construct pipelines, reservoirs, pumping stations or other facilities, as it determines are necessary, and/or as funds are available for such purpose(s).

Section 12: Size, Location, and Installation of Service Line

Recycled water service lines shall be installed and provided by the property owner/developer to a curb line or property line of the customer's property, abutting on a public street, highway, road or District easement in which recycled water mains are installed. The size and location and/or type of recycled water service lines, service connections, meters, backflow protection devices, and any/all other appurtenances shall be determined and approved by the District.

Section 13: Service Connection Limitations

Recycled water service shall be provided subject to the following terms and conditions:

1. A recycled water service connection and its corresponding meter shall not be used to supply adjoining property of a different owner, or to supply property of the same owner across a road, street or other public right-of-way. When a property with a recycled water connection and corresponding meter is subdivided, such connection and meter shall be deemed to be serving the lot or parcel of land upon which the meter is located. Additional recycled water mains and/or recycled water service lines will be required for all other subdivided areas in accordance with this Ordinance.

2. Private irrigation systems for homeowner's associations and other developments where landscaping around homes and in common areas is served with one meter shall not cross public roads, easements, or other public rights-of-way without prior District, City, and/or County approval, as may be appropriate.

3. All recycled water used on any property on which a meter is installed must pass through the meter. Customers shall be responsible and charged for all recycled water passing through their respective meters.

Section 14: Service Pressure

The District shall at all times strive to maintain a potable water line pressure that is at least ten (10) pounds per square inch greater than its non-potable water lines to help prevent intrusion of non-potable water into its potable water lines. In any circumstance in which that is impractical, the District shall require other design and operational measures that will provide the proper degree of protection, including, but not limited to, proper pipe identification practices, ensuring adequate horizontal and vertical separation distances between potable and non-potable systems and maintaining accurate "as built" maps, implementing comprehensive recycled water program elements into the existing cross-connection control program, and development of employee training and awareness programs.

Section 15: Relocation of Recycled Water Service Lines

If an owner or user of a recycled water service line installs the wrong size service line, or installs it at a wrong location or depth, the cost of relocation or removal of such water service line shall be paid for by the user.

Section 16: Protective Measures

The following provisions are enacted to protect the District's potable water supplies against actual, undiscovered, unauthorized, or potential cross-connections to the user's recycled water system. These provisions are in addition to, not in lieu of, the controls and requirements of other regulatory agencies. These provisions are in accordance with Title 17 (Public Health) of the California Code of Regulations.

1. Approved backflow prevention devices on the District's potable water services to the property, as required in these provisions, shall be installed, tested, and maintained according to Section 18 of this Ordinance. These devices shall be located on the property served, immediately downstream of the meter. All backflow devices shall be readily accessible for testing and maintenance, and no such device shall be submerged at any time.

2. When a request for recycled water service is initiated, the Applicant must provide sufficient information, including plumbing and building plans, to enable the Administrator and other regulatory agencies to determine the level of backflow protection required. The proper backflow device, as determined by the Administrator and other regulatory agencies, shall then be installed and tested according to Section 18 of this Ordinance before recycled water service is provided.

3. Each time there is a change of tenants on any commercial or industrial premises, the owner or user shall immediately notify the Administrator of such facts. The Administrator shall then reassess the level of backflow safety protection required. In addition, any alterations to existing on-site facilities that may affect the required backflow protection level must be reported immediately by the owner or user to the Administrator.

4. Representatives of each health agency having jurisdiction of recycled water distribution, and the Administrator, may inspect any property which is provided recycled water service by the District. The inspection shall serve to determine if any actual or potential cross-connections exist. The owner or user shall fully cooperate in facilitating the inspections.

5. Where backflow protection is required, an approved backflow protection device for potable water supplies shall be provided by the owner or user at their sole expense as follows:
   a. Each District water service connection that supplies potable water to premises having an auxiliary water supply (including recycled water) that is not accepted as a potable source by the Administrator, and/or is not approved for potable use by the DPH, shall be protected against backflow from such premises into the District's potable water system.

b. Each District water service connection supplying potable or recycled water to premises on which any substance is handled in such a fashion as to permit entry of contaminants into the District water systems (potable or recycled) from the premises shall be protected against backflow by a District-approved backflow device. This shall include, but is not limited to, the handling of fertilizers, process waters, waters originating from any of the District water systems that have been subject to deterioration in quality, and agricultural uses.

c. District-approved backflow devices shall be installed by the owner or user where premises have complex plumbing and piping systems or where not all portions of the premises are readily accessible for inspection.

d. The District may require the installation of appropriate backflow protection devices at premises where there has been a history of recurrent cross-connections.

6. On-site Recycled Water Supervisor

   a. At all times following commencement of recycled water service by the District, the owner or user shall notify in writing the Administrator, State and County health departments and IEUA of the identity of the individual who is responsible for the user's recycled water system and compliance with all applicable laws, rules, and regulations. This person shall be designated the On-site Recycled Water Supervisor for the given authorized use area. In the event of a change of such individual in charge, the owner or user shall notify each such agency of such change within seventy-two (72) hours of the change.

   b. The On-site Recycled Water Supervisor shall be responsible for:
      i. The installation and use of all components of the on-site recycled water system(s);
      ii. Monitoring and controlling runoff of recycled water through operation of facility;
      iii. Prevention of cross-connections; and
      iv. Change in use of recycled water.

7. Other measures

   a. Water meters used for recycled water service shall be tagged or color-coded purple, color pantone 512 or 522, or otherwise distinguished as such per AWWA standards. At no time shall these meters be interchanged with or used for potable water service after repairs and/or meter testing have been performed.

   b. Periodic inspections by the District of the recycled water facilities will be made to determine if all identifying items are still clearly discernable. If not, they shall be replaced, repaired, or refurbished, as needed, by the owner or user. These items include, but are not limited to:
      i. Warning tags;
      ii. Color code painted surfaces;
      iii. Warning tape;
      iv. Identification tape;
      v. Covers, caps, signs; and
      vi. Other items that clearly indicate recycled water is being used.

c. To determine the existence of any cross-connections or backflow conditions into the potable water system, periodic testing by DPH approved methods will be performed by the Administrator and/or other regulatory agencies.

d. In the event of contamination or pollution of a District potable water system due to a cross-connection or other failure, the DPH, the Administrator, and IEUA each shall be promptly notified by telephone so that appropriate and immediate measures may be taken to correct the problem.

8. When the recycled water uses or conditions, as determined by the Administrator or other regulatory agencies, represent a clear and immediate hazard to the District potable and/or recycled water supply that cannot be immediately removed or corrected, the Administrator shall promptly terminate the recycled water use. Conditions or uses that create a basis for termination include, but are not limited to, refusal to install, test, or repair a required backflow prevention device.

Section 17: Types of System Protection

The level of protection required for the District's potable water system shall be commensurate with the degree of potential hazard that exists on the premises served, and will be determined by the Administrator.

Section 18: Testing and Maintenance of Backflow Prevention Devices

The owner or user is responsible for inspecting and regularly testing all backflow prevention devices and maintaining these devices in a safe and satisfactory operating condition. Testing shall be done at least once a year by a County-certified backflow prevention tester. More frequent testing may be required on a case-by-case basis as determined by the Administrator. The backflow prevention devices shall be repaired, overhauled and/or replaced whenever they are found to be defective. These devices shall also be tested immediately after they are installed, relocated, or repaired. All inspections, tests, and repairs shall be performed at the owner or user's sole expense. The owner or user shall maintain records of all such tests, repairs, and overhauls. These records shall be submitted to the Administrator annually, and made available to the DPH for inspection upon reasonable notice of such request.

Section 19: Facilities Design

1. Before the Administrator grants final acceptance of any system using recycled water, as-built drawings of the system shall be provided by the owner or user. The installed system shall be tested in accordance with the District's *Standard Specifications* to ensure that the system is in full compliance with all relevant laws, rules, and regulations.

2. All off-site and on-site recycled water facilities shall be designed and constructed according to the requirements, conditions, and standards as adopted in the District's *Standard Specifications* to ensure that this system is in full compliance with this Ordinance. Recycled water systems, both on-site and off-site, shall be separate and independent of any potable water systems.

3. Adequate means of notification shall be provided to inform the public, employees, and others that recycled water is being used. Conspicuous signs with appropriate wording that can be clearly read shall be placed at regular intervals, per regulation, around the perimeter of the authorized use area.
   a. Golf courses shall print messages on score cards in a different color indicating recycled water is being used. Water hazards containing recycled water must be posted with appropriate signs indicating such use.
   b. Languages in addition to English shall be used on signs where appropriate due to demographics.

4. Off-site facilities
   a. Any off-site recycled water distribution facilities required to serve existing or new developments of the property within the District, as determined by the Administrator, shall be provided by the applicant, owner, or customer at their sole expense, unless the Administrator determines such facilities are a benefit to the District and that the District will construct such facilities at its sole expense or a shared cost basis with the applicant, owner, or customer.
   b. The design of off-site facilities, including the preparation of plans and construction specifications, shall be furnished and signed off by an engineer registered in the State of California.
   c. Plans and specifications for all recycled water distribution facilities shall be submitted to and approved by the Administrator, and other appropriate regulatory agencies, in advance of construction.
   d. The District will provide recycled water service to the point of connection of such development upon transfer to the District of title to all off-site recycled water systems and any necessary easements or deeds of trust. All easements shall be in a recordable form acceptable to the Administrator and not subject to outstanding obligations to relocate such facilities, except in instances where such is determined by the Administrator to be in the best interest of the District.
   e. The District and the property owner or developer may enter into a reimbursement agreement for the portions of a recycled water system that are required to be oversized with capacity to supply more recycled water than the property owner or developer requires. The District shall solely make the determination of whether it will enter into a reimbursement agreement and as to what facilities will be included.

5. On-site facilities
   a. The design of on-site facilities that will use recycled water, and preparations of plans and construction specifications, shall be stamped and signed by a State of California Registered Landscape Architect or Civil Engineer, unless otherwise approved by the Administrator.
   b. The user or the owner of the property shall pay for all costs associated with on-site recycled water facilities.

c. When the District's *Standard Specifications* require a higher quality material, equipment, design, or construction method than that required by other governing codes, rules, and regulations, the District's *Standard Specifications* shall take precedence.

d. Where the premises utilize dual or multiple water systems, the exposed portions of recycled water pipelines shall be painted purple and labeled.

e. Areas irrigated with recycled water must be kept completely separated from domestic water wells and reservoirs. Recycled water shall not be applied or allowed to migrate to within fifty (50) feet of any well used for domestic water supply, and no impoundment of recycled water shall be located within one hundred (100) feet of any domestic water well, unless it can be demonstrated and the Administrator determines that special circumstances justify lesser distances to be acceptable and safe.

6. Interim service

a. If recycled water is not immediately available when the use area is ready for construction and the District has determined that recycled water will be supplied within five (5) years, on-site facilities shall be designed to use recycled water. Provisions shall be made to allow for connection to the District off-site recycled water facilities when available. In the interim, potable or other suitable water may be supplied to the on-site facilities through an "interim service connection."

b. Conditions of interim service:

i. The District anticipates recycled water will be available to the site within five (5) years of the time interim service is initiated.

ii. The user or the owner of the property must sign a Recycled Water Use Agreement.

iii. The user or the owner of the property must agree to perform or pay for all work necessary to remove the interim connection and make connections to the permanent recycled water system at the time the recycled water system is installed. All work must be performed according to the District's *Standard Specifications*.

iv. A District-approved backflow prevention device is required on any interim service. The backflow prevention device shall be at the point of connection with the interim supply system and a part of the on-site recycled water facilities.

v. Future recycled water users shall pay for the following:

A. Cost of constructing and abandoning the interim service connection and cost of constructing the recycled water service connection.

B. Applicable recycled water fees at the time such service becomes available.

C. Applicable interim water rates for the type of water delivered through the interim service connection.

vi. When recycled water is available to the site, an inspection of the on-site facilities will be conducted by the Administrator to verify that the facilities are still in compliance with the Recycled Water Use Agreement. Recycled water service shall be provided on verification of compliance with such Agreement. If the facilities are not in compliance, the Administrator shall notify the user to make any necessary corrections.

Section 20: Construction

1. Construction of all new recycled water facilities shall follow the District's *Standard Specifications* and the *AWWA Construction Guidelines for Recycled Water Facilities* as amended from time to time.

2. Where it is planned that an existing non-recycled water system will be converted to a recycled water facility, such facility modifications shall be inspected in detail, at the owner's or user's sole expense, to determine the measures required to bring the system into full compliance with this Ordinance. No existing potable water facilities shall be connected to or incorporated into the recycled water system without District and DPH prior approvals.

3. If, due to on-site failure of the recycled water system, the Administrator determines that it is necessary to convert on-site facilities from a recycled water supply to a potable water supply, the user shall pay all costs for such conversion. All modifications and work performed on the recycled water supply facilities shall be in compliance with the provisions of this Ordinance and subject to appropriate inspections by the Administrator and DPH prior to activation as a potable water system. Conversion costs may include, but not be limited to, the following:
   a. Isolation of the recycled water supply. Service shall be removed and plugged at the District main or abandoned in a manner approved by the Administrator.
   b. Installation of approved backflow prevention devices, as determined by the Administrator, on all potable and/or other water meter connections.
   c. Removal of any/all special recycled water quick couplers. The owner or user shall be responsible for replacement with quick couplers approved for potable water systems.
   d. Notification to all on-site personnel involved.
   e. Removal of all warning labels/signs.
   f. Installation of any/all potable water facilities and payment of any associated capacity fees, as established in District Ordinance 28.
   g. System flushing, disinfecting, decontamination, and water quality analyses, as required by the District and/or other regulatory agencies.

Section 21: Operation and Maintenance of Off-site Facilities

The District and/or the IEUA shall be responsible for the operation, maintenance, and surveillance of all off-site recycled water systems. This includes but is not limited to recycled water pipelines, valves, connections, storage facilities, and other related equipment and property up to and including the meter. Only District and/or the IEUA authorized personnel and their representatives shall operate, adjust, change, alter, move, or relocate any portion of their respective off-site recycled water facilities.

Section 22: Operation and Maintenance of On-site Facilities

1. The operation, surveillance, repair, and maintenance of all customer recycled water facilities are the responsibilities of the owner or user and his designated On-site Recycled Water Supervisor. The user or owner is responsible for maintaining all on-site facilities that are owned by parties other than the District.

2. The Administrator shall have the right to enter the owner or user's premises at all reasonable times to monitor and inspect all on-site recycled water facilities. When necessary, keys and/or lock combinations shall be issued by the owner or user to the Administrator to provide such access during hours of recycled water system operation or in the event of an emergency.

3. The owner or user shall fulfill the following responsibilities pertaining to operation of on-site facilities:

   a. Ensure that all operations personnel are trained and familiarized with the use of recycled water and pertinent laws and regulations pertaining to the use of recycled water.

   b. Furnish their operations personnel with maintenance instructions, irrigation schedules, controller charts, and as-built drawings to ensure proper operation in accordance with the on-site facilities design and these rules and regulations.

   c. Prepare and submit to the Administrator one reproducible set of as-built drawings.

   d. Notify the Administrator of all updates or proposed changes, modifications, or additions to the on-site facilities and operations for review and approval prior to construction or implementation. All updates and proposed changes shall comply with this Ordinance, the Recycled Water Use Agreement, and all other applicable laws and regulations.

   e. Ensure that the operation and maintenance of all recycled water facilities remain in accordance with this Ordinance, the Recycled Water Use Agreement, and all other applicable laws and regulations.

   f. Operate and control the system in order to prevent direct human consumption of recycled water and to control and limit runoff. The user or the owner of the property shall be responsible for any and all uses of the recycled water. Operation and control measures to be utilized in this regard shall include where appropriate, but not be limited to:

      i. Minimizing discharge onto areas not under control of the user so as to minimize public contact. For example, full circle sprinklers shall not be used adjacent to sidewalks, roadways, and property lines in order to confine the discharge to the use area.

      ii. Operating the on-site recycled water facilities during periods of minimal human use of the service area, and allowing a maximum dry-out time before the irrigated area will be used by the public.

      iii. Providing adequate first aid kits on the premises, and promptly treating all cuts and abrasions.

      iv. Taking any other precautionary measures to minimize direct contact with recycled water. The owner's or user's employees, residents, and the public shall not be subjected to recycled water sprays.

v. Applying recycled water at a rate that does not exceed the infiltration rate of the soil. Where varying soil types are present, the design and operation of the recycled water facilities shall be compatible with the lowest infiltration rate of the soils present.

vi. Promptly reporting to the Administrator within no more than twenty-four (24) hours any/all failures in the recycled water system that cause an unauthorized discharge of recycled water.

vii. Protecting all drinking fountains located within the approved use area, by location and/or a structure from contact with recycled water to the maximum extent possible. Windblown spray, direct application through irrigation or other approved uses are considered sources of recycled water. Protection shall be provided by design, construction practice, or system operation.

viii. Protecting facilities that may be used by the public, including, but not limited to, eating surfaces and playground equipment located within the approved use areas, by seating and/or structure from contact with recycled water to the maximum extent possible. Windblown spray, direct contact by irrigation application, or other approved uses are considered sources of possible recycled water contamination. Protection shall be provided by design, construction practice, or system operation.

4. The owner or user shall enforce the following prohibitions:

   a. Cross-connections, as defined by the California Code of Regulations, Title 17, resulting from the use of recycled water or from the physical presence of a recycled water service, whether by design, construction practice, or system operation, are prohibited.

   b. Discharge of recycled water for any purposes, in areas other than those specifically approved in the Recycled Water Use Agreement, and without the prior written approval of the Administrator, is prohibited.

   c. Use or installation of permanent hose bibs on any customer water system that presently operates or is designed to operate with recycled water is prohibited.

   d. Conditions that directly or indirectly cause recycled water to pond either within or outside of the approved use area, whether by design, construction practice, or system operation are prohibited, unless designed specifically for ponding and approved by Administrator.

   e. Conditions that directly or indirectly cause runoff of recycled water onto areas outside of approved use areas, whether by design, construction practice, or system operation, are prohibited.

   f. Use of recycled water for any purposes other than those specifically approved in the Recycled Water Use Agreement, and without the prior approval of the Administrator, is prohibited.

   g. Conditions that directly or indirectly permit windblown spray to pass outside of the approved use area, whether by design, construction practice, system operation, or other cause are prohibited.

5. No person shall place, dispose, deposit, or permit the placement, disposal, or deposit of oil, toxic, hazardous, or contaminated liquid or waste, trash, soil, building materials, or any other substances, objects, or obstructions in, on, or around meter boxes or other District facilities. No person shall allow or permit meter boxes or other District facilities to become obstructed or obscured by trees, shrubs, plants, or in any other manner to impede their use or access or make their location difficult to determine. If such substances, objects, or obstructions are not cleaned and removed or are permitted to obscure or impede use or access to such facilities, the District may accomplish the cleaning and removal at the user's expense. The Administrator shall provide reasonable advanced notice and opportunity to make corrections to the user before performing such work and assessing such charges.

Section 23: Monitoring and Inspection

The Administrator will periodically monitor and inspect the entire recycled distribution facility as necessary, including both off-site and on-site facilities. The Administrator will conduct monitoring programs, maintain records as deemed necessary, inspect on-site facilities for compliance with these rules and regulations, and provide reports as required or requested by DPH. For these purposes, the Administrator shall have the right to enter the owner or user's premises during hours of recycled water system operation with or without prior notice to inspect on-site recycled water facilities and approved use areas to verify that the user's irrigation practices and other uses comply with this Ordinance and the Recycled Water Use Agreement.

Section 24: Emergency Connection to Recycled Water System from Potable Water System

If the Administrator determines an emergency exists so that all or parts of the recycled water system are unable to provide recycled water, the Administrator may approve an emergency temporary connection to the potable water system. Before such emergency temporary connection is made, the portion without recycled water shall be isolated by an air gap separation from the remainder of the recycled water system. This isolation shall occur at either individual services or on the off-site system, as determined by the Administrator. An approved backflow prevention device shall be installed on the potable water lines in accordance with this Ordinance. The emergency temporary connection shall be removed before connection to the recycled water system is re-established. Re-establishment of recycled water service must be approved by the Administrator, after conducting appropriate inspections, prior to resuming delivery of recycled water.

Section 25: Validity

If any section, subsection, clause, phrase, or portion of this Ordinance is for any reason held to be invalid or unconstitutional by any court of competent jurisdiction, such decision shall not affect the validity of remaining portions of this Ordinance.

Section 26: Effective Date

This Ordinance shall be effective sixty (60) days after its final passage or on October 7, 2007, upon publication in any newspaper of general circulation and distributed within the District as required by law.

The President of the Board of Directors shall sign this Ordinance and the Secretary shall attest to the same. The Secretary shall cause this Ordinance to be published within ten (10) days after its adoption, at least once in a newspaper of general circulation which is distributed within the boundaries of the Monte Vista Water District.

ADOPTED THIS 8th day of August 2007.

Sandra S. Rose
President of the Board of Directors
MONTE VISTA WATER DISTRICT

ATTEST:

Mark N. Kinsey
Secretary to the Board of Directors
MONTE VISTA WATER DISTRICT

APPENDIX C:

CALIFORNIA CODE OF REGULATIONS TITLE 22, AND TITLE 17 SECTIONS 60310-60316

California Health Laws Related to Recycled Water

"The Purple Book"

Excerpts from the Health and Safety Code, Water Code, and Titles 22 and 17 of the California Code of Regulations

Last Update: June 2001

The document is meant to be an aid to staff of the Drinking Water Program within the Department of Health Services Division of Drinking Water and Environmental Management. It should not be relied upon by the regulated community as the State of California's representation of the law, since the published codes are the only official representations of the law.

Published codes are available on the Internet at http://www.leginfo.ca.gov/ (statutes) and http://ccr.oal.ca.gov/ (regulations). They are also available at law libraries -- call your County Bar Association for the nearest location.

Every effort has been made to assure the accuracy of this compilation. Readers who find and error or who are aware of an omission should contact Jeff Stone of DHS' Recycled Water Unit at jstone1@dhs.ca.gov.

CHAPTER 3 WATER RECYCLING CRITERIA
ARTICLE 1 DEFINITIONS

60301. Definitions

60301.100. Approved laboratory

"Approved laboratory" means a laboratory that has been certified by the Department to perform microbiological analyses pursuant to section 116390, Health and Safety Code.

60301.160. Coagulated wastewater

"Coagulated wastewater" means oxidized wastewater in which colloidal and finely divided suspended matter have been destabilized and agglomerated upstream from a filter by the addition of suitable floc-forming chemicals.

60301.170. Conventional treatment

"Conventional treatment" means a treatment chain that utilizes a sedimentation unit process between the coagulation and filtration processes and produces an effluent that meets the definition for disinfected tertiary recycled water.

60301.200. Direct beneficial use

"Direct beneficial use" means the use of recycled water that has been transported from the point of treatment or production to the point of use without an intervening discharge to waters of the State.

60301.220. Disinfected secondary-2.2 recycled water

"Disinfected secondary-2.2 recycled water" means recycled water that has been oxidized and disinfected so that the median concentration of total coliform bacteria in the disinfected effluent does not exceed a most probable number (MPN) of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed, and the number of total coliform bacteria does not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30 day period.

60301.225. Disinfected secondary-23 recycled water

"Disinfected secondary-23 recycled water" means recycled water that has been oxidized and disinfected so that the median concentration of total coliform bacteria in the disinfected effluent does not exceed a most probable number (MPN) of 23 per 100

milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed, and the number of total coliform bacteria does not exceed an MPN of 240 per 100 milliliters in more than one sample in any 30 day period.

60301.230. Disinfected tertiary recycled water

"Disinfected tertiary recycled water" means a filtered and subsequently disinfected wastewater that meets the following criteria:

(a) The filtered wastewater has been disinfected by either:

(1) A chlorine disinfection process following filtration that provides a CT (the product of total chlorine residual and modal contact time measured at the same point) value of not less than 450 milligram-minutes per liter at all times with a modal contact time of at least 90 minutes, based on peak dry weather design flow; or

(2) A disinfection process that, when combined with the filtration process, has been demonstrated to inactivate and/or remove 99.999 percent of the plaque-forming units of F-specific bacteriophage MS2, or polio virus in the wastewater. A virus that is at least as resistant to disinfection as polio virus may be used for purposes of the demonstration.

(b) The median concentration of total coliform bacteria measured in the disinfected effluent does not exceed an MPN of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed and the number of total coliform bacteria does not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30 day period. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.

60301.240. Drift

"Drift" means the water that escapes to the atmosphere as water droplets from a cooling system.

60301.245. Drift eliminator

"Drift eliminator" means a feature of a cooling system that reduces to a minimum the generation of drift from the system.

60301.250. Dual plumbed system

"Dual plumbed system" or "dual plumbed" means a system that utilizes separate piping systems for recycled water and potable water within a facility and where the recycled water is used for either of the following purposes:

(a) To serve plumbing outlets (excluding fire suppression systems) within a building or

(b) Outdoor landscape irrigation at individual residences.

60301.300. F-Specific bacteriophage MS-2

"F-specific bacteriophage MS-2" means a strain of a specific type of virus that infects coliform bacteria that is traceable to the American Type Culture Collection (ATCC 15597B1) and is grown on lawns of E. coli (ATCC 15597).

60301.310. Facility

"Facility" means any type of building or structure, or a defined area of specific use that receives water for domestic use from a public water system as defined in section 116275 of the Health and Safety Code.

60301.320. Filtered wastewater

"Filtered wastewater" means an oxidized wastewater that meets the criteria in subsection (a) or (b):

(a) Has been coagulated and passed through natural undisturbed soils or a bed of filter media pursuant to the following:

(1) At a rate that does not exceed 5 gallons per minute per square foot of surface area in mono, dual or mixed media gravity, upflow or pressure filtration systems, or does not exceed 2 gallons per minute per square foot of surface area in traveling bridge automatic backwash filters; and

(2) So that the turbidity of the filtered wastewater does not exceed any of the following:

(A) An average of 2 NTU within a 24-hour period;

(B) 5 NTU more than 5 percent of the time within a 24-hour period; and

(C) 10 NTU at any time.

(b) Has been passed through a microfiltration, ultrafiltration, nanofiltration, or reverse osmosis membrane so that the turbidity of the filtered wastewater does not exceed any of the following:

(1) 0.2 NTU more than 5 percent of the time within a 24-hour period; and

(2) 0.5 NTU at any time.

60301.330. Food crops

"Food crops" means any crops intended for human consumption.

60301.400. Hose bibb

"Hose bibb" means a faucet or similar device to which a common garden hose can be readily attached.

60301.550. Landscape impoundment

"Landscape impoundment" means an impoundment in which recycled water is stored or used for aesthetic enjoyment or landscape irrigation, or which otherwise serves a similar function and is not intended to include public contact.

60301.600. Modal contact time

"Modal contact time" means the amount of time elapsed between the time that a tracer, such as salt or dye, is injected into the influent at the entrance to a chamber and the time that the highest concentration of the tracer is observed in the effluent from the chamber.

60301.620. Nonrestricted recreational impoundment

"Nonrestricted recreational impoundment" means an impoundment of recycled water, in which no limitations are imposed on body-contact water recreational activities.

60301.630. NTU

"NTU" (Nephelometric turbidity unit) means a measurement of turbidity as determined by the ratio of the intensity of light scattered by the sample to the intensity of incident light as measured by method 2130 B. in Standard Methods for the Examination of Water and Wastewater, 20th ed.; Eaton, A. D., Clesceri, L. S., and Greenberg, A. E., Eds; American Public Health Association: Washington, DC, 1995; p. 2-8.

60301.650. Oxidized wastewater.

"Oxidized wastewater" means wastewater in which the organic matter has been stabilized, is nonputrescible, and contains dissolved oxygen.

60301.660. Peak dry weather design flow

"Peak Dry Weather Design Flow" means the arithmetic mean of the maximum peak flow rates sustained over some period of time (for example three hours) during the maximum 24-hour dry weather period. Dry weather period is defined as periods of little or no rainfall.

60301.700. Recycled wateragency.

"Recycled water agency" means the public water system, or a publicly or privately owned or operated recycled water system, that delivers or proposes to deliver recycled water to a facility.

60301.710. Recycling plant

"Recycling plant" means an arrangement of devices, structures, equipment, processes and controls which produce recycled water.

60301.740. Regulatory Agency

"Regulatory agency" means the California Regional Water Quality Control Board(s) that have jurisdiction over the recycling plant and use areas.

60301.750. Restricted access golf course

"Restricted access golf course" means a golf course where public access is controlled so that areas irrigated with recycled water cannot be used as if they were part of a park, playground, or school yard and where irrigation is conducted only in areas and during periods when the golf course is not being used by golfers.

60301.760. Restricted recreational impoundment

"Restricted recreational impoundment" means an impoundment of recycled water in which recreation is limited to fishing, boating, and other non-body-contact water recreational activities.

60301.800. Spray irrigation

"Spray irrigation" means the application of recycled water to crops to maintain vegetation or support growth of vegetation by applying it from sprinklers.

Section 60301.830. Standby Unit Process.

"Standby unit process" means an alternate unit process or an equivalent alternative process which is maintained in operable condition and which is capable of providing comparable treatment of the actual flow through the unit for which it is a substitute.

60301.900. Undisinfected secondary recycled water.

"Undisinfected secondary recycled water" means oxidized wastewater.

60301.920. Use area

"Use area" means an area of recycled water use with defined boundaries. A use area may contain one or more facilities.

ARTICLE 2. SOURCES OF RECYCLED WATER.

60302. Source specifications.

The requirements in this chapter shall only apply to recycled water from sources that contain domestic waste, in whole or in part.

ARTICLE 3. USES OF RECYCLED WATER.

60303. Exceptions

The requirements set forth in this chapter shall not apply to the use of recycled water onsite at a water recycling plant, or wastewater treatment plant, provided access by the public to the area of onsite recycled water use is restricted.

60304. Use of recycled water for irrigation

(a) Recycled water used for the surface irrigation of the following shall be a disinfected tertiary recycled water, except that for filtration pursuant to Section 60301.320(a) coagulation need not be used as part of the treatment process provided that the filter effluent turbidity does not exceed 2 NTU, the turbidity of the influent to the filters is continuously measured, the influent turbidity does not exceed 5 NTU for more than 15 minutes and never exceeds 10 NTU, and that there is the capability to automatically activate chemical addition or divert the wastewater should the filter influent turbidity exceed 5 NTU for more than 15 minutes:

(1) Food crops, including all edible root crops, where the recycled water comes into contact with the edible portion of the crop,

(2) Parks and playgrounds,

(3) School yards,

(4) Residential landscaping,

(5) Unrestricted access golf courses, and

(6) Any other irrigation use not specified in this section and not prohibited by other sections of the California Code of Regulations.

(b) Recycled water used for the surface irrigation of food crops where the edible portion is produced above ground and not contacted by the recycled water shall be at least disinfected secondary-2.2 recycled water.

(c) Recycled water used for the surface irrigation of the following shall be at least disinfected secondary-23 recycled water:

(1) Cemeteries,

(2) Freeway landscaping,

(3) Restricted access golf courses,

(4) Ornamental nursery stock and sod farms where access by the general public is not restricted,

(5) Pasture for animals producing milk for human consumption, and

(6) Any nonedible vegetation where access is controlled so that the irrigated area cannot be used as if it were part of a park, playground or school yard

(d) Recycled wastewater used for the surface irrigation of the following shall be at least undisinfected secondary recycled water:

(1) Orchards where the recycled water does not come into contact with the edible portion of the crop,

(2) Vineyards where the recycled water does not come into contact with the edible portion of the crop,

(3) Non food-bearing trees (Christmas tree farms are included in this category provided no irrigation with recycled water occurs for a period of 14 days prior to harvesting or allowing access by the general public),

(4) Fodder and fiber crops and pasture for animals not producing milk for human consumption,

(5) Seed crops not eaten by humans,

(6) Food crops that must undergo commercial pathogen-destroying processing before being consumed by humans, and

(7) Ornamental nursery stock and sod farms provided no irrigation with recycled water occurs for a period of 14 days prior to harvesting, retail sale, or allowing access by the general public.

(e) No recycled water used for irrigation, or soil that has been irrigated with recycled water, shall come into contact with the edible portion of food crops eaten raw by humans unless the recycled water complies with subsection (a).

60305. Use of recycled water for impoundments.

(a) Except as provided in subsection (b), recycled water used as a source of water supply for nonrestricted recreational impoundments shall be disinfected tertiary recycled water that has been subjected to conventional treatment.

(b) Disinfected tertiary recycled water that has not received conventional treatment may be used for nonrestricted recreational impoundments provided the recycled water is monitored for the presence of pathogenic organisms in accordance with the following:

(1) During the first 12 months of operation and use the recycled water shall be sampled and analyzed monthly for *Giardia*, enteric viruses, and *Cryptosporidium*. Following the first 12 months of use, the recycled water shall be sampled and analyzed quarterly for *Giardia*, enteric viruses, and *Cryptosporidium*. The ongoing monitoring may be discontinued after the first two years of operation with the approval of the department. This monitoring shall be in addition to the monitoring set forth in section 60321.

(2) The samples shall be taken at a point following disinfection and prior to the point where the recycled water enters the use impoundment. The samples shall be analyzed by an approved laboratory and the results submitted quarterly to the regulatory agency.

(c) The total coliform bacteria concentrations in recycled water used for nonrestricted recreational impoundments, measured at a point between the disinfection process and the point of entry to the use impoundment, shall comply with the criteria specified in section 60301.230 (b) for disinfected tertiary recycled water.

(d) Recycled water used as a source of supply for restricted recreational impoundments and for any publicly accessible impoundments at fish hatcheries shall be at least disinfected secondary-2.2 recycled water.

(e) Recycled water used as a source of supply for landscape impoundments that do not utilize decorative fountains shall be at least disinfected secondary-23 recycled water.

60306. Use of recycled water for cooling

(a) Recycled water used for industrial or commercial cooling or air conditioning that involves the use of a cooling tower, evaporative condenser, spraying or any mechanism that creates a mist shall be a disinfected tertiary recycled water.

(b) Use of recycled water for industrial or commercial cooling or air conditioning that does not involve the use of a cooling tower, evaporative condenser, spraying, or any mechanism that creates a mist shall be at least disinfected secondary-23 recycled water.

(c) Whenever a cooling system, using recycled water in conjunction with an air conditioning facility, utilizes a cooling tower or otherwise creates a mist that could come into contact with employees or members of the public, the cooling system shall comply with the following:

(1) A drift eliminator shall be used whenever the cooling system is in operation.

(2) A chlorine, or other, biocide shall be used to treat the cooling system recirculating water to minimize the growth of *Legionella* and other micro-organisms.

60307. Use of recycled water for other purposes

(a) Recycled water used for the following shall be disinfected tertiary recycled water, except that for filtration being provided pursuant to Section 60301.320(a) coagulation need not be used as part of the treatment process provided that the filter effluent turbidity does not exceed 2 NTU, the turbidity of the influent to the filters is continuously measured, the influent turbidity does not exceed 5 NTU for more than 15 minutes and never exceeds 10 NTU, and that there is the capability to automatically activate chemical addition or divert the wastewater should the filter influent turbidity exceed 5 NTU for more than 15 minutes:

(1) Flushing toilets and urinals,

(2) Priming drain traps,

(3) Industrial process water that may come into contact with workers,

(4) Structural fire fighting,

(5) Decorative fountains,

(6) Commercial laundries,

(7) Consolidation of backfill around potable water pipelines,

(8) Artificial snow making for commercial outdoor use, and

(9) Commercial car washes, including hand washes if the recycled water is not heated, where the general public is excluded from the washing process.

(b) Recycled water used for the following uses shall be at least disinfected secondary-23 recycled water:

(1) Industrial boiler feed,

(2) Nonstructural fire fighting,

(3) Backfill consolidation around nonpotable piping,

(4) Soil compaction,

(5) Mixing concrete,

(6) Dust control on roads and streets,

(7) Cleaning roads, sidewalks and outdoor work areas and

(8) Industrial process water that will not come into contact with workers.

(c) Recycled water used for flushing sanitary sewers shall be at least undisinfected secondary recycled water.

ARTICLE 4. USE AREA REQUIREMENTS.

60310. Use area requirements

(a) No irrigation with disinfected tertiary recycled water shall take place within 50 feet of any domestic water supply well unless all of the following conditions have been met:

(1) A geological investigation demonstrates that an aquitard exists at the well between the uppermost aquifer being drawn from and the ground surface.

(2) The well contains an annular seal that extends from the surface into the aquitard.

(3) The well is housed to prevent any recycled water spray from coming into contact with the wellhead facilities.

(4) The ground surface immediately around the wellhead is contoured to allow surface water to drain away from the well.

(5) The owner of the well approves of the elimination of the buffer zone requirement.

(b) No impoundment of disinfected tertiary recycled water shall occur within 100 feet of any domestic water supply well.

(c) No irrigation with, or impoundment of, disinfected secondary-2.2 or disinfected secondary-23 recycled water shall take place within 100 feet of any domestic water supply well.

(d) No irrigation with, or impoundment of, undisinfected secondary recycled water shall take place within 150 feet of any domestic water supply well.

(e) Any use of recycled water shall comply with the following:

(1) Any irrigation runoff shall be confined to the recycled water use area, unless the runoff does not pose a public health threat and is authorized by the regulatory agency.

(2) Spray, mist, or runoff shall not enter dwellings, designated outdoor eating areas, or food handling facilities.

(3) Drinking water fountains shall be protected against contact with recycled water spray, mist, or runoff.

(f) No spray irrigation of any recycled water, other than disinfected tertiary recycled water, shall take place within 100 feet of a residence or a place where public exposure could be similar to that of a park, playground, or school yard.

(g) All use areas where recycled water is used that are accessible to the public shall be posted with signs that are visible to the public, in a size no less than 4 inches high by 8 inches wide, that include the following wording : "RECYCLED WATER - DO NOT DRINK". Each sign shall display an international symbol similar to that shown in figure 60310-A. The Department may accept alternative signage and wording, or an educational program, provided the applicant demonstrates to the Department that the alternative approach will assure an equivalent degree of public notification.

(h) Except as allowed under section 7604 of title 17, California Code of Regulations, no physical connection shall be made or allowed to exist between any recycled water system and any separate system conveying potable water.

(i) The portions of the recycled water piping system that are in areas subject to access by the general public shall not include any hose bibbs. Only quick couplers that differ from those used on the potable water system shall be used on the portions of the recycled water piping system in areas subject to public access.

Water Recycling Criteria

FIGURE 60310-A

ARTICLE 5. DUAL PLUMBED RECYCLED WATER SYSTEMS.

60313. General requirements.

(a) No person other than a recycled water agency shall deliver recycled water to a dual-plumbed facility.

(b) No recycled water agency shall deliver recycled water for any internal use to any individually-owned residential units including free-standing structures, multiplexes, or condominiums.

(c) No recycled water agency shall deliver recycled water for internal use except for fire suppression systems, to any facility that produces or processes food products or beverages. For purposes of this Subsection, cafeterias or snack bars in a facility whose primary function does not involve the production or processing of foods or beverages are not considered facilities that produce or process foods or beverages.

(d) No recycled water agency shall deliver recycled water to a facility using a dual plumbed system unless the report required pursuant to section 13522.5 of the Water Code, and which meets the requirements set forth in section 60314, has been submitted to, and approved by, the regulatory agency.

60314. Report submittal

(a) For dual-plumbed recycled water systems, the report submitted pursuant to section 13522.5 of the Water Code shall contain the following information in addition to the information required by section 60323:

(1) A detailed description of the intended use area identifying the following:

(A) The number, location, and type of facilities within the use area proposing to use dual plumbed systems,

(B) The average number of persons estimated to be served by each facility on a daily basis,

(C) The specific boundaries of the proposed use area including a map showing the location of each facility to be served,

(D) The person or persons responsible for operation of the dual plumbed system at each facility, and

(E) The specific use to be made of the recycled water at each facility.

(2) Plans and specifications describing the following:

(A) Proposed piping system to be used,

(B) Pipe locations of both the recycled and potable systems,

(C) Type and location of the outlets and plumbing fixtures that will be accessible to the public, and

(D) The methods and devices to be used to prevent backflow of recycled water into the public water system.

(3) The methods to be used by the recycled water agency to assure that the installation and operation of the dual plumbed system will not result in cross connections between the recycled water piping system and the potable water piping system. This shall include a description of pressure, dye or other test methods to be used to test the system every four years.

(b) A master plan report that covers more than one facility or use site may be submitted provided the report includes the information required by this section. Plans and specifications for individual facilities covered by the report may be submitted at any time prior to the delivery of recycled water to the facility.

60315. Design requirements

The public water supply shall not be used as a backup or supplemental source of water for a dual-plumbed recycled water system unless the connection between the two systems is protected by an air gap separation which complies with the requirements of sections 7602 (a) and 7603 (a) of title 17, California Code of Regulations, and the approval of the public water system has been obtained.

60316. Operation requirements

(a) Prior to the initial operation of the dual-plumbed recycled water system and annually thereafter, the Recycled Water Agency shall ensure that the dual plumbed system within each facility and use area is inspected for possible cross connections with the potable water system. The recycled water system shall also be tested for possible cross connections at least once every four years. The testing shall be conducted in accordance with the method described in the report submitted pursuant to section 60314. The inspections and the testing shall be performed by a cross connection

control specialist certified by the California-Nevada section of the American Water Works Association or an organization with equivalent certification requirements. A written report documenting the result of the inspection or testing for the prior year shall be submitted to the department within 30 days following completion of the inspection or testing.

(b) The recycled water agency shall notify the department of any incidence of backflow from the dual-plumbed recycled water system into the potable water system within 24 hours of the discovery of the incident.

(c) Any backflow prevention device installed to protect the public water system serving the dual-plumbed recycled water system shall be inspected and maintained in accordance with section 7605 of Title 17, California Code of Regulations.

ARTICLE 5.1. GROUNDWATER RECHARGE

60320. Groundwater recharge

(a) Reclaimed water used for groundwater recharge of domestic water supply aquifers by surface spreading shall be at all times of a quality that fully protects public health. The State Department of Health Services' recommendations to the Regional Water Quality Control Boards for proposed groundwater recharge projects and for expansion of existing projects will be made on an individual case basis where the use of reclaimed water involves a potential risk to public health.

(b) The State Department of Health Services' recommendations will be based on all relevant aspects of each project, including the following factors: treatment provided; effluent quality and quantity; spreading area operations; soil characteristics; hydrogeology; residence time; and distance to withdrawal.

(c) The State Department of Health Services will hold a public hearing prior to making the final determination regarding the public health aspects of each groundwater recharge project. Final recommendations will be submitted to the Regional Water Quality Control Board in an expeditious manner.

ARTICLE 5.5. OTHER METHODS OF TREATMENT

60320.5. Other methods of treatment

Methods of treatment other than those included in this chapter and their reliability features may be accepted if the applicant demonstrates to the satisfaction of the State Department of Health that the methods of treatment and reliability features will assure an equal degree of treatment and reliability.

ARTICLE 6. SAMPLING AND ANALYSIS

60321. Sampling and analysis

(a) Disinfected secondary-23, disinfected secondary-2.2, and disinfected tertiary recycled water shall be sampled at least once daily for total coliform bacteria. The samples shall be taken from the disinfected effluent and shall be analyzed by an approved laboratory.

(b) Disinfected tertiary recycled water shall be continuously sampled for turbidity using a continuous turbidity meter and recorder following filtration. Compliance with the daily average operating filter effluent turbidity shall be determined by averaging the levels of recorded turbidity taken at four-hour intervals over a 24-hour period. Compliance with turbidity pursuant to section 60301.320 (a)(2)(B) and (b)(1) shall be determined using the levels of recorded turbidity taken at intervals of no more than 1.2-hours over a 24-hour period. Should the continuous turbidity meter and recorder fail, grab sampling at a minimum frequency of 1.2-hours may be substituted for a period of up to 24-hours. The results of the daily average turbidity determinations shall be reported quarterly to the regulatory agency.

(c) The producer or supplier of the recycled water shall conduct the sampling required in subsections (a) and (b).

ARTICLE 7. ENGINEERING REPORT AND OPERATIONAL REQUIREMENTS

60323. Engineering report

(a) No person shall produce or supply reclaimed water for direct reuse from a proposed water reclamation plant unless he files an engineering report.

(b) The report shall be prepared by a properly qualified engineer registered in California and experienced in the field of wastewater treatment, and shall contain a description of the design of the proposed reclamation system. The report shall clearly indicate the means for compliance with these regulations and any other features specified by the regulatory agency.

(c) The report shall contain a contingency plan which will assure that no untreated or inadequately treated wastewater will be delivered to the use area.

60325. Personnel

(a) Each reclamation plant shall be provided with a sufficient number of qualified personnel to operate the facility effectively so as to achieve the required level of treatment at all times.

(b) Qualified personnel shall be those meeting requirements established pursuant to Chapter 9 (commencing with Section 13625) of the Water Code.

60327. Maintenance

A preventive maintenance program shall be provided at each reclamation plant to ensure that all equipment is kept in a reliable operating condition.

60329. Operating records and reports

(a) Operating records shall be maintained at the reclamation plant or a central depository within the operating agency. These shall include: all analyses specified in the reclamation criteria; records of operational problems, plant and equipment breakdowns, and diversions to emergency storage or disposal; all corrective or preventive action taken.

(b) Process or equipment failures triggering an alarm shall be recorded and maintained as a separate record file. The recorded information shall include the time and cause of failure and corrective action taken.

(c) A monthly summary of operating records as specified under (a) of this section shall be filed monthly with the regulatory agency.

(d) Any discharge of untreated or partially treated wastewater to the use area, and the cessation of same, shall be reported immediately by telephone to the regulatory agency, the State Department of Health, and the local health officer.

60331. Bypass

There shall be no bypassing of untreated or partially treated wastewater from the reclamation plant or any intermediate unit processes to the point of use.

ARTICLE 8. GENERAL REQUIREMENTS OF DESIGN

60333. Flexibility of design

The design of process piping, equipment arrangement, and unit structures in the reclamation plant must allow for efficiency and convenience in operation and maintenance and provide flexibility of operation to permit the highest possible degree of treatment to be obtained under varying circumstances.

60335. Alarms

(a) Alarm devices required for various unit processes as specified in other sections of these regulations shall be installed to provide warning of:

(1) Loss of power from the normal power supply.

(2) Failure of a biological treatment process.

(3) Failure of a disinfection process.

(4) Failure of a coagulation process.

(5) Failure of a filtration process.

(6) Any other specific process failure for which warning is required by the regulatory agency.

(b) All required alarm devices shall be independent of the normal power supply of the reclamation plant.

(c) The person to be warned shall be the plant operator, superintendent, or any other responsible person designated by the management of the reclamation plant and capable of taking prompt corrective action.

(d) Individual alarm devices may be connected to a master alarm to sound at a location where it can be conveniently observed by the attendant. In case the reclamation plant is

not attended full time, the alarm(s) shall be connected to sound at a police station, fire station or other full time service unit with which arrangements have been made to alert the person in charge at times that the reclamation plant is unattended.

60337. Power supply

The power supply shall be provided with one of the following reliability features:

(a) Alarm and standby power source.

(b) Alarm and automatically actuated short-term retention or disposal provisions as specified in Section 60341.

(c) Automatically actuated long-term storage or disposal provisions as specified in Section 60341.

ARTICLE 9. RELIABILITY REQUIREMENTS FOR PRIMARY EFFLUENT

60339. Primary treatment

Reclamation plants producing reclaimed water exclusively for uses for which primary effluent is permitted shall be provided with one of the following reliability features:

(a) Multiple primary treatment units capable of producing primary effluent with one unit not in operation.

(b) Long-term storage or disposal provisions as specified in Section 60341.

Note: Use of primary effluent for recycled water is no longer allowed. [repeal of Section 60309, effective December 2000]

ARTICLE 10. RELIABILITY REQUIREMENTS FOR FULL TREATMENT

60341. Emergency storage or disposal

(a) Where short-term retention or disposal provisions are used as a reliability feature, these shall consist of facilities reserved for the purpose of storing or disposing of untreated or partially treated wastewater for at least a 24-hour period. The facilities shall include all the necessary diversion devices, provisions for odor control, conduits, and pumping and pump back equipment. All of the equipment other than the pump back

equipment shall be either independent of the normal power supply or provided with a standby power source.

(b) Where long-term storage or disposal provisions are used as a reliability feature, these shall consist of ponds, reservoirs, percolation areas, downstream sewers leading to other treatment or disposal facilities or any other facilities reserved for the purpose of emergency storage or disposal of untreated or partially treated wastewater. These facilities shall be of sufficient capacity to provide disposal or storage of wastewater for at least 20 days, and shall include all the necessary diversion works, provisions for odor and nuisance control, conduits, and pumping and pump back equipment. All of the equipment other than the pump back equipment shall be either independent of the normal power supply or provided with a standby power source.

(c) Diversion to a less demanding reuse is an acceptable alternative to emergency disposal of partially treated wastewater provided that the quality of the partially treated wastewater is suitable for the less demanding reuse.

(d) Subject to prior approval by the regulatory agency, diversion to a discharge point which requires lesser quality of wastewater is an acceptable alternative to emergency disposal of partially treated wastewater.

(e) Automatically actuated short-term retention or disposal provisions and automatically actuated long-term storage or disposal provisions shall include, in addition to provisions of (a), (b), (c), or (d) of this section, all the necessary sensors, instruments, valves and other devices to enable fully automatic diversion of untreated or partially treated wastewater to approved emergency storage or disposal in the event of failure of a treatment process and a manual reset to prevent automatic restart until the failure is corrected.

60343. Primary treatment

All primary treatment unit processes shall be provided with one of the following reliability features:

(a) Multiple primary treatment units capable of producing primary effluent with one unit not in operation.

(b) Standby primary treatment unit process.

(c) Long-term storage or disposal provisions.

60345. Biological treatment

All biological treatment unit processes shall be provided with one of the following reliability features:

(a) Alarm and multiple biological treatment units capable of producing oxidized wastewater with one unit not in operation.

(b) Alarm, short-term retention or disposal provisions, and standby replacement equipment.

(c) Alarm and long-term storage or disposal provisions.

(d) Automatically actuated long-term storage or disposal provisions.

60347. Secondary sedimentation

All secondary sedimentation unit processes shall be provided with one of the following reliability features:

(a) Multiple sedimentation units capable of treating the entire flow with one unit not in operation.

(b) Standby sedimentation unit process.

(c) Long-term storage or disposal provisions.

60349. Coagulation

(a) All coagulation unit processes shall be provided with the following mandatory features for uninterrupted coagulant feed:

(1) Standby feeders,

(2) Adequate chemical stowage and conveyance facilities,

(3) Adequate reserve chemical supply, and

(4) Automatic dosage control.

(b) All coagulation unit processes shall be provided with one of the following reliability features:

(1) Alarm and multiple coagulation units capable of treating the entire flow with one unit not in operation;

(2) Alarm, short-term retention or disposal provisions, and standby replacement equipment;

(3) Alarm and long-term storage or disposal provisions;

(4) Automatically actuated long-term storage or disposal provisions, or

(5) Alarm and standby coagulation process.

60351. Filtration

All filtration unit processes shall be provided with one of the following reliability features:

(a) Alarm and multiple filter units capable of treating the entire flow with one unit not in operation.

(b) Alarm, short-term retention or disposal provisions and standby replacement equipment.

(c) Alarm and long-term storage or disposal provisions.

(d) Automatically actuated long-term storage or disposal provisions.

(e) Alarm and standby filtration unit process.

Section 60353. Disinfection

(a) All disinfection unit processes where chlorine is used as the disinfectant shall be provided with the following features for uninterrupted chlorine feed:

(1) Standby chlorine supply,

(2) Manifold systems to connect chlorine cylinders,

(3) Chlorine scales, and

(4) Automatic devices for switching to full chlorine cylinders.

Automatic residual control of chlorine dosage, automatic measuring and recording of chlorine residual, and hydraulic performance studies may also be required.

(b) All disinfection unit processes where chlorine is used as the disinfectant shall be provided with one of the following reliability features:

(1) Alarm and standby chlorinator;

(2) Alarm, short-term retention or disposal provisions, and standby replacement equipment;

(3) Alarm and long-term storage or disposal provisions;

(4) Automatically actuated long-term storage or disposal provisions; or

(5) Alarm and multiple point chlorination, each with independent power source, separate chlorinator, and separate chlorine supply.

60355. Other alternatives to reliability requirements

Other alternatives to reliability requirements set forth in Articles 8 to 10 may be accepted if the applicant demonstrates to the satisfaction of the State Department of Health that the proposed alternative will assure an equal degree of reliability.

Title 17 Code of Regulations

DIVISION 1. STATE DEPARTMENT OF HEALTH SERVICES
CHAPTER 5. SANITATION (ENVIRONMENTAL)
GROUP 4. DRINKING WATER SUPPLIES
ARTICLE 1. GENERAL

7583. Definitions

In addition to the definitions in Section 4010.1 of the Health and Safety Code, the following terms are defined for the purpose of this Chapter

(a) "Approved Water Supply" is a water supply whose potability is regulated by a State of local health agency.

(b) "Auxiliary Water Supply" is any water supply other than that received from a public water system.

(c) "Air-gap Separation (AG)" is a physical break between the supply line and a receiving vessel.

(d) "AWWA Standard" is an official standard developed and approved by the American Water Works Association (AWWA).

(e) "Cross-Connection" is an unprotected actual or potential connection between a potable water system used to supply water for drinking purposes and any source or system containing unapproved water or a substance that is not or cannot be approved as safe, wholesome, and potable. By-pass arrangements, jumper connections, removable sections, swivel or changeover devices, or other devices through which backflow could occur, shall be considered to be cross-connections.

(f) "Double Check Valve Assembly (DC)" is an assembly of at least two independently acting check valves including tightly closing shut-off valves on each side of the check valve assembly and test cocks available for testing the watertightness of each check valve.

(g) "Health Agency" means the California Department of Health Services, or the local health officer with respect to a small water system.

(h) "Local Health Agency" means the county or city health authority.

(i) "Reclaimed Water" is a wastewater which as a result of treatment is suitable for uses other than potable use.

(j) "Reduced Pressure Principle Backflow Prevention Device (RP)" is a backflow preventer incorporating not less than two check valves, an automatically operated differential relief valve located between the two check valves, a tightly closing shut-off valve on each side of the check valve assembly, and equipped with necessary test cocks for testing.

(k) "User Connection" is the point of connection of a user's piping to the water supplier's facilities.

(l) "Water Supplier" is the person who owns or operates the public water system.

(m) "Water User" is any person obtaining water from a public water supply.

7584. Responsibility and scope of program

The water supplier shall protect the public water supply from contamination by implementation of a cross-connection control program. The program, or any portion thereof, may be implemented directly by the water supplier or by means of a contract with the local health agency, or with another agency approved by the health agency. The water supplier's cross-connection control program shall for the purpose of addressing the requirements of Sections 7585 through 7605 include, but not be limited to, the following elements:

(a) The adoption of operating rules or ordinances to implement the cross-connection program.

(b) The conducting of surveys to identify water user premises where cross-connections are likely to occur,

(c) The provisions of backflow protection by the water user at the user's connection or within the user's premises or both,

(d) The provision of at least one person trained in cross-connection control to carry out the cross-connection program,

(e) The establishment of a procedure or system for testing backflow preventers, and

(f) The maintenance of records of locations, tests, and repairs of backflow preventers.

7585. Evaluation of hazard

The water supplier shall evaluate the degree of potential health hazard to the public water supply which may be created as a result of conditions existing on a user's premises. The water supplier, however, shall not be responsible for abatement of cross-connections which may exist within a user's premises. As a minimum, the evaluation should consider: the existence of cross-connections, the nature of materials handled on the property, the probability of a backflow occurring, the degree of piping system complexity and the potential for piping system modification. Special consideration shall be given to the premises of the following types of water users:

(a) Premises where substances harmful to health are handled under pressure in a manner which could permit their entry into the public water system. This includes chemical or biological process waters and water from public water supplies which have deteriorated in sanitary quality.

(b) Premises having an auxiliary water supply, unless the auxiliary supply is accepted as an additional source by the water supplier and is approved by the health agency.

(c) Premises that have internal cross-connections that are not abated to the satisfaction of the water supplier or the health agency.

(d) Premises where cross-connections are likely to occur and entry is restricted so that cross-connection inspections cannot be made with sufficient frequency or at sufficiently short notice to assure that cross-connections do not exist.

(e) Premises having a repeated history of cross-connections being established or re-established.

7586. User supervisor

The health agency and water supplier may, at their discretion, require an industrial water user to designate a user supervisor when the water user's premises has a multipiping system that convey various types of fluids, some of which may be hazardous and where changes in the piping system are frequently made. The user supervisor shall be responsible for the avoidance of cross-connections during the installation, operation and maintenance of the water user's pipelines and equipment.

ARTICLE 2. PROTECTION OF WATER SYSTEM

7601. Approval of backflow preventers

Backflow preventers required by this Chapter shall have passed laboratory and field evaluation tests performed by a recognized testing organization which has demonstrated their competency to perform such tests to the Department.

7602. Construction of backflow preventers

(a) Air-gap Separation. An Air-gap separation (AG) shall be at least double the diameter of the supply pipe, measured vertically from the flood rim of the receiving vessel to the supply pipe; however, in no case shall this separation be less than one inch.

(b) Double Check Valve Assembly. A required double check valve assembly (DC) shall, as a minimum, conform to the AWWA Standard C506-78 (R83) adopted on January 28, 1978 for Double Check Valve Type Backflow Preventive Devices which is herein incorporated by reference.

(c) Reduced Pressure Principle Backflow Prevention Device. A required reduced pressure principle backflow prevention device (RP) shall, as a minimum, conform to the AWWA Standard C506-78 (R83) adopted on January 28, 1978 for Reduced Pressure Principle Type Backflow Prevention Devices which is herein incorporated by reference.

7603. Location of backflow preventers

(a) Air-gap Separation. An air-gap separation shall be located as close as practical to the user's connection and all piping between the user's connection and the receiving tank shall be entirely visible unless otherwise approved in writing by the water supplier and the health agency.

(b) Double Check Valve Assembly. A double check valve assembly shall be located as close as practical to the user's connection and shall be installed above grade, if possible, and in a manner where it is readily accessible for testing and maintenance.

(c) Reduced Pressure Principle Backflow Prevention Device. A reduced pressure principle backflow prevention device shall be located as close as practical to the user's connection and shall be installed a minimum of twelve inches (12") above grade and not more than thirty-six inches (36") above grade measured from the bottom of the device and with a minimum of twelve inches (12") side clearance.

7604. Type of protection required.

The type of protection that shall be provided to prevent backflow into the public water supply shall be commensurate with the degree of hazard that exists on the consumer's premises. The type of protective device that may be required (listed in an increasing level of protection) includes: Double check Valve Assembly--(DC), Reduced Pressure Principle Backflow Prevention Device--(RP) and an Air gap Separation--(AG). The water user may choose a higher level of protection than required by the water supplier. The minimum types of backflow protection required to protect the public water supply, at the water user's connection to premises with various degrees of hazard, are given in Table 1. Situations not covered in Table 1 shall be evaluated on a case-by-case basis and the appropriate backflow protection shall be determined by the water supplier or health agency.

TABLE 1
TYPE OF BACKFLOW PROTECTION REQUIRED

Degree of Hazard	Minimum Type of Backflow Prevention
(a) Sewage and Hazardous Substances	
(1) Premises where there are waste water pumping and/or treatment plants and there is no interconnection with the potable water system. This does not include a single-family residence that has a sewage lift pump. A RP be provided in lieu of an AG if approved by the health agency and water supplier.	AG
(2) Premises where hazardous substances are handled in any manner in which the substances may enter the potable water system. This does not include a single-family residence that has a sewage lift pump. A RP may be provided in lieu of an AG if approved by the health agency and water supplier.	AG
(3) Premises where there are irrigation systems into which fertilizers, herbicides, or pesticides are, or can be, injected.	RP
(b) Auxiliary Water Supplies	
(1) Premises where there is an unapproved auxiliary water supply which is interconnected with the public water system. A RP or DC may be provided in lieu of an AG if approved by the health agency and water supplier.	AG
(2) Premises where there is an unapproved auxiliary RP water supply and there are no interconnections with the public water system. A DC may be provided in lieu of a RP if approved by the health agency and water supplier.	RP

(c) Recycled water

(1) Premises where the public water system is used to supplement the recycled water supply.	AG
(2) Premises where recycled water is used, other than as allowed in paragraph (3), and there is no interconnection with the potable water system.	RP
(3) Residences using recycled water for landscape irrigation as part of an approved dual plumbed use area established pursuant to sections 60313 through 60316 unless the recycled water supplier obtains approval of the local public water supplier, or the Department if the water supplier is also the supplier of the recycled water, to utilize an alternative backflow protection plan that includes an annual inspection and annual shutdown test of the recycled water and potable water systems pursuant to subsection 60316(a).	DC

(d) Fire Protection Systems

(1) Premises where the fire system is directly supplied from the public water system and there is an unapproved auxiliary water supply on or to the premises (not interconnected).	DC
(2) Premises where the fire system is supplied from the public water system and interconnected with an unapproved auxiliary water supply. A RP may be provided in lieu of an AG if approved by the health agency and water supplier.	AG
(3) Premises where the fire system is supplied from the public water system and where either elevated storage tanks or fire pumps which take suction from private reservoirs or tanks are used.	DC
(4) Premises where the fire system is supplied from the public water system and where recycled water is used in a separate piping system within the same building.	DC

(e) Dockside Watering Points and Marine Facilities

(1) Pier hydrants for supplying water to vessels for any purpose. RP

(2) Premises where there are marine facilities. RP

(f) Premises where entry is restricted so that inspections for cross-connections cannot be made with sufficient frequency or at sufficiently short notice to assure that do not exist. RP

(g) Premises where there is a repeated history of cross-connections being established or re-established. RP

Section 7605. Testing and maintenance of backflow preventers

(a) The water supplier shall assure that adequate maintenance and periodic testing are provided by the water user to ensure their proper operation.

(b) Backflow preventers shall be tested by persons who have demonstrated their competency in testing of these devices to the water supplier or health agency.

(c) Backflow preventers shall be tested at least annually or more frequently if determined to be necessary by the health agency or water supplier. When devices are found to be defective, they shall be repaired or replaced in accordance with the provisions of this Chapter.

(d) Backflow preventers shall be tested immediately after they are installed, relocated or repaired and not placed in service unless they are functioning as required.

(e) The water supplier shall notify the water user when testing of backflow preventers is needed. The notice shall contain the date when the test must be completed.

(f) Reports of testing and maintenance shall be maintained by the water supplier for a minimum of three years.

* * * * *

APPENDIX D:

IEUA'S RECYCLED WATER USER MANUAL

Inland Empire Utilities Agency

Recycled Water
User Manual

March 2010

Developed by:
Inland Empire Utilities Agency

Developed by :

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THE USE OF RECYCLED WATER IN INLAND EMPIRE

The Inland Empire Utilities Agency was initially formed in 1950 to import supplemental water from Metropolitan Water District of Southern California (MWD) to augment the local stream and groundwater supplies. IEUA has since expanded its service to include sewage, co-composting of manure and municipal bio-solids, energy generation, desalinization of groundwater supplies, disposal of non-reclaimable industrial wastewater and brine, and the production and distribution of recycled water. IEUA currently serves approximately 800,000 residents in a 242-square mile area in San Bernardino County including the cities of Chino, Chino Hills, Fontana, Montclair, Ontario, Rancho Cucamonga, and Upland.

Southern California continues to develop rapidly increasing demand on the limited potable water supply. In the past, local and imported water supplies were sufficient to meet the potable water demands; however due to Colorado River cutbacks, drought conditions, historical overproduction from groundwater, groundwater quality and environmental regulations, the regional water supplies are subject to shortages as the region continues to grow and is currently experiencing the driest year on record and may be entering an extended drought. These drought conditions, coupled with the recent legal decisions affecting the operation of the State Water Project, will significantly reduce the availability of imported water to the Chino Basin, creating immediate water and economic impacts to the cities and water agencies served by the Inland Empire Utilities Agency.

As documented, the economic benefits of accelerating implementation of the recycled water program are very large (in excess of $1 billion). Chino Basin Watermaster has also documented the economic benefits of additional water supplies (i.e. use of recycled water). The expansion of a recycled water system is an important supply of water that can be used to meet the growing water demands. Due to population increases (about 1.2 million in 2025), the expansion of IEUA's recycled water system offers tremendous opportunities to offset the need for more imported water from MWD.

Recycled water has been identified by the State of California as an alternative that can serve many water uses that are currently served with potable water. The State of California has made water recycling an important element of California's water supply policy and has adopted a statewide goal of achieving 1,000,000 acre-feet of reuse by the year 2010. The use of recycled water has several incentives to IEUA and its member agencies: it is the only source of additional water supply within California, it is reliable during drought and conditions of climate change, it requires significantly less energy to deliver to customers and can reduce greenhouse gas emissions. The State of California has implemented laws and regulations that are fully protective of human health and require a specific level of water quality and treatment.

The Inland Empire Utilities Agency has recognized and embraced the advantages of using recycled water and currently produces over 60 million gallons per day. This high quality recycled water is available for landscape irrigation, industrial cooling, groundwater recharge, environmental enhancement and other uses identified under California law. By using recycled

water the IEUA is helping to ensure that the Chino Basin has water to meet the current and future demands of the growing population and economy.

The Inland Empire Utilities Agency, in partnership with Chino Basin Watermaster and the cities and water agencies, has invested almost $500 million over the last ten years to increase the availability of local water supplies through water recycled as well as through conservation, recharge improvements, the MWD groundwater storage and recovery project, Chino Desalter, and other water management programs that will reduce the region's need for imported water, especially during drought and other conditions when imported water supplies will not be available.

The IEUA and its member agencies, recognize that the water supply situation facing Southern California is very serious. It is in the best interest of all residents and businesses to prepare for immediate reductions in imported water supplies and encourage all cities, public agencies, and businesses to make every effort to use available recycled water for outdoor irrigation and industrial uses so that drinking water supplies can be conserved for potable uses. They must commit to work together and to offer technical and financial services to help expedite the actions needed to deliver and hook up recycled water for use by all cities, schools, parks and businesses within the Chino Basin.

For California, recycled water will remain an increasingly important component in the water supply picture. Locally, IEUA is committed to the development of this non-traditional resource and have invested millions of dollars in the planning, design and construction of reclamation facilities and distribution infrastructure.

Based on the current water supply picture, recycled water will continue to play an important role in development of this region into the future.

WATER REUSE BENEFITS

- **Dependable Water Supply**
- **Cost Effective Alternative**
- **Resource Conservation**
- **Ocean Discharge Reduction**
- **Wildlife Habitat Enhancement**
- **Nutrient Recovery**

"On-Site" Supervisor Do's and Don'ts

Do's

- Install and maintain signage at all points of entry (pedestrian and vehicular)
- Install and maintain labels and tags on recycled and potable water systems
- Operate irrigation system:
  - Between 10pm – 6am if automatically controlled
  - At other times if manually controlled and supervised (someone present)
- Modify irrigation practice to suit type of vegetation and soil
- Use quick couplers instead of hose bibbs
- Contact "provider" if water system modifications are anticipated
- Immediately contact water utility, producer or DPH if any of the following has or is anticipated to occur:
  - A recycled water line break, spill or off-site discharge of recycled water
  - A violation of water recycling requirements
  - A cross-connection between the recycled and potable water systems
- Educate site workers on safe use and restrictions of recycled water
- Keep records and as-built drawings up-to-date and accessible
- Assist during Annual Visual Inspections
- Assist during Periodic Cross-Connection Testing

Don'ts

- Don't drink recycled water
- Don't use recycled water to wash hands or any other part of body
- Don't remove recycled water identification signs, tags or labels
- Don't cross-connect two dissimilar water systems (recycled to potable)
- Don't allow recycled water to contact drinking fountains or eating areas
- Don't allow recycled water to pond/puddle
- Don't allow recycled water to runoff the use site property by either overspray or overwatering
- No hose bibbs on recycled water systems (unless public access is prohibited)
- Don't use the same equipment on both recycled water and domestic water systems (for example, quick couplers, tools, etc.)
- Don't perform system modifications without prior approval of provider/DPH

TABLE OF CONTENTS

FOREWORD

The Recycled Water User's Manual (Manual) has been prepared to convey the rules, regulations and guidelines regarding the safe introduction and use of recycled water in Inland Empire Utilities Agency Service Areas. This document was prepared by the *IEUA* for the use of recycled water.

Regulatory Agencies:

- State of California Department of Public Health (DPH)
- County of San Bernardino Department of Health Services
- Santa Ana Regional Water Quality Control Board

IEUA regional member and non-member agencies:

- City of Ontario
- City of Chino
- City of Chino Hills
- City of Upland
- City of Fontana
- City of Rancho Cucamonga
- Cucamonga Valley Water District
- Monte Vista Water District
- City of Montclair

Other Interested Entities:

- California State Department of Water Resources

Each recycled water customers' representative ("Site Supervisor") is responsible to read and understand the Manual. Questions about the use of recycled water or the Manual should be directed to the "Recycled Water Agency" that serves the customer.

INTRODUCTION

PURPOSE

The purpose of this Manual is to provide the recycled water "User" and its "Site Supervisor" a resource for the day to day operation and control of that system, in order to protect the health and welfare of the personnel involved with its use as well as the general public, and to protect the quality of local water resources. The Manual provides necessary information to meet existing regulations for the operation of the User's recycled water system. Recycled water is an important resource for the State of California, and its use for nonpotable applications is, in many cases, mandated by State law.

Recycled Water Agencies may not deliver recycled water to Users that do not or will not comply with use site requirements.

Every effort has been made to ensure that this Manual is in compliance with, and is not intended to supersede, existing codes, laws, statutes and regulations of the State of California, Regulatory Agencies and local governing bodies, concerning the currently approved use of recycled water. This Manual is also not intended to supersede the American Water Works Association California-Nevada Section's Guidelines for Distribution of Nonpotable Water or Guidelines for the On-site Retrofit of Facilities Using Disinfected Tertiary Recycled Water. Since legal and regulatory requirements can change without the express approval or knowledge of the Recycled Water Agency, the Recycled Water Agency assumes no liability for errors in this Manual. It's the responsibility of the User to check with its Recycled Water Agency and/or the appropriate Regulatory Agencies before initiating any operational or physical changes to the use site's system.

This Manual is organized in the following manner.

- The *User's Summary* provides a brief commentary on major topics and indicates a page number to find additional information.
- *General Provisions* covers the basic administrative requirements including authorities, responsibilities and liabilities.
- *Requirements for Operation and Maintenance* covers the basic conditions for service imposed by the California State Department of Public Health (DPH).
- *Marking and Equipment* gives the basic requirements for marking the recycled water system and signing the area of service.
- *Sample Forms and Site-Specific Details* provides a summary of steps to obtain recycled water, templates of sample forms to help with inspections and contact persons, and a location for information specific to the use-site.
- *Local Governing Agencies* provides the names, addresses and phone numbers of agencies to which questions may be addressed and emergencies or violations must be reported.
- *Exhibits* are supporting documents for the various sections of the manual. Definitions are included for terms used within the Manual.

WHAT IS RECYCLED WATER?

"Recycled water," (sometimes called "reclaimed water") as used in this Manual and defined in Title 22, Chapter 3 of the California Code of Regulations, refers to tertiary-treated water produced from the three-stage treatment of municipal wastewater. (Although secondary-treated effluent may also be reused, its applications are limited and subject to much greater restrictions.) The facilities that produce recycled water are known as Water Recycling (or Reclamation) Plants that are owned and operated by "Recycled Water Producers." The recycled water produced by these plants is delivered to users through distribution systems owned and operated by "Recycled Water Agencies." Recycled Water Producers and Agencies can be one and the same entity.

Recycled water is colorless, odorless, and is allowable for full-body human contact but **not** for human consumption. The sensible use of recycled water affords an excellent choice for nonpotable applications. Properly managed, recycled water is safe to use with a very minimal health hazard.

The Recycled Water Treatment Process

Pretreatment removes or shreds coarse debris and grit.

Primary Treatment removes 70 to 85 percent of the organic and inorganic solids which either settle out or float to the top.

Secondary Treatment mixes the remaining suspended waste solids with microorganisms and air. The micro-organisms convert the waste solids to biomass that settles out.

Tertiary Treatment filters out most of the remaining solids through a granular media (for example, sand or anthracite coal) or a membrane, with the final product water being disinfected with chlorine or UV light to kill off any remaining bacteria, virus or other microorganisms.

WHAT ARE "DUAL SOURCE" SITES?

"Dual source" sites are reuse sites where both potable (domestic) and recycled water are present. Dual sources might be required on sites where water is normally available for public use. For example, a cemetery may use recycled water for irrigation, but would need a separate potable system with hose bibbs to allow visitors to fill flower urns. "Dual plumbed sites" is a separate term which refers specifically to either buildings that have both recycled and potable water serving interior fixtures, or single-family residences that use recycled water for outside irrigation, and is dealt with later under *Periodic Cross Connection Testing Program* (page 18). The public must not be allowed access to the recycled water system (such as from hose bibbs).

Water quality needs at the use site might call for two water sources. Certain plant life under certain soil conditions may not tolerate the occasionally higher TDS (total dissolved solids), or salt levels, found in some recycled water supplies. Golf courses may elect to use a potable water supply to irrigate the greens and use recycled water on the fairways. (**Note:** The potable water used

for this purpose is referred to as "non-potable irrigation water" after it has passed through the irrigation system backflow preventer. These water lines are to be used only for irrigation and should not be connected to restrooms, drinking fountains, food service areas, etc.).

On sites with dual sources, the potable supply must be protected with an approved backflow prevention device. **Cross-connections between the recycled water system and the potable water system are strictly prohibited.**

BENEFITS OF RECYCLED WATER IRRIGATION

As demand for potable water increases while the supply decreases, the future availability of potable water for irrigation is questionable. Pricing of potable supplies continues to rise making recycled water more attractive. The supply of recycled water is not affected by drought, which means that customers do not risk losing expensive landscaping due to water shortages and potential mandatory rationing. Recycled water may also contain an appreciable nutrient content, such as nitrogen, potassium, calcium, magnesium, sulfur, boron and other macro and micronutrients, which may provide some level of fertilization during the irrigation process. Irrigating with recycled water is making use of a valuable resource that would otherwise be disposed.

ARE THERE DISADVANTAGES TO USING RECYCLED WATER?

Recycled water must be used responsibly within established guidelines. Because of its origins, recycled water is not suitable for human consumption. Unlike potable water, recycled water can only be used for approved uses, at approved locations, under the provisions of established regulations, agreements or permits. However, at the time of this writing, there have been no known cases of illness due to the proper use of recycled water (according to the State DPH).

NEED FOR REGULATIONS

Regulations make the use of recycled water possible. Regulations ensure consistent, reliable water quality while being fully protective of the public health. California Code of Regulations Titles 22 and 17 are the two sets of State DPH regulations that accomplish this. Title 22 establishes the requirements for recycled water treatment, quality and allowable use. Title 17 establishes the requirements for backflow protection of the potable water supply. For the purposes of reference, both of these documents are attached to this Manual in section H.

USER'S SUMMARY

Recycled water is a safe and effective resource for nonpotable use. Properly managed recycled water has a very limited health risk, if any. To help in the proper management of recycled water, the State of California, the local city or county Health Department and the Recycled Water Agency have developed rules and regulations for the safe use of recycled water. These rules and regulations are in place to insure that the User, its Site Supervisor and employees, and the public are protected from any health risk (real or perceived) that might be associated with the use of recycled water.

- Because recycled water is not suited for human consumption, every effort must be made to prevent the user's recycled water system from being cross-connected with the potable (drinking) water system.
- Plans must be carefully inspected to ensure against cross-connections and that proper equipment is to be installed (*Design Approval,* page 13).
- A preliminary cross-connection test must be conducted to determine if there are any unknown connections between existing irrigation and potable piping prior to construction of retrofit work (*Initial Cross-Connection Test,* page 13).
- Prior to connection with the recycled water distribution system, a final cross-connection test must be performed to verify that construction or retrofit work was performed correctly (*Final Cross-Connection Test,* page 15).
- The recycled water system must be operated under the authority of a "User's Agreement" (page 7) which outlines any special considerations for the particular site of use.
- The User must designate a "Site Supervisor" (page 14) who is responsible for managing the on-site water system. The Site Supervisor ensures the system is operated within the established guidelines and is properly maintained (*Maintenance,* page 17).
- In cooperation with the User, the Recycled Water Agency will make regular inspections of the site (*Periodic Site Inspections,* page 18).
- The User must instruct all persons using recycled water of its proper use and precautions (*Personnel Training,* page 17).
- In the event of a cross-connection incident, the User must implement an emergency response plan (page 19).
- All piping and points of connection must be labeled with ***"Recycled Water -- Do Not Drink"*** (*Marking and Equipment,* page 21) and the universal "Do Not Drink" symbol (page 26).
- All recycled water use areas accessible to the public must be posted with signs visible to the public and must include the statement ***"Recycled Water -- Do Not Drink"*** (page 25) and the universal "Do Not Drink" symbol (page 26).

SECTION A

GENERAL PROVISIONS

REGULATORY AUTHORITY

Rules and regulations for the end use of recycled water are established by the California Regional Water Quality Control Board (Regional Board), the State DPH and the local city or county Health Department. These rules and regulations are typically enforced by the Recycled Water Agency operating under a permit from the Regional Board. All facilities using recycled water must be designed and operated to meet the standards of the local governing codes, rules and regulations.

Various regulations for recycled water use may be outlined in the Recycled Water Agency's Recycled Water Ordinance. However, if recycled water service is provided by an Investor Owned Utility, the various regulations for recycled water use are outlined in the Recycled Water Agency's Tariff Schedules as approved by the California Public Utilities Commission.

From time to time there may be amendments to existing regulations. These amendments may be made without the knowledge or consent of the User or the Recycled Water Agency. These amendments will be enforced upon their effective date. The Recycled Water Agency will make every effort to make sure the User is made aware of these changes.

SYSTEM RESPONSIBILITY

The Recycled Water Agency is responsible for the operation and maintenance of its recycled water distribution system up to the point of connection to the User. However, it's the responsibility of the User to maintain its recycled water system downstream of the point of connection (usually the meter) with the Recycled Water Agency's distribution system. The User is responsible for ensuring that the recycled water is used on its site according to all the rules and regulations regarding such use. Specifically, the User is responsible for the following:

- Maintaining the use site's recycled water system.
- Ensuring that all materials used during the design, construction and maintenance of the system are approved or recommended for recycled water use by the American Water Works Association California-Nevada Section's Guidelines for Distribution of Nonpotable Water.
- Obtaining all permits and payment of all fees required for the establishment, operation and maintenance of the User's recycled water system. Permitting and/or fee assistance may be available from the Recycled Water Agency.
- Reporting all violations and emergencies to the required local governing agencies. A listing of these agencies is provided in Section F.
- Obtaining prior authorization from the Recycled Water Agency and any required regulatory agency before making any modifications to the approved recycled water system.
- Maintaining all record drawings
- Access to the site at all times

USER AGREEMENT AND PERMITS

All Recycled Water systems must be operated under the conditions set forth by the Recycled Water Agency in its User Agreement. (**Note:** "User Agreement" is the term used to describe any agreement, contract, permit, ordinance, memorandum of understanding or other such document used by the Recycled Water Agency to present the terms and conditions for the use of recycled water by a User.) A potential User must complete all of the Recycled Water Agency's requirements (for example, permit application) prior to the issuance of a User Agreement. The Agreement then becomes the Permit to operate an on-site recycled water system. The User is responsible for all fees associated with the Permit process. The Recycled Water Agency's Governing Board reserves the right to alter, on a case-by-case basis, the Permit process with the approval of the appropriate Regulatory Agencies.

RATE AND FEE SCHEDULE

If recycled water is provided by a public entity, such as a water district or municipality, all rates and fees concerning recycled water service will be Established and fixed by the Recycled Water Agency's Governing Board.

However, if recycled water is provided by an Investor Owned Utility, all rates and fees concerning recycled water service shall be established and fixed by the California Public Utilities Commission.

PROTECTION OF PUBLIC HEALTH

The Recycled Water Agency reserves the right to take any action necessary with respect to the operation of the User's on-site recycled water system in order to safeguard the public health.

AUTHORIZED USES

The use of recycled water is limited to those uses approved by the Regional Board, the State DPH, and the local city or county Health Department. Any other use of recycled water is prohibited without the prior approval, on a case-by-case basis, of the Recycled Water Agency and the appropriate Regulatory Agencies.

TITLE 22 USES FOR TERTIARY-TREATED WATER

Urban Landscape – Parks and playgrounds, schoolyards, unrestricted access golf courses, residential landscaping, freeway and roadway landscaping, cemeteries, ornamental nurseries, sod farms.

Agriculture – Food crops for human consumption, orchards, vineyards, fodder, fiber and seed crops, non-fruit bearing trees, pasture for milking animals, water supply for livestock.

Impoundments – Restricted and unrestricted (full-body contact) recreational impoundments, decorative lakes and fountains, fish hatcheries.

Industrial – Cooling towers and air conditioning, industrial processes (e.g., carpet and textile dyeing, paper manufacturing, boiler feed), non-residential toilet, urinal and floor drains, structural and non-structural fire fighting, commercial laundries, commercial car washes, concrete mixing, construction (dust control, soil compaction, backfill consolidation around pipelines, including potable), street and sidewalk cleaning, flushing sanitary sewers, snow making.

APPROVED USE AREAS

Recycled water may only be used in areas approved by the Recycled Water Agency, following the User's completion of the Recycled Water Agency's application procedure and its meeting all of the requirements of the applicable Regulatory Agencies. A User may never supply recycled water to another owner's adjoining property or to the property of the same User across a street or alley without the prior written approval of the Recycled Water Agency. The User may not give or sell recycled water to another party. Should the property become subdivided, the service will be considered as belonging to the parcel it enters directly. In any case, recycled water lines are not permitted to cross lot lines. All recycled water delivered to any site must pass through a recycled water meter.

LIABILITY

The Recycled Water Agency assumes no responsibility for the operation or maintenance of any User's recycled water system downstream of the Recycled Water Agency's point of connection with the User, unless such responsibility is clearly outlined in the User Agreement/Permit (*Enforcement*, page 13). The User assumes all liability and responsibility of every other kind to the end that the Recycled Water Agency shall be held blameless at all times in any claim resulting from matters involving quantities, quality, time or occasion of delivery, or any other phase of the maintenance, operation and service of the User's system. The Recycled Water Agency shall not be liable for any water damage or other damage caused by the User due to defective or broken plumbing or faulty service, nor shall the Recycled Water Agency be liable for damage caused by the User's facilities.

CONTINGENCY RESERVATION

If any times during construction or operation of the recycled water system, real or potential hazards are found, the Recycled Water Agency reserves the right and has the authority to terminate immediately, without notice, recycled water service in the interest of protecting the public health. The Recycled Water Agency may supply water to the affected area either temporarily or permanently from the potable water system with appropriate backflow protection *(Protection of Potable Water Systems*, page 11 and *Cross-connection Control Program*, page 18).

BACKFLOW PROTECTION

The level of protection required is related to the degree of hazard that the IEUA or an agency serving Recycled Water determines exits on the premises served. Listed in increasing levels of protection, the following protective devices may be required: Reduced Pressure Principle Backflow Prevention Device (RPPD), Double Check Valve Assembly (DC) and Air Gap Separation (AG). The user may choose a higher level or protection than required by the County or the State. Minimum types required, relative to various situations, are listed in Section H of this manual, California Code of Regulations, Title 17. Situations not listed shall be evaluated on a case-by-case basis and the appropriate level of protection required shall be determined by the IEUA consultation with the County EMD and the State Department of Public Health.

SECTION B
REQUIREMENTS FOR OPERATION & MAINTENANCE

GENERAL

Recycled water service will be provided by the Recycled Water Agency only to those Users who have a current User Agreement for such service, unless otherwise determined by the Recycled Water Agency's Governing Board. This recycled water service can be revoked any time at the discretion of the Recycled Water Agency.

Recycled water service must be made available only in accordance with all applicable Federal, state, and local statutes, ordinances, regulations and contracts, and other requirements including the California Water Code, the California Code of Regulations Titles 17 and 22, and requirements and regulations imposed by the Regional Board, the State DPH and the local city or county Health Department. The User must comply with the conditions of any User Agreement issued by the Recycled Water Agency.

Recycled Water Agencies may not deliver recycled water to users that do not or will not comply with use site requirements.

CONDITIONS OF SERVICE

The Recycled Water Agency reserves the right to revoke a User's Agreement if any or all of the service conditions are not satisfied at all times. Service to a User may be terminated any time if:

- The Recycled Water Agency's distribution system is not capable of supplying recycled water.
- The quality of the recycled water does not comply with the requirements of the Regulatory Agencies.
- The User's operation does not conform to all appropriate requirements and the terms of the User's agreement.
- There is nonpayment of service fees and charges by the User.

The Recycled Water Agency reserves the right to control and schedule the use of recycled water, if control and scheduling are necessary to maintain acceptable working conditions within that agency's recycled water distribution system. The Recycled Water Agency will administer these and other service conditions.

If the available service pressure is higher than the User can accept, the User shall be responsible for providing a pressure-reducing valve downstream of the service meter. If available pressure is lower than what the User needs, the User shall be responsible for providing booster pumping downstream of the meter. Any pumping of recycled water requires the prior written approval of the Recycled Water Agency.

The User must comply with the following conditions.

Runoff Conditions - The irrigation systems must be designed, constructed and operated to minimize to the fullest extent possible runoff outside the approved use area.

Ponding Conditions - The irrigation systems must be designed, constructed and

operated to minimize to the fullest extent possible ponding within or outside of the approved use area. This does not apply to approved impoundments such as golf course water hazards or decorative lakes.

Windblown Spray Conditions - The irrigation systems must be designed, constructed and operated to minimize to the fullest extent possible windblown spray from leaving the approved use area.

Unapproved Uses - Use of recycled water for any purposes other than those explicitly approved by the Recycled Water Agency and the appropriate Regulatory Agencies is strictly prohibited.

Disposal in Unapproved Areas - Disposal of recycled water for any purpose, including approved uses, in areas other than those explicitly approved in the current effective user permit issued by the Recycled Water Agency and without the prior knowledge and approval of the appropriate Regulatory Agencies, is strictly prohibited.

Cross-Connections - Cross-connections, as defined by the California Code of Regulations, resulting from the use of recycled water or from the physical presence of a recycled water service, whether by design, construction practice, or system operation, **are strictly prohibited**.

If any cross-connection is discovered, the operator shall immediately turn off the system, take action to prevent additional contamination, and notify on-site supervisor.

PROTECTION OF POTABLE WATER SYSTEMS

On "dual source" sites where both potable water and recycled water exist, the potable supply must be protected against accidental cross-connections with an air-gap separation at the point of connection to the User's system. In lieu of an air-gap a reduced-pressure principal backflow prevention (RP) device may be approved by the State DPH and the Recycled Water Agency. This is done according to the approved site-specific drawings.

Backflow prevention devices must be approved by the Recycled Water Agency and the appropriate regulatory agencies before installation. If an RP is used instead of an air-gap, it must be inspected quarterly and tested annually. The device testing must be done by a backflow prevention device tester certified by the local Health Department. Test reports must be provided to the Recycled Water Agency and the regulatory agency requiring the test. Records must be maintained for at least three (3) years by both the User and the Recycled Water Agency.

Some recycled water use sites may also have separate potable water service connections for dedicated fire protection systems. Depending on the Class of fire protection system on the reuse site, if the fire service includes piping for delivery systems outside of buildings and the manner of on-site recycled water usage, then either single check valve, double check valve or RP backflow assemblies may be required at fire supply meter. Since requirements vary from place to place, the exact requirements will be provided to the User by the Recycled Water Agency and/or the local city or county Health Department.

PROTECTION OF GROUNDWATER

Irrigation with recycled water within 50 feet or impoundment of recycled water within 100 feet of any drinking water reservoir or well is prohibited. Proposed irrigation with recycled water within 50 feet or impounding recycled water within 100 feet of a non-potable water well requires the approval of the appropriate health agency.

PROTECTION OF THE RECYCLED WATER SYSTEM

The Recycled Water Agency must ensure that the quality of the recycled water in its distribution system is not compromised by any User. Therefore the Recycled Water Agency may require backflow protection on the User's recycled water system. This backflow protection might be just downstream of the recycled water meter or at specific, on-site location(s) where an activity of the User (such as industrial process water) could degrade the quality of the recycled water in the distribution system. If necessary, details will be included in the User Agreement.

Backflow prevention devices must be approved by the Recycled Water Agency and the appropriate regulatory agencies. Devices must be properly maintained, inspected quarterly and tested at least annually. Backflow prevention assemblies, when required on recycled water systems, must be conspicuously labeled. Based on the provisions of the User Agreement, the Recycled Water Agency may provide the required test equipment.

Backup Water Source - If potable water is to be used as a backup source to the recycled water system, it must be done only through an air-gap separation between the two systems and with the prior approval of the State DPH and the local city or county Health Department. The State DPH permits the use of a "swivel-ell" assembly that allows for the use site's water supply to be switched between the recycled and potable water systems, if certain stringent requirements are met. The User must work with the Recycled Water Agency and the appropriate Health Departments to install and use such a device.

Hose bibbs may only be used with recycled water in areas were they cannot be accessed by the general public (such as this commercial nursery), and even those must be properly labeled.

HOSE BIBBS

Hose bibbs or other appurtenances that might allow public access to the recycled water system for unapproved use or for cross-connection to the potable water system, are strictly prohibited in all areas

accessible to the general public. In these areas, only quick-couplers are allowed and must be of a different type than those that may be used on the use site's potable water system (see page 23). Hose bibbs may be used on the recycled water system in areas that do not allow any public access and must be conspicuously labeled ***"RECYCLED WATER -- DO NOT DRINK"*** in both English and Spanish (or any other language determined to be in common use in the area), along with the "Do Not Drink" symbol (page 26). Workers in these areas must be instructed not to drink from these hose bibbs.

DRINKING FOUNTAINS

Drinking fountains located within the approved use area must be protected from contact with recycled water by direct application through irrigation or other approved use. Lack of protection, whether by design, construction practice or system operation, is strictly prohibited.

The pattern on the walls indicates that this drinking fountain is being sprayed by the irrigation water. If recycled water is to be used, then the spray pattern must be altered or the drinking fountain somehow shielded.

FIRE HYDRANTS

No costumer or other party shall use or install fire hydrants and other connections for fire services on any onsite system that presently operates or is designed to operate with recycled water, regardless of the construction and identification of the fire hydrant and other connections for fire services. Specific permit from Recycled Water Agency and California DPH approval is required on a case by case situation.

VIOLATIONS

The Recycled Water Agency reserves the right to decide if a violation of the conditions under which the User Agreement was issued has occurred. Violations may include non-compliance of any of the following prohibitions: runoff conditions, ponding conditions, windblown spray conditions, leaks or spills resulting from broken or damaged pipelines or appurtenances, unapproved uses, disposal in unapproved areas, cross-connections, unprotected drinking fountains and unauthorized or prohibited use of hose bibbs, whether willful or by accident. Any willful or accidental violation of any existing Federal, state or local ordinance, code, law or statute regulating the use of recycled water constitutes a violation.

NOTIFICATION

It is the responsibility of the Site Supervisor to notify the Recycled Water Agency of any failure or cross-connection in his/her recycled or potable water system, whether or not he/she believes a violation has occurred. It is also the responsibility of the Site Supervisor to notify the Recycled Water Agency of any violation he/she believes

might imminently occur because of any action the User's personnel might take during the operation of the recycled or potable water systems.

If there are any doubts whether a violation has occurred, it is the responsibility of the Site Supervisor to report each occurrence to the Recycled Water Agency so a decision can be made. It is then the Recycled Water Agency's responsibility to notify the Recycled Water Producer (if a separate entity), which holds the master water recycling permit from the Regional Board and local governing agencies of any violations. Local governing agencies are listed in Section E.

CORRECTIVE ACTION

If the Recycled Water Agency's investigation reveals that a violation has occurred on the reuse site, that agency must immediately notify the User of the violation and what corrective actions must be taken. It is the responsibility of the User to immediately initiate corrective action to eliminate the violation. If the Recycled Water Agency believes the violation constitutes a hazard to the public health, the Recycled Water Agency must immediately stop recycled water service to the User. It will be at the discretion of the Recycled Water Agency to decide if a violation has been adequately corrected.

The Recycled Water Agency may impose a startup fee upon resumption of service to a User whose service has been terminated, depending on the provisions of the User Agreement.

ENFORCEMENT

The Recycled Water Agency shall enforce all existing regulations concerning the use of recycled water and/or recycled water systems. Regulations concerning the use of any recycled water or recycled water system shall be applied with equal force and effect to any person, persons, or firm, public or private. **There will be no deviations from these regulations** except upon written authorization of the Recycled Water Agency, acting within applicable regulations. An appeal procedure may be provided for in the User Agreement and action of the Recycled Water Agency's Governing Board will be final.

DESIGN APPROVAL

Before the construction of any new or major modifications of an existing recycled water system, the design must be submitted for approval by the Recycled Water Agency and the State and local city or county Health Departments. Approval will be contingent upon evidence that all applicable design requirements, rules and regulations for a recycled water system are satisfied. Plans and specifications should include, but not be limited to, the following:

- A detailed description of the intended use of recycled water.
- Details showing the complete potable and recycled water systems. For existing facilities converting to recycled water use, details must include the exact location of all existing water piping systems.
- Details of the intended installation procedures, including as a minimum: backflow preventer locations, color and type of pipe, and additional signage to be used.

INITIAL CROSS-CONNECTION TEST

Prior to retrofit work or construction, a preliminary cross-connection inspection and test must be coordinated by the Recycled Water Agency, with all appropriate health agencies being notified. The preliminary cross-connection test should follow the general guidelines outlined in Section D. The purpose of the test is to determine if there are any unknown connections between the existing irrigation system and the potable water system prior to construction.

CONSTRUCTION

The appropriate regulatory agencies shall have the opportunity to make periodic inspections of the User's site during the construction phase to ensure materials and their installations are according to the approved plans and specifications.

The Recycled Water Agency and/or the State, local city or county Health Department or its authorized agents shall inspect the construction of the User's recycled water system to ensure that it is in compliance with the approved construction plans, rules and regulations. The local city or county Health Department shall be involved in all phases of planning, construction and start up, along with the Recycled Water Agency's representative. In addition, representatives of the Regional Board and the State DPH may be involved.

This site inspection is to ensure that proper equipment was used, spray patterns are adjusted to ensure proper coverage without excessive overlapping, and there are no cross-connections with the on-site potable water system. Conditions that might create runoff, ponding or windblown spray, especially on slopes must be corrected. Spray patterns must be checked to make sure that they don't encroach upon public facilities such as drinking fountains or areas outside the approved use area. After correction and verification the system will be allowed to use recycled water.

During the lifetime of the recycled water system, the Recycled Water Agency shall periodically inspect the recycled water system to ensure compliance with all applicable rules and regulations. Additionally, the Recycled Water Agency may be required to perform annual inspections of the system for cross-connections (including shut-down tests if appropriate), depending on the use site characteristics.

DESIGNATION OF SITE SUPERVISOR

It is the User's responsibility to provide surveillance and supervision of its on-site recycled water system in a way that assures compliance at all times with current Regulations. The User shall designate, with the approval of the Recycled Water Agency, a Site Supervisor to be the contact person with the Recycled Water Agency. The following are requirements of the Site Supervisor position:

- Be aware of, and familiar with, this Manual.
- Be available to the Recycled Water Agency at all times and have the authority to carry out any requirements of the Recycled Water Agency.
- Be responsible for the installation, operation and maintenance of the recycled and potable water systems, and for the prevention of potential hazards.

- Ensure that notification signs at the use site are properly installed and maintained, and that all recycled and potable water facilities are properly labeled, tagged or otherwise identified.

- Be knowledgeable of the provisions contained in Titles 17 and 22 of the California Code of Regulations relating to the safe use of recycled water and maintaining accurate records, including periodic maintenance of system and certification of backflow device annual testing.

- Ensure that all employees of the use site involved with the use of recycled water are instructed in the safe and responsible use and handling of the recycled water.

- Immediately inform the Recycled Water Agency of all failures, violations and emergencies that occur involving the recycled or potable water systems.

- Be familiar with the basic concepts of backflow and cross-connection prevention, system testing, and related emergency procedures, and participate in any cross-connection tests.

The Recycled Water Agency must be notified immediately of any change in personnel for the Site Supervisor position. The Recycled Water Agency will provide the Site Supervisor with periodic inspections of the User's system and report all violations to the appropriate Regulatory Agency according to applicable procedures established by law, code, permit or practice.

SERVICE STARTUP

Following the acceptance of the User's recycled water system by the Recycled Water Agency; the User may request regular service startup. Upon receipt of the startup request, the Recycled Water Agency will notify the appropriate regulatory agencies, and schedule a final inspection to include regulatory agency representatives. The startup request shall include the appropriate documentation and any payments and/or fees as indicated in the Recycled Water Agency's User Agreement.

FINAL CROSS-CONNECTION TEST

On sites where both recycled and potable water are present, a cross-connection test must be performed using potable water supplied through an approved backflow prevention device before connecting the User's on-site recycled water system to the Recycled Water Agency's distribution system. This on-site test is to ensure the absolute separation of the recycled and potable water systems. The Recycled Water Agency shall coordinate the scheduling of the cross-connection test, which must be performed under the supervision of the State, local city or county Health Department and in the presence of the Site Supervisor, Recycled Water Agency, and any other required regulatory agency. Periodic testing using the same procedures may be required in the future, depending on the use site's characteristics. A written report documenting the test results must be submitted to the Recycled Water Agency, the State DPH and the local city or county Health Department following completion. A pressure (shut down) test protocol is detailed in Section D.

As an alternative to the pressure test described in Section D, a dye test may be

performed by charging the recycled water system with potable water containing a food grade colored dye. The emptied potable water system is then checked for any evidence of the colored dye. If the dye is found, a cross-connection exists. This test itself must be done in a way that does not create a cross-connection.

Upon the successful completion of one of the above tests, insuring no cross-connections between the potable and recycled water systems, the User's recycled water system may be connected to the Recycled Water Agency's distribution system.

PERIODS OF OPERATION

Operation of the User's on-site recycled water system must adhere to the following requirements.

- Irrigation may only occur during periods of least use of the approved area by the general public. This is usually between the hours of 9:00 p.m. and 6 a.m.; however, areas where public access is generally prohibited or minimized, such as commercial nurseries and freeway landscaping, may irrigate at any time.

Inadvertent public contact with recycled water irrigation spray must always be avoided.

- Even though tertiary-treated recycled water is approved for full-body contact by the State DPH, irrigation of public areas during other times may be performed if the irrigation system is operated manually and is constantly supervised to avoid inadvertently exposing any members of the general public. This provision must be strictly followed.

- Consideration should be given to allow a maximum dry-out time before the area is to be used by the public.

- Automatic control systems are to be used and programmed to prevent ponding and runoff of recycled water.

- The recycled water system must not be allowed to operate for periods longer than needed to satisfy the landscape water requirements. Recycled water must never be applied at a rate that is greater than the infiltration rate of the soil. Exceptions to this requirement for purposes such as leaching of soil must be specified in the User Agreement.

- The recycled water system must be operated to prevent overspray or windblown spray into unapproved areas.

PERSONNEL TRAINING

It is the responsibility of the User to train all operations personnel so they are familiar with the use of recycled water. Any training program should include but not be limited to the following:

- Operations personnel must be aware that recycled water, although highly

treated, is nonpotable. **Recycled water may never be used for human consumption.**

- Operations personnel must understand that working with recycled water is safe if common sense is used and appropriate regulations are followed.
- Operations personnel must understand that conditions such as ponding and runoff are not allowed.
- Good personal hygiene must be followed (for example, washing hands after working with recycled water).
- Operations personnel must understand that there is **never** to be a direct connection between the recycled water system and the potable water system.

All new employees must be trained in the proper use of recycled water. Supervisory personnel and the Site Supervisor should be held accountable to ensure that employees are not using recycled water carelessly or hazardously.

MODIFICATIONS

The User must not make any modifications to its on-site recycled water system without the prior approval of the Recycled Water Agency. This includes modifications to the approved plans or to an operational system. Detailed plans of any modifications should be submitted to the Recycled Water Agency and the modifications inspected by the Recycled Water Agency before their being placed in operation. However, routine maintenance of the irrigation system, such as pipeline repairs, sprinkler replacement and other similar activities that don't result in a substantial change in either the recycled or potable water systems, or any agreed to operating plans, don't need prior approval by the Recycled Water Agency.

Emergency modifications or repairs that must be made by the User to its system in order to prevent contamination, damage or a public health hazard are covered under *Emergency Procedures* (page 19).

MAINTENANCE

The User must implement a preventive maintenance program that will ensure that the recycled water system always remains in compliance. A preventive maintenance program should include but not be limited to the following:

- Regular inspections should be conducted by the User of the entire recycled water and potable systems including sprinkler heads, spray patterns, lakes, piping and valves, pumps, storage facilities, controllers, signage, backflow devices, etc. Immediately correct any problems.
- All notification signs, labels and/or tags should be checked for their proper placement and readability. Replace damaged or unreadable signs, labels or tags.
- Special attention should be given to spray patterns to eliminate ponding, runoff and wind blown spray conditions.
- Establish and maintain an accurate records-keeping system of all inspections, modifications and repairs.

Broken sprinkler heads, faulty spray patterns, leaking pipes or valves, etc. must be repaired when the malfunction becomes apparent.

CROSS-CONNECTION CONTROL PROGRAM

Cross-connections with the potable water system at any point or any time are strictly prohibited. Any backup supply of potable water for the recycled water system **must** be supplied through an approved (in writing) air-gap separation. Any site or facility that has both potable water and recycled water present in separate systems **must** have the approved level of backflow protection at the potable water supply service connection.

Backflow prevention assemblies must be of the approved type and installed according to approved plans. A maintenance program that includes at least annual testing by a tester certified by the local city or county Health Department must be carried out. Records of annual tests, repairs and overhauls must be kept by the user with copies forwarded to the Recycled Water Agency and the local city or county Health Department.

No device, hose, pipe, meter, valve, etc. which has been used with recycled water may be attached to the potable water system. No truck, tank, pump, pipe, hose or device used for the distribution, transportation or storage of recycled water may be used for potable water.

PERIODIC SITE INSPECTIONS

Periodic site inspections of the User's recycled water irrigation system are mandated in the Water Code (Section 13523.1(b)(5)). Such inspections include, at a minimum, the visual inspection of all back-flow prevention devices, pump rooms, exposed piping, valves, pressure reducing stations, points of connection, sprinklers, controllers, lakes, storage facilities, signs, labeling, tags, etc. The Site Supervisor's maintenance records should also be inspected.

These inspections are the responsibility of the entity holding the master water recycling permit issued by the Regional Board. This may be the Recycled Water Agency or the Recycled Water Producer, if separate. Whoever the responsible agency is may perform this inspection, or it may be delegated to a third party. The responsible agency will also determine the frequency of these inspections, based on local conditions. The Recycled Water Agency also reserves the right to make unannounced inspections of the use site's facilities.

Upon completion of the inspection, a Site Inspection Report Form (see example, page 32) should be signed and dated by both the Site Supervisor and the entity performing the inspection. The original form should be kept by the inspecting entity with copies going to the Site Supervisor, the Recycled Water Agency and/or Producer and any required regulatory agency.

Should a cross-connection be discovered during the inspection, the **Emergency Cross-Connection Response Plan** (page 19) should be immediately invoked by the Site Supervisor.

PERIODIC CROSS-CONNECTION TESTING (PCCT) PROGRAM

Periodic cross-connection shutdown testing must be done at least once every four (4) years for dual-plumbed sites, unless visual

inspections or major on-site water system changes reveal a need for more frequent testing. The Water Recycling Criteria in Title 22 defines "dual-plumbed" sites as either buildings with fixtures served with recycled and potable water or single-family residences with recycled water in the irrigation system. Other use sites that don't fall under either of these categories may be required to perform periodic cross-connection tests if the use site characteristics indicate a greater risk of potential cross-connections, or if any reuse site undergoes significant modifications of the potable or recycled water systems. The Recycled Water Agency, in cooperation with the local city or county Health Department, will make the determination if such a test is required.

This test must be done under the supervision of the local city or county Health Department and follow the same procedures use for the final cross-connection test (either shut-down or dye test). Before the test is performed representatives of the State DPH, the local city or county Health Department, Site Supervisor, Recycled Water Agency, and any other required regulatory agency must be notified. The Recycled Water Agency will coordinate the scheduling of the test. A sample Test Notification Form is on page 31.

Written verification of the test results must be provided by the Recycled Water Agency to the Site Supervisor, State DPH, local city or county Health Department, local building authority and any other required regulatory agency. All provisions of Title 17, Chapter 5, Section 7601 of the Code of Regulations, concerning protection of drinking water systems against cross-connections and backflow, must be strictly complied with.

EMERGENCY PROCEDURES

In case of a major earthquake, the Site Supervisor should immediately inspect the potable and recycled water systems for damage. If either system appears damaged, both the potable and recycled water systems should be shut off at their points of connection. The Site Supervisor should immediately contact the Recycled Water Agency for further instruction.

Emergency Modifications - Emergency modifications or repairs can be made by the User to the recycled water system without the prior approval of the Recycled Water Agency to prevent contamination, damage or a public health hazard. As soon as possible the User must notify the Recycled Water Agency of the emergency modifications and file a written report.

Unauthorized Discharge - It's the responsibility of the User to report to the Recycled Water Agency all system failures that result in an unauthorized discharge of recycled water. An immediate oral report followed by a written report is required.

Contamination of Drinking Water - In case of contamination of the potable water system due to a cross-connection on the User's premises, the Recycled Water Agency and the local city or county Health Department must be immediately notified by the User (see page 33). The User is to immediately invoke the **Emergency Cross-Connection Response Plan**.

EMERGENCY CROSS-CONNECTION RESPONSE PLAN

In the event that a backflow incident or cross-connection is suspected or occurs the

following procedures must be implemented immediately.

1. Immediately shut down the recycled water supply to the facility at the meter.

2. Keep the potable water system pressurized and post ***"DO NOT DRINK"*** signs at all potable water fixtures and outlets.

3. Notify the Recycled Water Agency and the State, local city or county Health Department by phone. This notification is to be followed by a written notice within 24 hours. The written notice is to include an explanation of the nature of the cross-connection, date and time discovered, and the steps taken to mitigate the cross-connection(s).

4. Identify the cause and location of backflow and eliminate the cross-connection(s).

5. Collect water samples from the potable water system and perform a 24-hour bacteriological analysis (as instructed by the Recycled Water Agency). Water samples should be collected from the closest possible point to the cross-connection.

6. Conduct a cross-connection test in coordination with the Recycled Water Agency, and the appropriate Health Departments to verify that all cross-connections have been eliminated.

7. If the bacteriological analysis conducted in Step 4 is positive, chlorinate the potable water system maintaining a chlorine residual of at least 50 mg/L for 24 hours. Otherwise proceed to Step 11.

8. Flush the potable water system after 24 hours and perform standard bacteriological analysis.

9. If the results from Step 8 are acceptable, proceed to Step 10. Otherwise, repeat Steps 7-8.

10. Obtain approval from the Recycled Water Agency and the local city or county Health Department before returning the recycled water system to service.

11. Obtain final approval from the Recycled Water Agency and the State, local city or county Health Department before removing signs.

SECTION C
MARKING AND EQUIPMENT

GENERAL

All materials, apparatus, piping, valves, controllers, sprinkler heads, pumps etc. for new recycled water irrigation systems must be approved for use in a pressurized recycled water system and installed according to approved plans. The recycled water system must conform to the AWWA California-Nevada Section's Guidelines for Distribution of Nonpotable Water. Deviations will not be allowed without prior approval. System installation must conform to the Uniform Plumbing Code and all other local codes, rules and regulations.

The approved use area must be clearly marked. All outlets from the recycled water system must be marked ***"CAUTION -- RECYCLED WATER -- DO NOT DRINK."*** In addition, signs must be posted at all entrances to the use site indicating that recycled water is used for irrigation purposes. The "Do Not Drink" symbol (page 26) must be present on all signs. Recycled Water Agencies may also choose to require the signs to include translations into the appropriate foreign language(s), as not all areas have Spanish as the second language.

PIPING, BELOW GRADE

All new piping must be installed according to the approved plans and marked as required. Installation must be in accordance with the latest edition of International Association of Plumbing and Mechanical Officials (IAPMO) Standard IS-8. Fittings, primers and solvents must be IAPMO listed. All new recycled and potable water lines (pressure/non-pressure), new and existing valve boxes and appurtenances must be identified to clearly distinguish between recycled water and potable water systems.

Below-Grade Identification of Recycled Water Lines - All new buried recycled water lines (pressure/non-pressure) must be purple-colored Schedule 40 (minimum) PVC pipe with continuous wording ***"CAUTION -- RECYCLED WATER"*** printed on opposite sides of the pipe. The use of continuous lettering on 3-inch minimum width, purple tape with 1-inch black or white contrasting lettering bearing the continuous wording ***"CAUTION -- RECYCLED WATER"*** permanently affixed at 10-foot intervals atop all horizontal piping, laterals and mains is an acceptable alternative. Identification tape must extend to all valve boxes and/or vaults and exposed piping.

Recycled water pipeline installation with continuous purple warning tape.

Piping buried under pavement must be sleeved with the sleeve being twice the diameter of the irrigation pipe, that is, a 2-inch sleeve required for a 1-inch irrigation pipe.

When recycled and potable water lines cross, the recycled water line must be located at least 1-foot below the potable water line. If this separation is not possible, then either the recycled or potable water line must be sleeved to 10-feet on either side of the crossover. Parallel recycled and potable water lines must be at least 10 feet apart, or at least 4 feet, if the recycled line is enclosed in a sleeve.

Existing Below-Grade - Existing below-grade piping need not be marked unless the piping becomes exposed, such as during installation of new pipeline or maintenance of existing pipe. The exposed section should be appropriately marked to the extent feasible.

Below-Grade Identification of Potable Water Lines - New buried potable lines must be identified by continuous lettering on 3-inch minimum width blue tape with 1-inch white lettering bearing the continuous wording ***"POTABLE WATER"*** permanently affixed at 10-foot intervals atop all horizontal piping, laterals and mains. Identification tape must extend to all valve boxes, vaults and exposed piping.

Identification tape is not necessary for extruded blue-colored PVC with continuous wording ***"POTABLE WATER"*** printed in contrasting lettering on opposite sides of the pipe.

Existing Below-Grade - Existing below-grade piping need not be marked unless the piping becomes exposed, such as during installation of new pipe or maintenance of existing pipe. The exposed section should be appropriately marked to the extent feasible.

Below-Grade Identification of Non-Potable Water Lines – Non-potable water is water supplied from the potable water system through an appropriate backflow preventer. All non-potable irrigation/industrial water lines (pressure/non-pressure) must be identified by continuous lettering on 3-inch minimum width yellow tape with 1-inch contrasting lettering bearing the continuous wording ***"NON-POTABLE WATER -- DO NOT DRINK"*** permanently affixed at 10 foot intervals atop all horizontal piping, laterals and mains. Identification tape must extend to all valve boxes and/or vaults, exposed piping, hydrants and quick couplers.

Existing Below-Grade - Existing below-grade piping need not be marked unless the piping becomes exposed, such as during installation of new pipe or maintenance of existing pipe. The exposed section should be appropriately marked to the extent feasible.

Above-Grade Identification - All above-grade recycled water pipelines must be appropriately labeled and color-coded purple to differentiate recycled water pipelines from potable and non-potable water pipelines. Recycled water pipelines may be wrapped with purple warning tape having the words ***"CAUTION -- RECYCLED WATER"*** visible in contrasting black letters. Flexible conduits or hoses must be clearly marked ***"CAUTION -- RECYCLED WATER"*** with each adapter or fitting painted purple.

Above-grade potable water pipelines must also be labeled and color-coded blue to differentiate potable water pipelines from

recycled and non-potable water pipelines. Potable water pipelines may be wrapped with blue identification tape having the words ***"POTABLE WATER"*** visible in contrasting white letters.

Above-grade non-potable water pipelines must be appropriately labeled and color-coded yellow to differentiate non-potable water lines from recycled water and potable water lines. Non-potable water lines may be wrapped with yellow identification tape having the words ***"NON-POTABLE WATER -- DO NOT DRINK"*** visible in contrasting letters.

Exposed piping, valve boxes, vaults, quick coupling valves, outlets and related appurtenances must be color-coded, labeled or tagged, to differentiate recycled water from potable water (that is, ***"CAUTION -- RECYCLED WATER -- DO NOT DRINK"*** in black or white contrasting lettering on a purple background, or ***"POTABLE WATER"*** in white lettering on a blue background) or ***"NON-POTABLE WATER -- DO NOT DRINK"*** in contrasting lettering on a yellow background.

Tags must be identified with the appropriate wording on both sides. Tags identifying recycled water must have the appropriate wording on one side and the symbol on the opposite side.

VALVES

Quick Coupling Valves - New quick coupling valves must be the Nelson 42 with 40K key or approved equal made specifically for recycled water use. New quick coupling valves should be 3/4-inch or 1-inch nominal size and of brass construction with a normal working pressure of 150 psi. The covers on all new quick coupling valves must be permanently attached and made of purple rubber or vinyl with the words ***"RECYCLED WATER"*** imprinted on the cover, and must be provided with a lock. To prevent unauthorized use, the valve should be operated only with a special coupler key with an acme thread for opening and closing the valve. New quick coupling valves should be installed approximately 12 inches from walks, curbs, headboards or paved areas. All new and existing quick coupling valves must be identified with an identification tag and installed in a marked valve box.

Quick coupler and valve box

Gate Valves - New gate valves should be installed in a marked valve box with crushed rock in the base and a notification tag on the valve operator.

Remote Control Valves - New and existing remote control valves should be installed in a marked valve box with crushed rock in the base and an identification tag on the operator. For each valve system, remote control valves should be adjusted so the most remote sprinkler heads operate at the pressure recommended by the manufacturer giving a uniform distribution of water.

SPRINKLER HEADS

New sprinkler heads must be of the size, type, pressure, radius of throw and discharge as indicated on the approved plans. All new sprinkler heads, either permanent or temporary, should be of the approved type for use with recycled water, creating the minimum amount of mist. Drainage through sprinkler heads is prohibited, and an anti-drain valve must be installed in the sprinkler riser as needed. Anchors on sprinkler risers should be provided as needed and maintained. Sprinkler heads must be kept in good repair at all times. All existing CAPS shall be purple or painted purple.

SYSTEM CONTROL DEVICES

New system controllers must be automatic with multiple start/stop times for any 24-hour period and installed according to the approved plans and local codes. Two, color-coded diagrams must be prepared for the station and system for each controller. Each diagram should be sealed in plastic with one copy placed in the controller box and the other given to the Recycled Water Agency. All controllers must be marked with the words ***"RECYCLED WATER"*** in black 1-inch high letters on a purple background.

STORAGE TANKS & IMPOUNDMENTS

All storage tanks, either stationary or portable, must be structurally sound and free from leaks. Each tank must be conspicuously marked with signs with the words ***"RECYCLED WATER -- DO NOT DRINK"*** in black letters 2-inches high on a purple background. The "Do Not Drink" symbol (page 27) should be present on all recycled water storage tanks.

Impoundments (lakes) that receive recycled water are classified as "unrestricted" (swimming and body contact allowed), "restricted" (no swimming or body contact, but noncontact activities such as fishing and boating allowed) or "ornamental" (no recreational activities allowed). All of these impoundments must have the recycled water valves and outlets marked or tagged with the words ***"RECYCLED WATER -- DO NOT DRINK."*** At restricted and ornamental impoundments, adequate measures must be taken to prevent body contact. All recycled water impoundments must be kept separate from potable water wells and reservoirs.

If any storage tank or impoundment receives both recycled and potable water, the potable water supply must be properly air-gapped to avoid a cross-connection.

OTHER DEVICES

All air/vacuum relief valves, valves, pressure reducing valves, pumps, pump control valves, etc., must be tagged or labeled indicating whether it is on the recycled water, non-potable water or potable water system. Recycled water tags or labels must have a purple background with black lettering stating ***"RECYCLED WATER -- DO NOT DRINK."*** The "Do Not Drink" symbol (page 26) must be present.

Potable water tags or labels must have a blue background with ***"POTABLE WATER"*** in white lettering.

Non-potable water tags or labels must have a yellow background with ***"NON-POTABLE"*** in black lettering.

BACKFLOW PREVENTION ASSEMBLIES

Backflow prevention assemblies at recycled water use sites must be of an approved type and installed according to approved plans. Backflow prevention assemblies must be maintained to assure satisfactory operating condition. This includes annual testing of backflow prevention assemblies by a tester certified by the local city or county Health Department and the keeping of accurate records.

VEHICLE IDENTIFICATION

Any vehicle used to transport recycled water must be clearly marked with labels or signs that contain the words ***"RECYCLED WATER -- DO NOT DRINK"*** in black 2-inch high letters on a purple background and include the "Do Not Drink" symbol (page 26). One label or sign should be placed on the tank closest to the driver's door, with a second label or sign being placed on the rear surface of the tank. All labels and signs must be placed where they can easily be seen by the personnel using the vehicle.

Any vehicle used for the transportation or storage of recycled water must not be reused for the transportation or storage of potable water.

POSTING APPROVED USE AREA

Posting the use of recycled water is required at all entrances to the User's facility, and placed where they can be easily seen. Additional signing may be required by the Regulatory Agency on a case-by-case basis. The signs must indicate that ***"RECYCLED WATER"*** is in use. In addition, all signs must include the "Do Not Drink" symbol (page 26) and use the words "do not drink," in both English and Spanish (or other locally used language).

Recycled water notification signs do not need to include such words as "Caution," "Warning" or "Danger."

"DO NOT DRINK" SYMBOL

"RECYCLED WATER – DO NOT DRINK"

In case of Emergency Contact City of _____

Phone: _____

SECTION D
REUSE SITE PRESSURE-TESTING PROTOCOL

The following are general guidelines for the testing procedure and may be modified with the approval of the State, local city or county Health Department.

1. Potable water must be used during the initial testing of the on-site recycled water system, with the potable water supply separated from the proposed recycled water system by an approved reduced pressure principle backflow prevention assembly until the system has been checked for cross-connections.

2. The recycled water system should be completely drained and remain deactivated for an adequate period of time to be specified by the State, local city or county Health Department.

3. At the end of the shutdown period, all of the recycled water outlets should be tested throughout the entire site for cross-connections by checking each outlet for flow.

4. The recycled water system should then be checked at the quick couplers (located on the normally pressurized main irrigation line) or by cycling the irrigation clocks (observing the spray decrease) to determine if there is any flow. If there is no flow detected in any of the outlets that would suggest a cross-connection, the recycled water connection may then be reactivated.

5. The potable water to the use site will be shut off at the potable water meter. The potable water system must be completely drained and the system remains deactivated for an adequate period of time to be specified by the State, local city or county Health Department.

5. At the end of the shutdown period, all of the use site's potable water fixtures should be tested for cross-connections by operating each fixture and checking for flow.

6. The potable water inlet should then be checked to detect if there is backpressure or significant backflow. If no flow is detected at the inlet or in any of the fixtures that would suggest a cross-connection, the potable water connection may then be reactivated.

Cross-Connection Control Test Methodology

There are currently nine methods of conducting the cross-connection control test in. The various methods have been developed as modifications of the basic test procedure to accommodate various use site requirements.

The method used on the test will be based on the site considerations. For example, is this a new site or retrofit site with plans? What are the points of connection for potable and recycled water lines? Do the points of connection have backflow prevention assemblies or other means to connect pressure gauges? See Attachment 6 for a General Cross-Connection Control Checklist for All Use Sites.

Method 1 is for systems that have a means to attach a pressure recorder at the potable and recycled water service meters. This can be either backflow prevention assemblies, a fitting or a combination of the two.

Method 2 -- is for systems without pressure recorder fittings.

Method 3 -- is for systems without pressure recorder fittings and where recycled water is being used on the site.

Method 4 -- can be used at sites containing occupied residences.

Method 5 -- involves exposing all potable water lines.

Method 6 -- involves the use of a dye test.

Method 7 -- is based on the 1998 California Plumbing Code for testing dual plumbed buildings.

Method 8 -- was developed for dual plumbed buildings and involves a combination of dye testing and pressure recorder testing.

Method 9 -- was developed for homeowners associations (HOAs) with no backflow prevention assemblies and a single potable lateral feeding a small (house) water system.
When doing the cross-connection control test on a irrigation system, all stations must be operated. A lateral may be tied into another system that is not part of the rested system. This was observed when a street median strip system was operated and an adjacent apartment complex irrigation system came on at the same time. The irrigation water at the apartment complex was being paid for by the potable water purveyor. This is also happened at a private home when the house irrigation system was unaccountably tied into adjacent street slope irrigation.

Method 1:

This method is based on the availability of backflow prevention assemblies at the potable water meter(s). Other methods of attaching pressure recorders, such as installed fittings, may also be considered. On large sites with multiples meters, the existence of different pressure zones must be reviewed.

First, the recycled water service meter is secured and the recycled system is depressurized. A complete drain down of the system is not required. The system should be depressurizing to 30 to 40 percent of line pressure, although most irrigation systems will quickly lose pressure-which is normal. When the service meter is shut off to depressurize the system it should also be locked if possible. This will prevent an unauthorized turn on of the meter. In the event that a site is served by a combination meter or meters, the depressurization of the irrigation system will be accomplished by shutting of the valve at the backflow prevention assembly. Also, if there is a backflow preventing assembly present, open the number one test cock. If there is flow through the closed service meter valve due to a leaking shutoff valve, the water will flow out of the number one test cock and not affect the pressure recorder.

A pressure recorder is attached to the number four test cock of the backflow prevention assembly at the secured meter. The pressure recorder is run for 24 hours while the potable system is operated normally. Test spikes should be recorded before depressurizing and at the end of the test to confirm that the recorder is in good working condition. Even though the irrigation system is depressurized, it must be operated through the normal irrigation cycle because an isolated lateral may be cross-connected into the potable system. If this is the case, it will show up on the pressure recorder graph.

For the second part of the test, the test method is reversed with the pressure recorder attached to the number four test cock of the backflow prevention assembly on the secured potable water meter. The irrigation system is pressurized and all stations are operated during this phase of the test. At least two pressure recorders should be sued for each phase of the test, both as a backup if one recorder quits working and to get better test coverage.

If the site is served by a combination meter or meters, the depressurization of the potable water system will depressurized the entire water system. Provisions must be made to provide a temporary high line to serve the irrigation system while the potable system is being tested. This will typically be done by connecting the irrigation system to a nearby fire hydrant using a construction meter, backflow prevention assembly and a fire hose (see Attachment 24). This will also serve as the overspray and ponding phase of the test and it will require someone with on-site knowledge in the activation of the irrigation master control panel.

The regulatory agency should accompany the water purveyor's representative to ensure that the potable water system is depressurized and all depressurizing devices are secured before starting this portion of the test. This is critical, because this phase of the test will be concerned with the actual contamination of the site's drinking water. Ideally, this test should also run for 24 hours. However, since this phase of the test will frequently directly affect site operations, the

regulatory agency can decide on a reduced time frame. This is a judgment call on the part of the regulatory agency, depending upon the complexity of the potable distribution system. The decision must be based on all available information, expertise and experience to determine the actual cross-connection control test duration.

If there are increases in pressure, the reason(s) must be determined. Initially, walk the system to ensure that all devices that maybe cause re-pressurization have been disabled. Next, attempt to isolate the cross-connection within the system. It may be possible to isolate specific areas of the distribution system by using isolation valves. Consequently, flow to one or more faucets or hose bibs may be traceable to areas where the potable line feeding these faucets or hose bibs is in close proximity to the recycled water system. This phase of the test should be repeated to determine if the pressure increase can be duplicated (see page 18, Potential Cross Connections).
If there are not pressure increases observed on the recycled and potable systems and any additional testing has been successfully completed, the cross-connection control test can be considered complete, with no cross-connections discovered at the time of the test.

If this is an initial test or retrofit, the following test may also be completed. This test is not usually necessary, and its use should be at the discretion of the regulatory agency.

All taps and hose bibs should be slowly drained. The slow draining will minimize air locks in overhead water lines. After draining, the taps and hose bibs should be closed. Upon completion of the test, all hose bibs and taps should be checked for flow, using a paper cup to determine flow quantity. Some flow will be expected due to the air locks breaking loose. The amount o flow to cause concern is a judgment call. As a general rule, filling a quarter of a 12 oz. cup can be considered the result of an air lock breaking free. Quantities greater than that would lead to an investigation to determine the cause of the flow. This is site specific, and items such as the use of multiple overhead water lines must be considered. If this is a site using recycled water, the TDS of the flow can be checked using the TDS meter. It must be remembered that if a cross-connection exists, the TDS will probably be lower than that of the recycled water due to dilution.

Method 2:

Method 2 can be used on sites with no connections for pressure recorders. The potable water system shall be activated and pressurized. Depressurized the recycled water system. The potable water system must remain pressurized while the recycled water system is depressurized. The minimum period of time the recycled water system is to remain depressurized shall be determined on a case-by-case basis by the regulatory agency, taking into consideration the size and complexity of the potable and recycled water systems. If this is an irrigation system, it should be depressurized for 24 hours.

If there is a drain on the recycled water system, it should be checked for flow during the test and at the end of the test period. Before re-pressurizing the irrigation system, operate all stations of the system for a short period of time to determine if any stations have re-pressurized.

Depressurized the potable water system. The recycled water system is then activated and pressurized. The recycled water system must remain pressurized while the potable water system is depressurized. The minimum period of time that the potable water system is to remain depressurized shall be determined on a case-by-case basis.

All taps and hose bibs should be slowly drained. The slow draining will minimize air locks in overhead water lines. The taps and hose bibs should then be closed. Upon completion of the test, all those bibs and taps should be checked for flow using a paper cup to determine flow quantity. Some flow will be expected due to air locks breaking loose. The amount of flow to cause concern is a judgment call. As a general rule, filling a 12 oz. cup to a quarter full can be considered the result of an air lock breaking free. Quantities greater than that would lead to an investigation to determine the cause for the flow. Again, this is site-specific and items such as the existence of multiple overhead water lines must be considered. If this is a site using recycled water the TDS of the flow can be checked using the TDS meter. Keep in mind that if a cross-connection exists the TDS will probably be lower than that of the recycled water due to dilution. If there are indications of a cross-connection; the reason(s) must be determined. Initially, walk the distribution system to ensure that all devices that may cause re-pressurization have been disabled. Next, attempt to isolate the cross-connection within the system. It may be possible to isolate specific areas of the system by using isolation valves. Consequently, flow to one or more faucets of hose bibs may be traceable to areas where the potable water line feeding these faucets or hose bibs is in close proximity to the recycled water system. This phase of the test should be repeated to determine if the pressure increase can be duplicated.

Method 3:

This method can be used on sites with no backflow devices or connections for pressure recorders, but where recycled water is being currently used in the irrigation system. This test method is based on the difference in the concentration of TDS (total dissolved solids) in potable and recycled water. This method is commonly used at residential sites where the yard areas are controlled by a homeowner association (see also Method 9)

The number of TDS test meters should be based on the size of the project. This methods depends on a significant difference in the TDS of the potable and recycled water. However, this test method may not be applicable if potable water is blended with recycled water before delivery or if low TDS is a significant constituent of the recycled water.

First, follow method 1 for the recycled water system cross-connection control testing. Determine the TDS concentration of potable water in the area of the test. This can be provided by the water purveyor. The reading needs to be as close to the day of the test as possible due to the variations in TDS of the delivered water.

Shut off the potable water at the service meter(s). Drain each individual building through the hose bib. The graining should be done slowly to avoid air locks in the water lines. Secure (shut off) the hose bib to close the drained system.

Turn on the recycled water system for at least one hour or until runoff occurs. Activate all the stations. Secure (shut off) the recycled water system. Then go to each individual building and check the hose bib for flow. If there is flow, test the flow with the TDS meter. If the TDS is identical to the reading taken earlier, there is no detectable cross-connection noted at the time of the test. If the water in the house has not been used for a period of time, the TDS of the "old" water maybe be significantly different from the TDS noted on the day of the TDS reading.
If the TDS is significantly different from the earlier recorded reading, action must be taken to determine the reason for the difference. One way of doing this is to trench the potable water lateral from the service meter to the hose bib because this is the most likely area for a cross-connection.

Method 4:

This method is a modification of method 3, for use on sites where there are no connections for pressure recorders and the irrigation is still charged with potable water prior to conversion. This procedure can be used at sites containing occupied residences since it is the least intrusive of the test methods. However, in most cases this will be a retrofit situation. The irrigation system should be tested for 24 hours. The period of cross-connection control of the potable system should be at least 4 to 12 hours for the initial test, based upon site complexity.
First, follow Method 1 for the recycled water system cross-connection control and testing. Shut off the potable water at the service meter(s).

Drain each individual building through the hose bib. The draining should be done slowly to avoid air locks in the water lines. Secure (shut off) the hose bib to close the drained system. Turn of the recycled water system for at least one hour or until extensive runoff occurs. Activate all the stations.

Secure (shut off) the recycled water system. Go to each individual building and check the hose bib for flow.

Note: Although this method is the least intrusive because the exterior hose bibs are the only fittings tested for flow, it is the least certain of the test methods. This method places a great deal of reliance on the knowledge and judgment of the specialist conducting the test.

One method to increase the level of safety for the recycled irrigation system is to require the purveyor to install master shutoff valves at the irrigation service meter. As a result, the irrigation system would be depressurized any time it was not in actual use.

Method 5:

This method can be used on new construction sites where the building(s) are located close to the potable service meter. Immediately before the conversion to recycled water, the contractor can expose the potable water line(s) to the building(s) for visual inspection. Future cross-connection control shutdown tests must be done by acceptable methods or uncovering the potable water line.

Method 6:

The dye testing method was developed by Tucson Water in Tucson, Arizona. It has been successfully used for cross-connection control tests for a number of years in Arizona.

Dye testing is simple and quick. If set up properly, the test can be completed in only one to two hours which minimizes the inconvenience to use site tenants. It can give results that are seemingly more certain that the pressure differential test. However, it is only a one way test and will not reveal a cross-connection from the recycled system protected by a one way check valve. Another potential problem is that the dye may stain the hardscape and adjacent structures. The food safe dye fades when exposed to ultraviolet light, as found with exposure of the dye to the hot sun in the Tucson, Arizona area. However, the dye may not fade in shaded areas and in areas without maximum exposure to sunlight. Also, the quantity of dye to be sued is based on the size of the use site and must be quantified. Dye testing can be used in specific cases where the inconvenience to tenants through shutting down the potable water system is the overriding issue and staining is not a concern.

To comply with the two way test requirements, follow Method 1 for the recycled water system cross-connection control and testing. Shut off the potable water supply at the RP. Open the number four test cock. Note: All RPs must have been tested successfully as illustrated by a current test report prior to dye testing.

Open all potable water outlets and fixtures on the proposed recycled water site. These are left open until the dye test is completed. Charge the proposed recycled water system(s) with potable water and dye. Use powder dye to immediately color the system. Tablets or cakes can also be utilized and will be retained in a strainer to dye incoming water to the proposed recycled water system.

Check for water and dye at the RP #4 test cock and at all potable water fixtures and outlets. Open all potable water fixtures that could not be left open and check for water and dye while proposed recycled system(s) are under pressure.

If the systems check out OK, return the potable water system(s) to normal operation. The proposed recycled system may now be connected to the recycled water service if site evaluation (ponding and overspray) is complete and the recycled water use signs are posted.

Should the site fail any of the above criteria, the recycled water service to the site is prohibited until full site compliance is completed.

Method 7:

Method 7 is used for dual plumbed buildings. The test methods were developed based upon the 1998 California Plumbing Code. The procedure should be followed by the applicant in the presence of the regulatory authority and other authorities having jurisdiction.

The potable water system shall be activated and pressurized. The recycled water system shall be shut down and completely drained. The potable water system shall remain pressurized for a minimum period of time specified by the regulatory authority while the recycled water system is empty. The minimum period of the recycled water system is to remain depressurized shall be determined on a case-by-case basis, taking into account the size and complexity of the potable and recycled water systems. In no case shall that period be less than one hour.

All fixtures, potable and recycled, shall be tested and inspected for flow. Flow from any recycled water system outlet shall indicate a cross-connection. No flow from a potable water outlet would indicate that it may be connected to the recycled water system.

The drain on the recycled water system shall be checked for flow during the test and at the end of the period. The potable water system shall then be completely drained. The recycled water system shall then be activated and pressurized.

The recycled water system shall remain pressurized for a minimum period of time specified by the regulatory authority while the potable water system is empty. The minimum period the potable water system is to remain depressurized shall be determined on a case-by-case basis. In no case shall that period be less than one hour.

All fixtures, both potable and recycled, shall be tested and inspected for flow. Flow from any potable water system outlet shall indicate that it may be connected to the recycled water system. The drain on the potable water system shall be checked for flow during the test and at the end of the period.

If there is no flow detected in any of the fixtures which would have indicated a cross-connection, the potable water system shall be pressurized.

Method 8:

Method 8 is a modification of method 6 and 7 for dual-plumbed buildings. This method uses a food-safe dye. The basic procedure is the same as Method 7, with the following modifications:

- Pressure recorders are installed on the recycled water system prior to depressurization.
- The recycled water system is depressurized to a pressure of at least 50% of the potable water pressure.
- The potable system is operated normally for at least 4 hours
- The recycled water system is pressurized
- The potable water system is depressurized to at least 50% of the recycled water pressure.
- A food-safe dye is added through a valved standpipe to the recycled water fixture.
- The system is flushed until the dye appears in the last recycled water fixture.
- All fixtures are checked on the potable system for the appearance of the dye.
- The length of time for this phase of the test is the amount of time it takes to check all fixtures on the potable water system.

Method 9:

Recycled Water Cross-Connection Control Shutdown Test at Homeowners Association (HOAs) with No Backflow Prevention Assemblies

The purveyor notifies the HOA of the scheduled test and homeowners know that the water will be turned off for a period of time. The purveyor is to have the total dissolved solids (TDS) reading for both the potable and the recycled water for the day of the test.
The test can be done in sections to minimize the water shutoff times.

Uncover each water meter in a section and turn off the curb stop. If the site is old, both the curb stop and the customer shutoff valve maybe have to be closed to stop water bleed-by.
Once the water in a section is shut off, open all exterior hose bibs to drain the water from the homes. Open the hose bibs slowly to minimize the creation of air locks in the plumbing system. Close all hose bibs in the rested section.

Run all irrigation valves in the tested section for a minimum of two minutes each-this is the usual test cycle on the controller.

Open each hose bib and if there is any water flow, test it for TDS with the TDS meter. A paper or plastic cup is needed to collect the water flow. A cross-connection is indicated if the TDS of the house water is at or near the TDS of the recycled water.

Be aware that if the house has been unoccupied for some time, the TDS of the house water may vary from the test day potable water TDS. If the TDS is near that of the recycled water TDS, purveyor records should be consulted for previous (historical) TDS readings when the house was last occupied. Water softeners and where the softeners are located in the house water system also must be considered in this test method.

Be aware that the purveyor may be augmenting the recycled water supply with potable water to meet the demand. This will make the readings increasingly difficult to interpret as the TDS of the recycled water approaches the TDS of the potable water.
Note unprotected (without a backflow prevention assembly) connections off the potable line feeding the house that extend to potable backyard irrigation. The purveyor should notify the HOA on how to make the connection legal.

To assist the on-site purveyor staff, the regulator may help the purveyor shut off the water to the homes and check the hose bibs. However, it is the purveyor's responsibility to turn the water back on. If the home is unoccupied and the water continues to flow (as indicated by the meter tattletale), flooding may occur in the home. If the tattletale indicates continued flow, it is advised that the meter be shut off and a note left for the homeowner to contact the purveyor for meter turn on.

SECTION E
SAMPLE FORMS AND SITE SPECIFIC DETAILS

SUMMARY OF STEPS TO OBTAIN RECYCLED WATER

Potential User contacts the Recycled Water Agency for recycled water service.

Potential User must have irrigation plans stamped by a registered landscape architect or a registered civil engineer.

Potential User submits a recycled water application (an example is shown on page 34) and pays the application fee. The User agreement is explained and signed at this time.

The potential User shall apply to the Recycled Water Agency for a recycled water meter. If a potable construction meter is needed it is to be requested via a separate application. A construction meter for potable water and an appropriate backflow prevention device may be required for temporary water and system testing before being served recycled water.

Recycled Water Agency notifies the State, local city or county Health Department of the submitted application.

Potential User submits two sets of plans each to the Recycled Water Agency, State DPH, and the local city or county Health Department for plan check and pays the applicable plan check fees.

Recycled Water Agency, State DPH, and the local city or county Health Department complete plan check and return plans to the potential User for corrections.

After all corrections are made the potential User resubmits the marked plan checked prints along with a final set of plans. If no more corrections are to be made, the Recycled Water Agency, State DPH, and the local city or county Health Department will approve the original plans. Four (4) sets of prints of the signed plans each should be submitted to these agencies.

A pre-job meeting (preliminary inspection) is held before construction with the Recycled Water Agency's representative, potential User, the contractor and state and county (or city) health agencies. This meeting is to cover the plan's general notes, specific job requirements and cover any questions. A preliminary cross-connection test is also conducted at this time on existing systems.

The potential User may begin construction, according to the approved plans, contingent upon any other required permits or approvals being obtained. Approvals for deviations in the approved plans are to be sought as they occur.

All work during construction must be inspected by the Recycled Water Agency and/or the local city or county Health Department before backfilling any buried piping. If any Recycled or potable water piping is installed before plan check approval and/or inspection, all or any portion of the piping system may be required to be exposed and corrected as necessary.

After construction is completed, the Recycled Water Agency, State DPH, and the local city or county Health Department must be notified for the final inspection and cross-connection test utilizing potable water supplied through an approved backflow prevention device on dual plumbed sites. The recycled water meter is installed, potable water severed and conversion made to recycled water. During this walk through flow adjustments are made, tagging is inspected, and coverage is checked. A thorough cross-connection test is conducted at this time to verify that construction was performed correctly. The Recycled Water Agency and the local city or county Health Department will generate a punch list of corrections to be made if necessary.

A follow-up walk through will be called for after all corrections from the first walk-through are completed if required. This walk-through will inspect to see that all corrections are complete, including color-coded plans for each controller that are accurate and placed at each controller cabinet. Upon the successful completion of the inspection and cross-connection tests, the User will be granted permission for the normal operation of the system. At this time the Recycled Water Agency's inspector will discuss with the User and the User's Site Supervisor conditions for operation, inspections etc.

LOCAL CONTACTS

SITE: _____

LOCATION: _____

_____

SUPERVISOR: **PHONE:** _____

RECYCLED WATER AGENCY CONTACTS

WATER OPERATIONS: **PHONE:** _____

SUPERVISOR: **PHONE:** _____

RECYCLED WATER INSPECTOR: **PHONE:** _____

RECYCLED WATER AGENCY'S ENGINEER: **PHONE:** _____

CROSS-CONNECTION TEST NOTIFICATION FORM

Test Date: _____ Test Time: _____

Site Name: _____

Site Address: _____

_____

Recycled Water Agency: _____

Contact Person: Phone: _____

Agencies Notified: California Department of Public Health, Drinking Water Field Operations Branch

_____

_____

_____

_____

CROSS-CONNECTION NOTIFICATION RSVP FORM

Site Address: _____

Test Date: _____

Agency/Company: _____

Representatives Attending: _____

_____

(Please return to requesting party within 10 days of scheduled test)

RECYCLED WATER
SITE INSPECTION REPORT

Site:_____ Date:

Inspected By:

Title: _____ Agency:

AREA INSPECTED	NO	YES
- PIPING -		
Piping properly marked?	___	___
Valves etc. properly marked?	___	___
Has piping been modified?	___	___
If yes, are modifications approved?	___	___
Points of connection properly marked?	___	___
Piping System "Leak"?	___	___
- SIGNING -		
Are all signs properly placed?	___	___
Are all signs legible?	___	___
Are tags visible and legible?	___	___
- BACKFLOW PREVENTION -		
Backflow Prevention Device installed?	___	___
Does the device appear damaged?	___	___
Is the device leaking?	___	___
Is the device unobstructed?	___	___
Is Recycled Water being used for its approved purpose?	___	___

Comments:

Signed:_____ Date:

RECYCLED WATER IRRIGATION
USER APPLICATION

Today's Date: _____
Tract No. _____ Project Name: _____
Location: _____ or Brief Legal Description: _____
_____
___

Type of Development:
_____

Description of proposed uses of recycled water:

Expected date to commence recycled water service (Month/Year) _____
Estimated Water Requirements:

	Acres	Average AF/YR)	Peak Demand (GPM)
Landscape Irrigation:	_____	_____	_____
Park:	_____	_____	_____
Open Space:	_____	_____	_____
School:	_____	_____	_____

Owner: _____
Address: _____
City: _____
State: _____ Zip: _____
Phone: (____)_____
Contact: _____

Engineer:_____
Address: _____
City:_____
State: _____Zip: _____
Phone: (____)_____
Contact: _____

SECTION F
LOCAL GOVERNING AGENCIES

California Regional Water Quality Control Board
Santa Ana Region
3737 Main Street, Suite 500
Riverside, CA 92501-3339
(951) 782-3258

State of California Department of Public Health
Drinking Water Field Operations Branch
464 West 4th Street, Suite 437
San Bernardino, CA 92401
(909) 884-4056

Inland Empire Utilities Agency
A Municipal Water Agency
6075 Kimball Avenue
Chino, CA 91708
(909) 993-1600

County of Los Angeles Department of Health Services
Cross Connection and Water Pollution Control
5050 Commerce Drive
Baldwin Park, CA 91706
(626) 430-5290

SECTION G
DEFINITIONS

Whenever the following terms, or pronouns used in their place, occur in this Manual the intent and meaning shall be interpreted as follows:

Air Gap Separation – A physical break between a water line and a receiving tank or reservoir which is at least double the diameter of the pipeline vertically above the rim of the tank or reservoir, and in no case less than one-inch.

Applicant – An Owner or authorized representative who applies for recycled water service under terms of the appropriate regulations. An approved Applicant becomes a User.

Approved Backflow Prevention Assembly – A device installed to protect the potable water supply from contamination by nonpotable water and is approved by the State of California.

Approved Use – An application of recycled water in a manner, and for a purpose, designed in a user agreement issued by the Recycled Water Agency and in compliance with all applicable Regulatory Agency requirements.

Approved Use Area – A site with well-defined boundaries, designated in a user agreement issued by the Recycled Water Agency to receive recycled water for an approved use and acknowledged by all applicable Regulatory Agencies.

Chief Executive Officer – The highest-ranking management official of the Recycled Water Agency.

Construction Use – An approved use of recycled water to support approved construction activities, such as soil compaction and dust control during grading.

Cross-Connection – Any physical connection between any part of a water system used or intended to supply water for drinking purposes and any source or system containing water or substance that is not or cannot be approved as safe, wholesome and potable for human consumption.

Governing Board – An elected or appointed group or person whose responsibility it is to establish and enforce the Recycled Water Agency's policy.

Infiltration Rate – The rate at which the soil will accept water as applied during irrigation, expressed in inches per hour.

Inspector – Any person authorized by the Recycled Water Agency or the local health agencies to perform inspections on or off the Users site before construction, during construction, after construction and during operation.

Irrigation Period – The time, from start of water flow to cessation, which a specific area receives recycled water by direct irrigation application, no matter how often the specific area is irrigated - that is length of the duty cycle.

Irrigation Use – An approved use of recycled water for landscape irrigation as defined for recycled water under Title 22, Chapter 3 of the California Code of Regulations.

Landscape Impoundment – An open body of recycled water on a use site that is utilized for aesthetic enjoyment or which otherwise serves a function not intended to include public contact.

Local City or County Health Department – This agency is the local health protection agency for the municipality in question.

Nonpotable Water – The water that has not been treated for human consumption in conformance with the latest edition of *the* United States Public Health Service Drinking Water Standards, the California Safe Drinking Water Act, or any other applicable standards. This also refers to irrigation or industrial process water derived from a potable water system through an approved backflow prevention device that may be subject to contamination (e.g., through back-siphonage).

Off-site – Designates or relates to recycled water facilities up to and including the water meter that are owned and operated by the Recycled Water Agency.

On-site – Designates or relates to facilities owned and operated by a User.

Operations Personnel – Any employee of a User, whether permanent or temporary, or any contracted worker whose regular or assigned work involves the supervision, operation or maintenance of equipment on any portion of on-site facilities using recycled water.

Operator – Any person, persons or firm, who by entering into an agreement with a User is responsible for operating on-site facilities.

Owner – Any holder of legal title, contract purchaser, or lessee under a lease with an unexpired term of more than one (1) year, for property for which recycled water service has been requested or established.

Point of Connection – This is the point where the User's system ties to the Recycled Water Agency's system. This is usually at the water meter.

Ponding – Retention of recycled water on the surface of the ground or other natural or manmade surface for a period following the cessation of an approved recycled water use activity such that a hazard or potential hazard to the public health results.

Potable Water – That water that is pure and wholesome, does not endanger the lives or health of human beings, and conforms to the latest edition of the California Safe Drinking Water Act, or other applicable standards.

Public – Any person or persons at large who may come in contact with facilities and/or areas where recycled water is approved for use.

Rate and Fee Schedule – The schedule of all rates, charges, fees and assessments to be made concerning the use of recycled water served by the Recycled Water Agency as approved or as amended by the Recycled Water Agency.

Note: If the recycled water provided by an investor-owned utility functioning as the Recycled Water Agency, rates and fees are approved or amended by the California Public Utilities Commission.

Recreational Impoundment – An open body of recycled water located on a use site that may be used for unrestricted body contact (e.g., swimming, wading) or restricted non-body contact (e.g., boating, fishing) recreation.

Recycled Water – Nonpotable water that is highly treated to the California Code of Regulations, Title 22, Chapter 3 and used for approved purposes other than drinking water.

Recycled Water Agency – The local purveyor of recycled water for the specified service area (public or private).

Regulatory Agencies – Those public agencies legally constituted to protect the public health and water quality, such as the State Department of Health Services, the California Regional Water Quality Control Board and the local city or county Health Department.

Runoff – When recycled water is allowed to drain outside the approved irrigation area.

Service – The furnishing of recycled water to a User through a metered connection to the on-site facilities.

Site Supervisor – A qualified person designated by the User with the approval of the Recycled Water Agency to provide liaison with the Recycled Water Agency. This person should be available to the Recycled Water Agency at all times, should have the knowledge and authority to carry out any requirements of the Recycled Water Agency, and should be responsible for the installation, operation and maintenance of the reclaimed and potable water systems and also prevention of potential hazards.

State Department of Public Health – Shall be the State of California Department of Health Services, Drinking Water Field Operations Branch.

Unauthorized Discharge – Any release of recycled water that violates the rules and regulations of the Recycled Water Agency or all applicable Federal, State or local statues, regulations, ordinances, contracts or other requirements.

User – Any person, persons or firm including any public utility, municipality or other public body or institution issued a recycled water Users' Permit by the Recycled Water Agency. The User and Owner may be the same.

User Agreement – An agreement issued by the Recycled Water Agency to a recycled water service Applicant after the satisfactory completion of the service application procedures. This Agreement forms a service agreement between the User and the Recycled Water Agency that legally binds the User to all conditions stated in the Agreement and all applicable Regulatory Agency requirements.

User Agreement (For Users Served by an Investor-Owned Utility) – An agreement shall consist of the signed Application, the User Manual, and the California Public Utilities Commission approved Tariff Schedules. These form a service agreement between the User and the Recycled Water Agency that legally binds the User to all conditions stated in the Agreement and all applicable Regulatory Agency requirements.

Violation – Noncompliance with any condition or conditions of the User Agreement and/or Title 22, Chapter 3 of the California Code of Regulations by any person, action or occurrence, whether willfully or by accident.

Windblown Spray – Dispersed, airborne particles of recycled water that can be transmitted through the air to locations other than those approved for the direct use of recycled water.

SECTION H

TITLE

17 AND 22

California Department of Public Health Regulations Related to Recycled Water January 2009

NOTE: This publication is meant to be an aid to the staff of the CDPH—formerly the Department of Health Services (DHS)—Drinking Water Program and cannot be relied upon by the regulated community as the State of California's representation of the law. The published codes are the only official representation of the law. Refer to the published codes—in this case, 22 and 17 CCR—whenever specific citations are required.

TITLE 17 CODE OF REGULATIONS
Division 1. State Department of Health Services

Chapter 5. Sanitation (Environmental)
Group 4. Drinking Water Supplies
Article 1. General.

§7583. Definitions.

In addition to the definitions in Section 4010.1 of the Health and Safety Code, the following terms are defined for the purpose of this Chapter:

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(a) "Approved Water Supply" is a water supply whose potability is regulated by a State of local health agency.

(b) "Auxiliary Water Supply" is any water supply other than that received from a public water system.

(c) "Air-gap Separation (AG)" is a physical break between the supply line and a receiving vessel.

(d) "AWWA Standard" is an official standard developed and approved by the American Water Works Association (AWWA).

(e) "Cross-Connection" is an unprotected actual or potential connection between a potable water system used to supply water for drinking purposes and any source or system containing unapproved water or a substance that is not or cannot be approved as safe, wholesome, and potable. By-pass arrangements, jumper connections, removable sections, swivel or changeover devices, or other devices through which backflow could occur, shall be considered to be crossconnections.

(f) "Double Check Valve Assembly (DC)" is an assembly of at least two independently acting check valves including tightly closing shut-off valves on each side of the check valve assembly and test cocks available for testing the watertightness of each check valve.

(g) "Health Agency" means the California Department of Health Services, or the local health officer with respect to a small water system.

(h) "Local Health Agency" means the county or city health authority.

(i) "Reclaimed Water" is a wastewater which as a result of treatment is suitable for uses other than potable use.

(j) "Reduced Pressure Principle Backflow Prevention Device (RP)" is a backflow preventer incorporating not less than two check valves, an automatically operated differential relief valve located between the two check valves, a tightly closing shut-off valve on each side of the check valve assembly, and equipped with necessary test cocks for testing.

(k) "User Connection" is the point of connection of a user's piping to the water supplier's facilities.

(l) "Water Supplier" is the person who owns or operates the public water system.

(m) "Water User" is any person obtaining water from a public water supply.

§7584. Responsibility and scope of program.

The water supplier shall protect the public water supply from contamination by implementation of a cross-connection control program. The program, or any portion thereof, may be implemented directly by the water supplier or by means of a contract with the local health agency, or with another agency approved by the health agency. The water supplier's cross-connection control program shall for the purpose of addressing the requirements of Sections 7585 through 7605 include, but not be limited to, the following elements:

(a) The adoption of operating rules or ordinances to implement the crossconnection program.

(b) The conducting of surveys to identify water user premises where crossconnections are likely to occur,

(c) The provisions of backflow protection by the water user at the user's connection or within the user's premises or both,

(d) The provision of at least one person trained in cross-connection control to carry out the cross-connection program,

(e) The establishment of a procedure or system for testing backflow preventers, and

(f) The maintenance of records of locations, tests, and repairs of backflow preventers.

§7585. Evaluation of hazard.

The water supplier shall evaluate the degree of potential health hazard to the public water supply which may be created as a result of conditions existing on a user's premises. The water supplier, however, shall not be responsible for abatement of cross-connections which may exist within a user's premises. As a minimum, the evaluation should consider: the existence of cross-connections, the nature of materials handled on the property, the probability of a backflow occurring, the degree of piping system complexity and the potential for piping system modification. Special consideration shall be given to the premises of the following types of water users:

(a) Premises where substances harmful to health are handled under pressure in a manner which could permit their entry into the public water system. This includes chemical or biological process waters and water from public water supplies which have deteriorated in sanitary quality.

(b) Premises having an auxiliary water supply, unless the auxiliary supply is accepted as an additional source by the water supplier and is approved by the health agency.
(c) Premises that have internal cross-connections that are not abated to the satisfaction of the water supplier or the health agency.
(d) Premises where cross-connections are likely to occur and entry is restricted so that cross-connection inspections cannot be made with sufficient frequency or at sufficiently short notice to assure that cross-connections do not exist.
(e) Premises having a repeated history of cross-connections being established or re-established.

§7586. User supervisor.

The health agency and water supplier may, at their discretion, require an industrial water user to designate a user supervisor when the water user's premises has a multipiping system that convey various types of fluids, some of which may be hazardous and where changes in the piping system are frequently made. The user supervisor shall be responsible for the avoidance of crossconnections during the installation, operation and maintenance of the water user's pipelines and equipment.

Article 2. Protection of Water System.

§7601. Approval of backflow preventers.

Backflow preventers required by this Chapter shall have passed laboratory and field evaluation tests performed by a recognized testing organization which has demonstrated their competency to perform such tests to the Department.

§7602. Construction of backflow preventers.

(a) Air-gap Separation. An Air-gap separation (AG) shall be at least double the diameter of the supply pipe, measured vertically from the flood rim of the receiving vessel to the supply pipe; however, in no case shall this separation be less than one inch.

(b) Double Check Valve Assembly. A required double check valve assembly (DC) shall, as a minimum, conform to the AWWA Standard C506-78 (R83) adopted on January 28, 1978 for Double Check Valve Type Backflow Preventive Devices which is herein incorporated by reference.
(c) Reduced Pressure Principle Backflow Prevention Device. A required reduced pressure principle backflow prevention device (RP) shall, as a minimum, conform to the AWWA Standard C506-78 (R83) adopted on January 28, 1978 for Reduced Pressure Principle Type Backflow Prevention Devices which is herein incorporated by reference.

§7603. Location of backflow preventers.

(a) Air-gap Separation. An air-gap separation shall be located as close as practical to the user's connection and all piping between the user's connection and the receiving tank shall be entirely visible unless otherwise approved in writing by the water supplier and the health agency.

(b) Double Check Valve Assembly. A double check valve assembly shall be located as close as practical to the user's connection and shall be installed above grade, if possible, and in a manner where it is readily accessible for testing and maintenance.
(c) Reduced Pressure Principle Backflow Prevention Device. A reduced pressure principle backflow prevention device shall be located as close as practical to the user's connection and shall be installed a minimum of twelve inches (12") above grade and not more than thirty-six inches (36") above grade measured from the bottom of the device and with a minimum of twelve inches (12") side clearance.

§7604. Type of protection required.

The type of protection that shall be provided to prevent backflow into the public water supply shall be commensurate with the degree of hazard that exists on the consumer's premises. The type of protective device that may be required (listed in an increasing level of protection) includes: Double check Valve Assembly-- DC), Reduced Pressure Principle Backflow Prevention Device--(RP) and an Air gap Separation--(AG). The water user may choose a higher level of protection than required by the water supplier. The minimum types of backflow protection required to protect the public water supply, at the water user's connection to premises with various degrees of hazard, are given in Table 1. Situations not covered in Table 1 shall be evaluated on a case-by-case basis and the appropriate backflow protection shall be determined by the water supplier or health agency.

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TABLE 1
TYPE OF BACKFLOW PROTECTION REQUIRED
Degree of Hazard Minimum
Type of Backflow Prevention
(a) Sewage and Hazardous Substances
(1) Premises where there are waste water pumping and/or treatment plants and there is no interconnection with the potable water system. This does not include a single-family residence that has a sewage lift pump. A RP be provided in lieu of an AG if approved by the health agency and water supplier. AG
(2) Premises where hazardous substances are handled in any manner in which the substances may enter the potable water system. This does not include a single-family residence that has a sewage lift pump. A RP may be provided in lieu of an AG if approved by the health agency and water supplier. AG
(3) Premises where there are irrigation systems into which fertilizers, herbicides, or pesticides are, or can be, injected. RP
(b) Auxiliary Water Supplies
(1) Premises where there is an unapproved auxiliary water supply which is interconnected with the public water system. A RP or DC may be provided in lieu of an AG if approved by the health agency and water supplier AG.

(2) Premises where there is an unapproved auxiliary RP water supply and there are no interconnections with the public water system. A DC may be provided in lieu of a RP if approved by the health agency and water supplier. RP
(c) Recycled water
(1) Premises where the public water system is used to supplement the recycled water supply. AG
(2) Premises where recycled water is used, other than as allowed in paragraph (3), and there is no interconnection with the potable water system.
RP
(3) Residences using recycled water for landscape irrigation as part of an approved dual plumbed use area established pursuant to sections 60313 through 60316 unless the recycled water supplier obtains approval of the local public water supplier, or the Department if the water
DC

supplier is also the supplier of the recycled water, to utilize an alternative backflow protection plan that includes an annual inspection and annual shutdown test of the recycled water and potable water systems pursuant to subsection 60316(a).
(d) Fire Protection Systems
(1) Premises where the fire system is directly supplied from the public water system and there is an unapproved auxiliary water supply on or to the premises (not interconnected). DC
(2) Premises where the fire system is supplied from the public water system and interconnected with an unapproved auxiliary water supply. A RP may be provided in lieu of an AG if approved by the health agency and water supplier. AG
(3) Premises where the fire system is supplied from the public water system and where either elevated storage tanks or fire pumps which take suction from private reservoirs or tanks are used. DC
(4) Premises where the fire system is supplied from the public water system and where recycled water is used in a separate piping system within the same building.
DC
(e) Dockside Watering Points and Marine Facilities
(1) Pier hydrants for supplying water to vessels for any purpose. RP
(2) Premises where there are marine facilities. RP
(f) Premises where entry is restricted so that inspections for cross-connections cannot be made with sufficient frequency or at sufficiently short notice to assure that do not exist. RP
(g) Premises where there is a repeated history of cross-connections being established or re-established. RP
RP

§7605. Testing and maintenance of backflow preventers.

(a) The water supplier shall assure that adequate maintenance and periodic testing are provided by the water user to ensure their proper operation.
(b) Backflow preventers shall be tested by persons who have demonstrated their competency in testing of these devices to the water supplier or health agency.
(c) Backflow preventers shall be tested at least annually or more frequently if

determined to be necessary by the health agency or water supplier. When devices are found to be defective, they shall be repaired or replaced in accordance with the provisions of this Chapter.
(d) Backflow preventers shall be tested immediately after they are installed, relocated or repaired and not placed in service unless they are functioning as required.
(e) The water supplier shall notify the water user when testing of backflow preventers is needed. The notice shall contain the date when the test must be completed.
(f) Reports of testing and maintenance shall be maintained by the water supplier for a minimum of three years.

TITLE 22 CODE OF REGULATIONS
Division 4. Environmental Health

Chapter 1. Introduction
Article 1. Definitions

§60001. Department.
Whenever the term "department" is used in this division, it means the State Department of Health Services, unless otherwise specified.

§60003. Director.
Whenever the term "director" is used in this division, it means the Director, State Department of Health Services, unless otherwise specified.

Chapter 2. Regulations for the Implementation of the California Environmental Quality
Article 1. General Requirements and Categorical Exemptions

§60100. General requirements.
The Department of Health Services incorporates by reference the objectives, criteria, and procedures as delineated in Chapters 1, 2, 2.5, 2.6, 3, 4, 5, and 6, Division 13, Public Resources Code, Sections 21000 et seq., and the Guidelines

for the Implementation of the California Environmental Quality Act, Title 14, Division 6, Chapter 3, California Administrative Code, Sections 15000 et seq.

§60101. Specific activities within categorical exempt classes.

The following specific activities are determined by the Department to fall within the classes of categorical exemptions set forth in Sections 15300 et seq. of Title 14 of the California Administrative Code:

(a) Class 1: Existing Facilities.

(1) Any interior or exterior alteration of water treatment units, water supply systems, and pump station buildings where the alteration involves the addition, deletion, or modification of mechanical, electrical, or hydraulic controls.

(2) Maintenance, repair, replacement, or reconstruction to any water treatment process units, including structures, filters, pumps, and chlorinators.

(b) Class 2: Replacement or Reconstruction.

(1) Repair or replacement of any water service connections, meters, and valves for backflow prevention, air release, pressure regulating, shut-off and blow-off or flushing.

(2) Replacement or reconstruction of any existing water supply distribution lines, storage tanks and reservoirs of substantially the same size.

(3) Replacement or reconstruction of any water wells, pump stations and related appurtenances.

(c) Class 3: New Construction of Small Structures.

(1) Construction of any water supply and distribution lines of less than sixteen inches in diameter, and related appurtenances.

(2) Construction of any water storage tanks and reservoirs of less than 100,000 gallon capacity.

(d) Class 4: Minor Alterations to Land.

(1) Minor alterations to land, water, or vegetation on any officially existing designated wildlife management areas or fish production facilities for the purpose of reducing the environmental potential for nuisances or vector production.

(2) Any minor alterations to highway crossings for water supply and distribution lines.

NOTE: This publication is meant to be an aid to the staff of the CDPH—formerly the Department of Health Services (DHS)—Drinking Water Program and cannot be relied upon by the regulated community as the State of California's representation of the law. The published codes are the only official representation of the law. Refer to the published codes—in this case, 22 and 17 CCR—whenever specific citations are required.

Chapter 3. Water Recycling Criteria

Article 1. Definitions.

§60301. Definitions.

§60301.100. Approved laboratory.

"Approved laboratory" means a laboratory that has been certified by the Department to perform microbiological analyses pursuant to section 116390, Health and Safety Code.

§60301.160. Coagulated wastewater.

"Coagulated wastewater" means oxidized wastewater in which colloidal and finely divided suspended matter have been destabilized and agglomerated upstream from a filter by the addition of suitable floc-forming chemicals.

§60301.170. Conventional treatment.

"Conventional treatment" means a treatment chain that utilizes a sedimentation unit process between the coagulation and filtration processes and produces an effluent that meets the definition for disinfected tertiary recycled water.

§60301.200. Direct beneficial use.

"Direct beneficial use" means the use of recycled water that has been transported from the point of treatment or production to the point of use without an intervening discharge to waters of the State.

§60301.220. Disinfected secondary-2.2 recycled water.

"Disinfected secondary-2.2 recycled water" means recycled water that has been oxidized and disinfected so that the median concentration of total coliform bacteria in the disinfected effluent does not exceed a most probable number (MPN) of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed, and the number of total coliform bacteria does not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30 day period.

§60301.225. Disinfected secondary-23 recycled water.

"Disinfected secondary-23 recycled water" means recycled water that has been oxidized and disinfected so that the median concentration of total coliform bacteria in the disinfected effluent does not exceed a most probable number (MPN) of 23 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed, and the number of total coliform bacteria does not exceed an MPN of 240 per 100 milliliters in more than one sample in any 30 day period.

§60301.230. Disinfected tertiary recycled water.

"Disinfected tertiary recycled water" means a filtered and subsequently disinfected wastewater that meets the following criteria:

(a) The filtered wastewater has been disinfected by either: (1) A chlorine disinfection process following filtration that provides a CT (the product of total chlorine residual and modal contact time measured at the same point) value of not less than 450 milligram-minutes per liter at all times with a modal contact time of at least 90 minutes, based on peak dry weather design flow; or (2) A disinfection process that, when combined with the filtration process, has been demonstrated to inactivate and/or remove 99.999 percent of the plaqueforming units of F-specific bacteriophage MS2, or polio virus in the wastewater. A virus that is at least as resistant to disinfection as polio virus may be used for purposes of the demonstration.

(b) The median concentration of total coliform bacteria measured in the disinfected effluent does not exceed an MPN of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed and the number of total coliform bacteria does not exceed an MPN of 23 per 100 milliliters in more than

one sample in any 30 day period. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.

§60301.240. Drift.

"Drift" means the water that escapes to the atmosphere as water droplets from a cooling system.

§60301.245. Drift eliminator.

"Drift eliminator" means a feature of a cooling system that reduces to a minimum the generation of drift from the system.

§60301.250. Dual plumbed system.

"Dual plumbed system" or "dual plumbed" means a system that utilizes separate piping systems for recycled water and potable water within a facility and where the recycled water is used for either of the following purposes: (a) To serve plumbing outlets (excluding fire suppression systems) within a building or (b) Outdoor landscape irrigation at individual residences.

§60301.300. F-Specific bacteriophage MS-2.

"F-specific bacteriophage MS-2" means a strain of a specific type of virus that infects coliform bacteria that is traceable to the American Type Culture Collection (ATCC15597B1) and is grown on lawns of E. coli (ATCC 15597).

§60301.310. Facility.

"Facility" means any type of building or structure, or a defined area of specific use that receives water for domestic use from a public water system as defined in section 116275 of the Health and Safety Code.

§60301.320. Filtered wastewater.

"Filtered wastewater" means an oxidized wastewater that meets the criteria in subsection (a) or (b):

(a) Has been coagulated and passed through natural undisturbed soils or a bed of filter media pursuant to the following: (1) At a rate that does not exceed 5 gallons per minute per square foot of surface area in mono, dual or mixed media gravity, upflow or pressure filtration systems, or does not exceed 2 gallons per minute per square foot of surface area in traveling bridge automatic backwash filters; and (2) So that the turbidity of the filtered wastewater does not exceed any of the following: (A) An average of 2 NTU within a 24-hour period; (B) 5 NTU more than 5 percent of the time within a 24-hour period; and (C) 10 NTU at any time.

(b) Has been passed through a microfiltration, ultrafiltration, nanofiltration, or reverse osmosis membrane so that the turbidity of the filtered wastewater does not exceed any of the following: (1) 0.2 NTU more than 5 percent of the time within a 24-hour period; and (2) 0.5 NTU at any time.

§60301.330. Food crops.

"Food crops" means any crops intended for human consumption.

§60301.400. Hose bibb.

"Hose bibb" means a faucet or similar device to which a common garden hose can be readily attached.

§60301.550. Landscape impoundment.

"Landscape impoundment" means an impoundment in which recycled water is stored or used for aesthetic enjoyment or landscape irrigation, or which otherwise serves a similar function and is not intended to include public contact.

§60301.600. Modal contact time.

"Modal contact time" means the amount of time elapsed between the time that a tracer, such as salt or dye, is injected into the influent at the entrance to a chamber and the time that the highest concentration of the tracer is observed in the effluent from the chamber.

§60301.620. Nonrestricted recreational impoundment.

"Nonrestricted recreational impoundment" means an impoundment of recycled water, in which no limitations are imposed on body-contact water recreational activities.

§60301.630. NTU.

"NTU" (Nephelometric turbidity unit) means a measurement of turbidity as determined by the ratio of the intensity of light scattered by the sample to the intensity of incident light as measured by method 2130 B. in Standard Methods for the Examination of Water and Wastewater, 20th ed.; Eaton, A. D., Clesceri, L.S., and Greenberg, A. E., Eds; American Public Health Association: Washington, DC, 1995; p. 2-8.

§60301.650. Oxidized wastewater.

"Oxidized wastewater" means wastewater in which the organic matter has been stabilized, is nonputrescible, and contains dissolved oxygen.

§60301.660. Peak dry weather design flow.

"Peak Dry Weather Design Flow" means the arithmetic mean of the maximum peak flow rates sustained over some period of time (for example three hours) during the maximum 24-hour dry weather period. Dry weather period is defined as periods of little or no rainfall.

§60301.700. Recycled water agency.

"Recycled water agency" means the public water system, or a publicly or privately owned or operated recycled water system, that delivers or proposes to deliver recycled water to a facility.

§60301.710. Recycling plant.
"Recycling plant" means an arrangement of devices, structures, equipment, processes and controls which produce recycled water.
§60301.740. Regulatory agency.
"Regulatory agency" means the California Regional Water Quality Control Board(s) that have jurisdiction over the recycling plant and use areas.
§60301.750. Restricted access golf course.
"Restricted access golf course" means a golf course where public access is controlled so that areas irrigated with recycled water cannot be used as if they were part of a park, playground, or school yard and where irrigation is conducted only in areas and during periods when the golf course is not being used by
golfers.
§60301.760. Restricted recreational impoundment.
"Restricted recreational impoundment" means an impoundment of recycled water in which recreation is limited to fishing, boating, and other non-body-contact water recreational activities.
§60301.800. Spray irrigation.
"Spray irrigation" means the application of recycled water to crops to maintain vegetation or support growth of vegetation by applying it from sprinklers.
§60301.830. Standby unit process.
"Standby unit process" means an alternate unit process or an equivalent alternative process which is maintained in operable condition and which is capable of providing comparable treatment of the actual flow through the unit for which it is a substitute.
§60301.900. Undisinfected secondary recycled water.
"Undisinfected secondary recycled water" means oxidized wastewater.
§60301.920. Use area.
"Use area" means an area of recycled water use with defined boundaries. A use area may contain one or more facilities.
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Article 2. Sources of Recycled Water.
§60302. Source specifications.
The requirements in this chapter shall only apply to recycled water from sources that contain domestic waste, in whole or in part.
Article 3. Uses of Recycled Water.
§60303. Exceptions.
The requirements set forth in this chapter shall not apply to the use of recycled water onsite at a water recycling plant, or wastewater treatment plant, provided access by the public to the area of onsite recycled water use is restricted.
§60304. Use of recycled water for irrigation.

(a) Recycled water used for the surface irrigation of the following shall be a disinfected tertiary recycled water, except that for filtration pursuant to Section 60301.320(a) coagulation need not be used as part of the treatment process provided that the filter effluent turbidity does not exceed 2 NTU, the turbidity of the influent to the filters is continuously measured, the influent turbidity does not exceed 5 NTU for more than 15 minutes and never exceeds 10 NTU, and that there is the capability to automatically activate chemical addition or divert the wastewater should the filter influent turbidity exceed 5 NTU for more than 15 minutes: (1) Food crops, including all edible root crops, where the recycled water comes into contact with the edible portion of the crop, (2) Parks and playgrounds, (3) School yards, (4) Residential landscaping, (5) Unrestricted access golf courses, and (6) Any other irrigation use not specified in this section and not prohibited by other sections of the California Code of Regulations.
(b) Recycled water used for the surface irrigation of food crops where the edible portion is produced above ground and not contacted by the recycled water shall be at least disinfected secondary-2.2 recycled water.
(c) Recycled water used for the surface irrigation of the following shall be at least disinfected secondary-23 recycled water: (1) Cemeteries, (2) Freeway landscaping, (3) Restricted access golf courses, (4) Ornamental nursery stock and sod farms where access by the general public is not restricted, (5) Pasture for animals producing milk for human consumption, and (6) Any nonedible vegetation where access is controlled so that the irrigated area cannot be used as if it were part of a park, playground or school yard.

(d) Recycled wastewater used for the surface irrigation of the following shall be at least undisinfected secondary recycled water: (1) Orchards where the recycled water does not come into contact with the edible portion of the crop, (2) Vineyards where the recycled water does not come into contact with the edible portion of the crop, (3) Non food-bearing trees (Christmas tree farms are included in this category provided no irrigation with recycled water occurs for a period of 14 days prior to harvesting or allowing access by the general public), (4) Fodder and fiber crops and pasture for animals not producing milk for human consumption, (5) Seed crops not eaten by humans, (6) Food crops that must undergo commercial pathogen-destroying processing before being consumed by humans, and (7) Ornamental nursery stock and sod farms provided no irrigation with recycled water occurs for a period of 14 days prior to harvesting, retail sale, or allowing access by the general public.
(e) No recycled water used for irrigation, or soil that has been irrigated with recycled water, shall come into contact with the edible portion of food crops eaten raw by humans unless the recycled water complies with subsection (a).

§60305. Use of recycled water for impoundments.

(a) Except as provided in subsection (b), recycled water used as a source of water supply for nonrestricted recreational impoundments shall be disinfected tertiary recycled water that has been subjected to conventional treatment.
(b) Disinfected tertiary recycled water that has not received conventional treatment may be used for nonrestricted recreational impoundments provided the recycled water is monitored for the presence of pathogenic organisms in accordance with the following:
(1) During the first 12 months of operation and use the recycled water shall be sampled and analyzed monthly for *Giardia*, enteric viruses, and *Cryptosporidium*. Following the first 12 months of use, the recycled water shall be sampled and analyzed quarterly for *Giardia*, enteric viruses, and *Cryptosporidium*. The ongoing monitoring may be discontinued after the first two years of operation with the approval of the department. This monitoring shall be in addition to the monitoring set forth in section 60321.

(2) The samples shall be taken at a point following disinfection and prior to the point where the recycled water enters the use impoundment. The samples shal be analyzed by an approved laboratory and the results submitted quarterly to the regulatory agency.
(c) The total coliform bacteria concentrations in recycled water used for nonrestricted recreational impoundments, measured at a point between the disinfection process and the point of entry to the use impoundment, shall comply with the criteria specified in section 60301.230 (b) for disinfected tertiary recycled water.
(d) Recycled water used as a source of supply for restricted recreational impoundments and for any publicly accessible impoundments at fish hatcheries shall be at least disinfected secondary-2.2 recycled water.
(e) Recycled water used as a source of supply for landscape impoundments that do not utilize decorative fountains shall be at least disinfected secondary-23 recycled water.

§60306. Use of recycled water for cooling.

(a) Recycled water used for industrial or commercial cooling or air conditioning that involves the use of a cooling tower, evaporative condenser, spraying or any mechanism that creates a mist shall be a disinfected tertiary recycled water.
(b) Use of recycled water for industrial or commercial cooling or air conditioning that does not involve the use of a cooling tower, evaporative condenser, spraying, or any mechanism that creates a mist shall be at least disinfected secondary-23 recycled water.
(c) Whenever a cooling system, using recycled water in conjunction with an air conditioning facility, utilizes a cooling tower or otherwise creates a mist that could come into contact with employees or members of the public, the cooling system shall comply with the following: (1) A drift eliminator shall be used whenever the cooling system is in operation. (2) A chlorine, or other, biocide shall be used to treat the cooling system recirculating water to minimize the growth of *Legionella* and other microorganisms.

§60307. Use of recycled water for other purposes.

(a) Recycled water used for the following shall be disinfected tertiary recycled water, except that for filtration being provided pursuant to Section 60301.320(a) coagulation need not be used as part of the treatment process provided that the filter effluent turbidity does not exceed 2 NTU, the turbidity of the influent to the filters is continuously measured, the influent turbidity does not exceed 5 NTU for more than 15 minutes and never exceeds 10 NTU, and that there is the capability to automatically activate chemical addition or divert the wastewater should the filter influent turbidity exceed 5 NTU for more than 15 minutes: (1) Flushing toilets and urinals, (2) Priming drain traps,
(3) Industrial process water that may come into contact with workers, (4) Structural fire fighting, (5) Decorative fountains, (6) Commercial laundries, (7) Consolidation of backfill around potable water pipelines, (8) Artificial snow making for commercial outdoor use, and (9) Commercial car washes, including hand washes if the recycled water is not heated, where the general public is excluded from the washing process.
(b) Recycled water used for the following uses shall be at least disinfected secondary-23 recycled water: (1) Industrial boiler feed, (2) Nonstructural fire fighting, (3) Backfill consolidation around nonpotable piping, (4) Soil compaction, (5) Mixing concrete,
(6) Dust control on roads and streets, (7) Cleaning roads, sidewalks and outdoor work areas and (8) Industrial process water that will not come into contact with workers.
(c) Recycled water used for flushing sanitary sewers shall be at least undisinfected secondary recycled water.

Article 4. Use Area Requirements.

§60310. Use area requirements.

(a) No irrigation with disinfected tertiary recycled water shall take place within 50 feet of any domestic water supply well unless all of the following conditions have been met:

(1) A geological investigation demonstrates that an aquitard exists at the well between the uppermost aquifer being drawn from and the ground surface. (2) The well contains an annular seal that extends from the surface into the aquitard. (3) The well is housed to prevent any recycled water spray from coming into contact with the wellhead facilities. (4) The ground surface immediately around the wellhead is contoured to allow surface water to drain away from the well. (5) The owner of the well approves of the elimination of the buffer zone requirement.
(b) No impoundment of disinfected tertiary recycled water shall occur within 100 feet of any domestic water supply well.

(c) No irrigation with, or impoundment of, disinfected secondary-2.2 or disinfected secondary-23 recycled water shall take place within 100 feet of any domestic water supply well.
(d) No irrigation with, or impoundment of, undisinfected secondary recycled water shall take place within 150 feet of any domestic water supply well.
(e) Any use of recycled water shall comply with the following: (1) Any irrigation runoff shall be confined to the recycled water use area, unless the runoff does not pose a public health threat and is authorized by the regulatory agency. (2) Spray, mist, or runoff shall not enter dwellings, designated outdoor eating, areas, or food handling facilities.
(3) Drinking water fountains shall be protected against contact with recycled water spray, mist, or runoff.
(f) No spray irrigation of any recycled water, other than disinfected tertiary recycled water, shall take place within 100 feet of a residence or a place where public exposure could be similar to that of a park, playground, or school yard.
(g) All use areas where recycled water is used that are accessible to the public shall be posted with signs that are visible to the public, in a size no less than 4 inches high by 8 inches wide, that include the following wording: "RECYCLED WATER - DO NOT DRINK". Each sign shall display an international symbol similar to that shown in figure 60310-A. The Department may accept alternative signage and wording, or an educational program, provided the applicant ongoing monitoring may be discontinued after the first two years of operation with the approval of the department. This monitoring shall be in addition to the monitoring set forth in section 60321.

(h) Except as allowed under section 7604 of title 17, California Code of Regulations, no physical connection shall be made or allowed to exist between any recycled water system and any separate system conveying potable water.
(i) The portions of the recycled water piping system that are in areas subject to access by the general public shall not include any hose bibbs. Only quick couplers that differ from those used on the potable water system shall be used on the portions of the recycled water piping system in areas subject to public access.

Water Recycling Criteria FIGURE 60310-A

Article 5. Dual Plumbed Recycled Water Systems.

§60313. General requirements.

(a) No person other than a recycled water agency shall deliver recycled water to a dual plumbed facility.

(b) No recycled water agency shall deliver recycled water for any internal use to any individually-owned residential units including free-standing structures, multiplexes, or condominiums. *(Note: AB 1046, Chapter 537, Statutes of 2007, Water Code 13533, et seq., allows condominiums to be plumbed with recycled water, subject to a number of provisions. This regulation will be changed in future CDPH rulemaking to be consistent with the revised statutory requirements.)*

(c) No recycled water agency shall deliver recycled water for internal use except for fire suppression systems, to any facility that produces or processes food products or beverages. For purposes of this Subsection, cafeterias or snack bars in a facility whose primary function does not involve the production or processing of foods or beverages are not considered facilities that produce or process foods or beverages.

(d) No recycled water agency shall deliver recycled water to a facility using a dual plumbed system unless the report required pursuant to section 13522.5 of the Water Code, and which meets the requirements set forth in section 60314, has been submitted to, and approved by, the regulatory agency.

§60314. Report submittal.

(a) For dual-plumbed recycled water systems, **t**he report submitted pursuant to section13522.5 of the Water Code shall contain the following information in addition to the information required by section 60323: (1) A detailed description of the intended use area identifying the following: (A) The number, location, and type of facilities within the use area proposing to use dual plumbed systems, (B) The average number of persons estimated to be served by each facility on a daily basis, (C) The specific boundaries of the proposed use area including a map showing the location of each facility to be served, (D) The person or persons responsible for operation of the dual plumbed system at each facility, and (E) The specific use to be made of the recycled water at each facility.

(2) Plans and specifications describing the following:

(A) Proposed piping system to be used,

(B) Pipe locations of both the recycled and potable systems,

(C) Type and location of the outlets and plumbing fixtures that will be accessible to the public, and

(D) The methods and devices to be used to prevent backflow of recycled water into the public water system.
(3) The methods to be used by the recycled water agency to assure that the installation and operation of the dual plumbed system will not result in cross connections between the recycled water piping system and the potable water piping system. This shall include a description of pressure, dye or other test methods to be used to test the system every four years.
(b) A master plan report that covers more than one facility or use site may be submitted provided the report includes the information required by this section. Plans and specifications for individual facilities covered by the report may be submitted at any time prior to the delivery of recycled water to the facility.

§60315. Design requirements.

The public water supply shall not be used as a backup or supplemental source of water for a dual-plumbed recycled water system unless the connection between the two systems is protected by an air gap separation which complies with the requirements of sections 7602 (a) and 7603 (a) of title 17, California Code of Regulations, and the approval of the public water system has been obtained.

§60316. Operation requirements.

(a) Prior to the initial operation of the dual-plumbed recycled water system and annually thereafter, the Recycled Water Agency shall ensure that the dual plumbed system within each facility and use area is inspected for possible cross connections with the potable water system. The recycled water system shall also be tested for possible cross connections at least once every four years. The testing shall be conducted in accordance with the method described in the report submitted pursuant to section 60314. The inspections and the testing shall be performed by a cross connection control specialist certified by the California-Nevada section of the American Water Works Association or an organization with equivalent certification requirements. A written report documenting the result of the inspection or testing for the prior year shall be submitted to the department within 30 days following completion of the inspection or testing.

(b) The recycled water agency shall notify the department of any incidence of backflow from the dual-plumbed recycled water system into the potable water system within 24 hours of the discovery of the incident.
(c) Any backflow prevention device installed to protect the public water system serving the dual-plumbed recycled water system shall be inspected and maintained in accordance with section 7605 of Title 17, California Code of Regulations.

Article 5.1. Groundwater recharge.

§60320. Groundwater recharge.

(a) Reclaimed water used for groundwater recharge of domestic water supply aquifers by surface spreading shall be at all times of a quality that fully protects public health.

The State Department of Health Services' recommendations to the Regional Water Quality Control Boards for proposed groundwater recharge projects and for expansion of existing projects will be made on an individual case basis where the use of reclaimed water involves a potential risk to public health.
(b) The State Department of Health Services' recommendations will be based on all relevant aspects of each project, including the following factors: treatment provided; effluent quality and quantity; spreading area operations; soil characteristics; hydrogeology; residence time; and distance to withdrawal.
(c) The State Department of Health Services will hold a public hearing prior to making the final determination regarding the public health aspects of each groundwater recharge project. Final recommendations will be submitted to the Regional Water Quality Control Board in an expeditious manner.

Article 5.5. Other Methods of Treatment.

§60320.5. Other methods of treatment.

Methods of treatment other than those included in this chapter and their reliability features may be accepted if the applicant demonstrates to the satisfaction of the State Department of Health that the methods of treatment and reliability features will assure an equal degree of treatment and reliability.

Article 6. Sampling and Analysis.

§60321. Sampling and analysis.

(a) Disinfected secondary-23, disinfected secondary-2.2, and disinfected tertiary

recycled water shall be sampled at least once daily for total coliform bacteria. The samples shall be taken from the disinfected effluent and shall be analyzed by an approved laboratory.
(b) Disinfected tertiary recycled water shall be continuously sampled for turbidity using a continuous turbidity meter and recorder following filtration. Compliance with the daily average operating filter effluent turbidity shall be determined by averaging the levels of recorded turbidity taken at four-hour intervals over a 24-hour period. Compliance with turbidity pursuant to section 60301.320 (a)(2)(B) and (b)(1) shall be determined using the levels of recorded turbidity taken at intervals of no more than 1.2-hours over a 24-hour period. Should the continuous turbidity meter and recorder fail, grab sampling at a minimum frequency of 1.2-hours may be substituted for a period of up to 24-hours. The results of the daily average turbidity determinations shall be reported quarterly to the regulatory agency.
(c) The producer or supplier of the recycled water shall conduct the sampling required in subsections (a) and (b).

Article 7. Engineering Report and Operational Requirements.

§60323. Engineering report.

(a) No person shall produce or supply reclaimed water for direct reuse from a proposed water reclamation plant unless he files an engineering report.
(b) The report shall be prepared by a properly qualified engineer registered in California and experienced in the field of wastewater treatment, and shall contain a description of the design of the proposed reclamation system. The report shall clearly indicate the means for compliance with these regulations and any other features specified by the regulatory agency.
(c) The report shall contain a contingency plan which will assure that no untreated or inadequately treated wastewater will be delivered to the use area.

§60325. Personnel.

(a) Each reclamation plant shall be provided with a sufficient number of qualified personnel to operate the facility effectively so as to achieve the required level of treatment at all times.

(b) Qualified personnel shall be those meeting requirements established pursuant to Chapter 9 (commencing with Section 13625) of the Water Code.

§60327. Maintenance.

A preventive maintenance program shall be provided at each reclamation plant to ensure that all equipment is kept in a reliable operating condition.

§60329. Operating records and reports.

(a) Operating records shall be maintained at the reclamation plant or a central depository within the operating agency. These shall include: all analyses specified in the reclamation criteria; records of operational problems, plant and equipment breakdowns, and diversions to emergency storage or disposal; all corrective or preventive action taken.
(b) Process or equipment failures triggering an alarm shall be recorded and maintained as a separate record file. The recorded information shall include the time and cause of failure and corrective action taken.
(c) A monthly summary of operating records as specified under (a) of this section shall be filed monthly with the regulatory agency.
(d) Any discharge of untreated or partially treated wastewater to the use area, and the cessation of same, shall be reported immediately by telephone to the regulatory agency, the State Department of Health, and the local health officer.

§60331. Bypass.

There shall be no bypassing of untreated or partially treated wastewater from the reclamation plant or any intermediate unit processes to the point of use.

Article 8. General Requirements of Design.

§60333. Flexibility of design.

The design of process piping, equipment arrangement, and unit structures in the reclamation plant must allow for efficiency and convenience in operation and

maintenance and provide flexibility of operation to permit the highest possible degree of treatment to be obtained under varying circumstances.

§60335. Alarms.

(a) Alarm devices required for various unit processes as specified in other sections of these regulations shall be installed to provide warning of: (1) Loss of power from the normal power supply. (2) Failure of a biological treatment process. (3) Failure of a disinfection process. (4) Failure of a coagulation process. (5) Failure of a filtration process. (6) Any other specific process failure for which warning is required by the regulatory agency.

(b) All required alarm devices shall be independent of the normal power supply of the reclamation plant.

(c) The person to be warned shall be the plant operator, superintendent, or any other responsible person designated by the management of the reclamation plant and capable of taking prompt corrective action.

(d) Individual alarm devices may be connected to a master alarm to sound at a location where it can be conveniently observed by the attendant. In case the reclamation plant is not attended full time, the alarm(s) shall be connected to sound at a police station, fire station or other full time service unit with which arrangements have been made to alert the person in charge at times that the reclamation plant is unattended.

§60337. Power supply.

The power supply shall be provided with one of the following reliability features:

(a) Alarm and standby power source.

(b) Alarm and automatically actuated short-term retention or disposal provisions as specified in Section 60341.

(c) Automatically actuated long-term storage or disposal provisions as specified in Section 60341.

Article 9. Reliability Requirements for Primary Effluent.

§60339. Primary treatment.

Reclamation plants producing reclaimed water exclusively for uses for which primary effluent is permitted shall be provided with one of the following reliability features:

(a) Multiple primary treatment units capable of producing primary effluent with one unit not in operation.

(b) Long-term storage or disposal provisions as specified in Section 60341.
Note: Use of primary effluent for recycled water is no longer allowed. [repeal of Section 60309, effective December 2000]

Article 10. Reliability Requirements for Full Treatment.

§60341. Emergency storage or disposal.

(a) Where short-term retention or disposal provisions are used as a reliability feature, these shall consist of facilities reserved for the purpose of storing or disposing of untreated or partially treated wastewater for at least a 24-hour period. The facilities shall include all the necessary diversion devices, provisions for odor control, conduits, and pumping and pump back equipment. All of the equipment other than the pump back equipment shall be either independent of the normal power supply or provided with a standby power source.
(b) Where long-term storage or disposal provisions are used as a reliability feature, these shall consist of ponds, reservoirs, percolation areas, downstream sewers leading to other treatment or disposal facilities or any other facilities reserved for the purpose of emergency storage or disposal of untreated or partially treated wastewater. These facilities shall be of sufficient capacity to provide disposal or storage of wastewater for at least 20 days, and shall include all the necessary diversion works, provisions for odor and nuisance control, conduits, and pumping and pump back equipment. All of the equipment other than the pump back equipment shall be either independent of the normal power supply or provided with a standby power source.
(c) Diversion to a less demanding reuse is an acceptable alternative to emergency disposal of partially treated wastewater provided that the quality of the partially treated wastewater is suitable for the less demanding reuse.

(d) Subject to prior approval by the regulatory agency, diversion to a discharge point which requires lesser quality of wastewater is an acceptable alternative to emergency disposal of partially treated wastewater.
(e) Automatically actuated short-term retention or disposal provisions and automatically actuated long-term storage or disposal provisions shall include, in addition to provisions of (a), (b), (c), or (d) of this section, all the necessary sensors, instruments, valves and other devices to enable fully automatic diversion of untreated or partially treated wastewater to approved emergency storage or disposal in the event of failure of a treatment process and a manual reset to prevent automatic restart until the failure is corrected.

§60343. Primary treatment.

All primary treatment unit processes shall be provided with one of the following reliability features:
(a) Multiple primary treatment units capable of producing primary effluent with one unit not in operation.
(b) Standby primary treatment unit process.

(c) Long-term storage or disposal provisions.

§60345. Biological treatment.

All biological treatment unit processes shall be provided with one of the following reliability features:

(a) Alarm and multiple biological treatment units capable of producing oxidized wastewater with one unit not in operation.

(b) Alarm, short-term retention or disposal provisions, and standby replacement equipment.

(c) Alarm and long-term storage or disposal provisions.

(d) Automatically actuated long-term storage or disposal provisions.

§60347. Secondary sedimentation.

All secondary sedimentation unit processes shall be provided with one of the following reliability features:

(a) Multiple sedimentation units capable of treating the entire flow with one unit not in operation.

(b) Standby sedimentation unit process.

(c) Long-term storage or disposal provisions.

§60349. Coagulation.

(a) All coagulation unit processes shall be provided with the following mandatory features for uninterrupted coagulant feed: (1) Standby feeders, (2) Adequate chemical stowage and conveyance facilities, (3) Adequate reserve chemical supply, and (4) Automatic dosage control.

(b) All coagulation unit processes shall be provided with one of the following reliability features: (1) Alarm and multiple coagulation units capable of treating the entire flow with one unit not in operation; (2) Alarm, short-term retention or disposal provisions, and standby replacement equipment; (3) Alarm and long-term storage or disposal provisions; (4) Automatically actuated long-term storage or disposal provisions, or (5) Alarm and standby coagulation process.

§60351. Filtration.

All filtration unit processes shall be provided with one of the following reliability features:

(a) Alarm and multiple filter units capable of treating the entire flow with one unit not in operation.

(b) Alarm, short-term retention or disposal provisions and standby replacement equipment.

(c) Alarm and long-term storage or disposal provisions.

(d) Automatically actuated long-term storage or disposal provisions.

APPENDIX E:

SAMPLE SIGNS

IRRIGATED WITH RECYCLED WATER

IRRIGADO CON AGUA RECICLADA

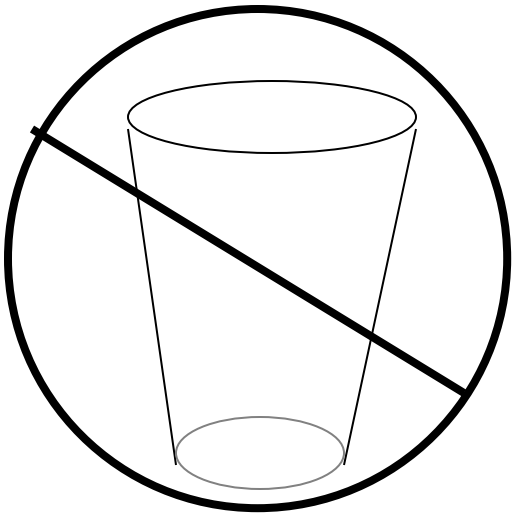
DO NOT DRINK

NO TOME EL AGUA

12”

18”

IRRIGATED WITH RECYCLED WATER



DO NOT DRINK
NO TOME EL AGUA

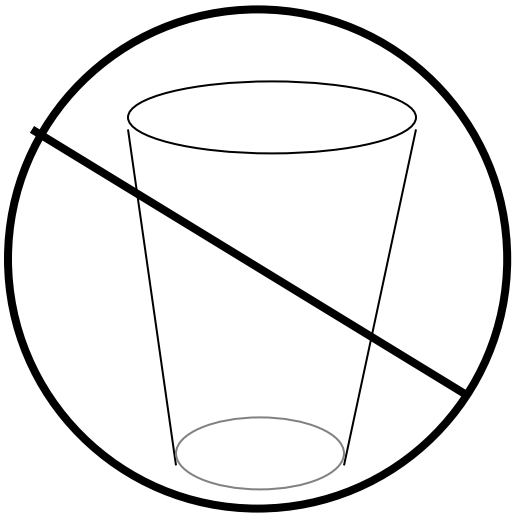
NOTE: PER CITY ORDINANCE NO. 2689, THE USE OF RECYCLED WATER FOR IRRIGATION IS ENCOURGAED TO EXTEND THE CITY’S WATER RESOURCES AND PROMOTE WATER CONSERVATION TO ENSURE THE AVAILABILITY OF CLEAN DRINKING WATER FOR FUTURE GENERATIONS.

Recycled Water Warning Sign

12”

18”

IRRIGATED WITH RECYCLED WATER



DO NOT DRINK
NO TOME EL AGUA

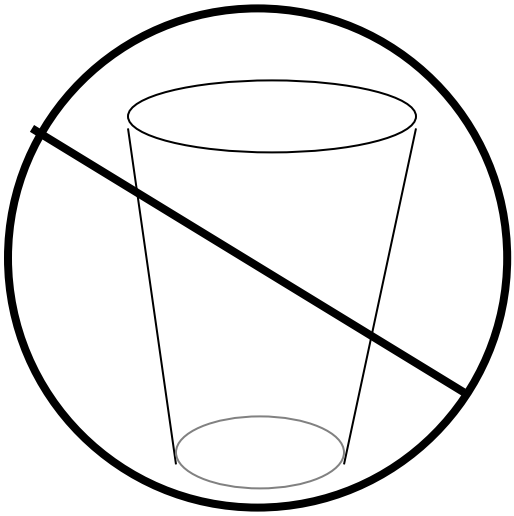
NOTE: PER CITY ORDINANCE NO. 101, THE USE OF RECYCLED WATER FOR IRRIGATION IS ENCOURGAED TO EXTEND THE CITY’S WATER RESOURCES AND PROMOTE WATER CONSERVATION TO ENSURE THE AVAILABILITY OF CLEAN DRINKING WATER FOR FUTURE GENERATIONS.

Recycled Water Warning Sign

12”

18”

IRRIGATED WITH RECYCLED WATER



DO NOT DRINK
NO TOME EL AGUA

NOTE: PER CITY ORDINANCE NO. _____ THE USE OF RECYCLED WATER FOR IRRIGATION IS ENCOURGAED TO EXTEND THE CITY’S WATER RESOURCES AND PROMOTE WATER CONSERVATION TO ENSURE THE AVAILABILITY OF CLEAN DRINKING WATER FOR FUTURE GENERATIONS.

APPENDIX F:

RETAIL WATER AGENCIES USER TRAINING GUIDE

City of Chino Hills
Site Supervisor Training
Reference Guide

INTRODUCTION TO RECYCLED WATER

Water reclamation is the treatment and management of wastewater to produce water of suitable quality for non-potable beneficial uses. To produce recycled water, wastewater is treated at a reclamation plant that duplicates nature's own cleansing process, only at a much faster rate. The result is a high quality water that is safe to use for irrigation of landscaping and crops, playgrounds, golf courses, parks, cemeteries, freeway embankments and medians, and much more. Reclamation offers great potential for future additional water supplies in San Bernardino County where conventional water supply sources are scarce.

The Treatment Process

There are several process that wastewater must go through before it becomes recycled water. The major treatment processes are as follows:

Preliminary Treatment

A series of pretreatment processes designed to separate out coarse, non-treatable material from raw wastewater.

Primary Treatment

This process is designed to remove much of the solid matter discarded by wastewater through the physical processes of sedimentation and flotation. Untreated wastewater flows into a quiescent basin referred to as a primary sedimentation tank or primary clarifier where the material that is denser than water settles out by gravity and the material that is less dense than water floats to the surface and skimmed off. Approximately 40-60% of the suspended solids and 20-50% of the BOD (biochemical oxygen demand) are removed from the waste stream. The product water from the primary treatment is known as primary effluent. Remaining suspended solids and some dissolved solids in primary effluent are treated biochemically in a subsequent process for physical separation and removal.

Secondary Treatment

The primary effluent contains finely dispersed organic solids that will not settle easily by gravity so a more sophisticated treatment technique is employed. Secondary treatment is accomplished through any one of a family of unique biological systems designed to remove BOD, suspended solids and some dissolved solids through a biological conversion of these materials to a settable form. The biomass is separated from the product water (secondary effluent) in a secondary clarifier. Secondary treatment systems typically remove 80% to 95% of suspended solids and BOD.

Tertiary Treatment

This is the polishing process where chemical coagulants are added to secondary effluent and the water is filtered through fine sand or other granular material to remove any residual

particulate matter. The water is then chlorinated for disinfection to meet full Title 22 Health and Safety standards.

Uses of Recycled Water

Landscape irrigation will be the single largest use of recycled water within San Bernardino County. Additionally, recycled water will also be used for some industrial processing, cooling towers, soil compaction and dust suppression at construction sites, in recreational lakes, ponds and ornamental fountains, crop irrigation, and flushing toilets and urinals in some commercial buildings and offices. In fact, recycled water can be used for most non-potable needs.

Is it Safe?

Recycled water is safe to use! Potential health risks associated with the use of recycled water have been well documented nationwide as water reclamation projects are implemented and carefully monitored by responsible local health authorities and water quality control agencies. Tertiary recycled water is a highly treated, filtered and disinfected product according to the Department of Health Services criteria. These standards for recycled water are among the most stringent in the world. Referred to as "Title 22", these standards are incorporated in Title 22, Chapter 3, Division 4 of the California Code of Regulations, with stipulations applying to various types of reuse, and levels of required treatment. No health related problems have been traced to any of the water reclamation projects currently operating California.

How Does it Get to My Site?

A recycled water distribution system is separate from a potable water system and the sewer system. Each purveyor is responsible for constructing and maintaining the main transmission lines between the water reclamation plant and the end-use site. Similar to the potable system, the purveyor is responsible for delivering the recycled water to the customers' meter. From the meter on, all on-site facilities will be the responsibility of the users.

How is Using Recycled Water Different?

Recycled water facilities on the site will be separate from all potable systems. The recycled water customer will be required to post signs, mark meters and sprinkler heads, and ensure there are no cross-connections between the potable and recycled water systems. There will be an annual inspection by the water purveyor and Department of Health Services to ensure all regulations are adhered to.

When using recycled water, some water management practices may have to be changed slightly. Nutrients in recycled water, such as nitrogen and phosphorus, provide a fertilizer benefit. However, recycled water has a higher level of salts, so that leaching or other practices may be necessary depending on your specific soil characteristics.

INTRODUCTION TO HEALTH EFFECTS STUDY

By Richard Carlson
Department of Health Services

Recycled water is produced from municipal wastewater. The municipal wastewater undergoes a rigorous and controlled treatment process at wastewater reclamation plants. However, the waste stream comes from a variety of sources, the larger part of which is human, and human waste will contain pathogenic organisms. Pathogenic organisms found in municipal wastewater can be classified into four groups; viruses, bacteria, protozoan, and helminthes. Each group contains disease-causing organisms that are a public health concern. Treatment of the municipal wastewater to an end product of 2.2 disinfected tertiary recycled water, which is the type of water we are dealing with, will eliminate virtually all of these organisms.

That said, the recycled water treatment train does not eliminate every organism. The 2.2 mentioned above means that the sample does not exceed a statistical average of 2.2 total coliforms per 100 ml (or 83 coliforms per gallon) of recycled water over the last seven days as sampled daily at the treatment plant. The sample should not exceed 23 total coliforms per 100 ml in any 30-day period and cannot exceed 240 total coliform in any one sample.

Coliforms are bacteria found in the intestinal tract of all humans and are used to monitor the quality of the recycled water. This quality of recycled water has been shown to be safe for many uses, but it is not considered safe to drink, nor is it safe to inhale the mist created in many of the approved, uses. It must be remembered that recycled water is not the same as domestic (potable) water. However, when property used and the appropriate rules and regulations are followed, 2.2 disinfected tertiary recycled water is safe for specific uses.

USER'S GUIDE OF PRACTICAL DO'S AND DON'TS FOR THE USE OF RECYCLED WATER*

DO'S:

1. Take preventative measures to insure no cross-connections can occur.

2. Maintain and submit as-built drawings of any and all changes or additions to your recycled water system.

3. When performing repairs or modifications to the recycled water system, use only materials approved for recycled water use.

4. If your system has quick couplers, be sure that the user supervisor assumes sole responsibility of the quick connects for these couplers and the use of these connectors is closely monitored.

5. Closely monitor the recycled water system operation and be alert to and minimize overspray, run-off, and ponding. If this occurs, make the necessary corrections and notify the appropriate agencies, if required.

6. Keep systems functioning properly. Repair any and all damage to the recycled water system immediately. Report breaks or spills directly to your recycled water purveyor.

7. Educate all workers of the correct uses and restrictions of recycled water.*

8. Be aware of the types of vegetation within your site boundaries and their responses to irrigation with recycled water. You may have to alter your water management practices based on soil and water characteristics.

9. Keep all records and references complete, up-to-date and accessible.

10. Keep others informed of all activities involving the recycled water system.

DON'TS:

1. Do not drink recycled water.

2. Recycled water should not be used to wash hands or other parts of the body.

3. Equipment (i.e. tanks valves, hoses, pipes, and pumps) that has been in contact with recycled water should not be used in conjunction with any potable water system unless adequately disinfected.

4. Do not attempt to modify or change the recycled water system without authorization from the recycled water supervisor.

5. Do not remove or tamper with recycled water warning signs.

*Check with your local water purveyor for specific rules and regulations.

STATE OF CALIFORNIA, DEPARTMENT OF HEALTH GUIDELINES FOR USE OF RECYCLED WATER FOR IRRIGATION AND IMPOUNDMENTS

A. General

1. Recycled water shall meet the Regional Water Quality Control Board Requirements and the requirements specified in the Wastewater Reclamation Criteria, established by the State of California Department of Health for health protection.

2. The discharge should be confined to the area designated and approved for disposal and reuse.

3. Maximum attainable separation of recycled water lines and domestic water lines should be practiced. Domestic and recycled water transmission and distribution mains should conform to separation and construction criteria of the local purveyor.

    a. The use area facilities must comply with the "Regulations Relating to Cross-Connections," Title 17, Chapter V, Section 7583-769P, inclusive, California Code of Regulations.

    b. Plans and specification of the existing and proposed recycled water system and domestic water system shall be submitted to State and/or local health agencies for review and approval prior to service.

4. All recycled water valves and outlets should be appropriately tagged to inform the public and employees that the water is not suitable for drinking.

5. All piping, valves, and outlets should be color-coded or otherwise marked to differentiate recycled water from domestic or other water.

6. Recycled water valves outlets, should be of a type or installed in such a manner that only authorized personnel have access.

7. Adequate means of notification should be provided to inform the public that recycled water is being used at the site. Such notification should include the posting of conspicuous signs with proper wording of sufficient size to be clearly read.

8. Adequate measures should be taken to minimize the breeding of flies, mosquitoes and other vectors of public health significance where water (recycled or domestic) is used.

B. Spray and Surface Irrigation of Crops

1. Irrigation should occur in a manner that minimizes ponding and runoff.

2. Irrigation should be done so as to minimize contact by the public with water spray.

a. Precautions should be taken to insure that recycled water would not be sprayed on walkways, passing vehicles, buildings, domestic water facilities, or areas not under control of the user.

b. Windblown spray from the irrigation area should not drift to areas off the designated site.

3. Irrigated areas must be kept completely separated from domestic water wells and reservoirs.

4. Adequate time should be provided between the last irrigation and harvesting to allow the crops and soil to dry.

5. Animals, especially milking animals, should not be allowed to graze on land irrigated with recycled water until it is thoroughly dry.

6. Adequate measures must be taken to prevent any direct contact between the edible portion of the crops and the recycled water.

C. Landscape Irrigation

1. Irrigation should occur in a manner that minimizes ponding and runoff.

2. At golf courses, notices should be printed on scorecards stating that recycled water is used, and all water hazards containing recycled water should be posted with conspicuous signs.

3. Tank trucks used for carrying or spraying recycled water should be appropriately identified to indicate such.

4. Irrigation should be done so as to minimize contact by the public with water spray. Precautions should be taken to insure that recycled water will not be sprayed on sidewalks, passing vehicles, buildings, picnic tables, domestic water facilities, or areas not under control of the user.

a. Irrigation should be practiced during periods when the grounds will have maximum opportunity to dry before use by the public unless provisions are made to exclude the public from areas during and after spraying with recycled water.

b. Windblown spray from the irrigation area should not drift to areas off the designated site.

c. Drinking water fountains should be protected from direct or windblown recycled water spray.

5. Irrigated areas must be kept completely separated from domestic water wells and reservoir.

D. Impoundment

1. At restricted and non-restricted recreational impoundment and landscape impoundment all recycled water values and outlets should be appropriately tagged to inform the public that the water is not suitable for drinking.

2. Adequate measures should be taken to prevent body contact activities, such as wading or swimming, at restricted recreational impoundment containing recycled water.

3. Impoundment containing recycled water must be kept completely separated from domestic water wells and reservoirs.

4. Recreational impoundment should be operated and maintained under the supervision of qualified personnel.

(Condensed, edited and reproduced from California State Department of Health Services)

DUTIES AND RESPONSIBILITIES OF THE RECYCLED WATER USE SITE SUPERVISOR

All recycled water purveyors require that the user designate a Recycled Water Site Supervisor. This person shall be responsible for the safe and efficient use of recycled water by all involved personnel at the user's site. The purveyor must approve of the person appointed for this position. This person shall be available to the purveyor with regards to the operation and maintenance of the user's recycled water system. The user is responsible for notifying the purveyor immediately of any change in this position. The site supervisor must:

1. Be knowledgeable of what recycled water is and how it is produced;

2. Be knowledgeable of best management practices, specific equipment and principles relating to the intended use of recycled water;

3. Be responsible for keeping the equipment and facilities property maintained;

4. Be the 24-hour contact person responsible for the safe and efficient use of recycled water at the use site;

5. Educate all maintenance personnel on a continuous basis on the presence and use of recycled water;

6. Be responsible for maintaining up-to-date appropriate records of all on-site recycled and potable water systems. Requirements are use-site specific and are intended to document major changes made to on-site plumbing;

7. Be responsible for keeping the water agency informed of all failures, emergencies, and proposed changes that occur involving the recycled or potable water systems, and have current copy of recycled water use agreement available and readily accessible;

8. Be familiar with the purveyor's cross-connection control testing requirements;

9. Be knowledgeable of the recycled water purveyors Rules and Regulations for recycled water service.

CROSS CONNECTION CONTROL AND BACKFLOW PREVENTION DEVICES

A cross-connection is any unprotected actual or potential connection between a public or a user's water system and any other source or system through which it is possible to introduce into any part of the potable system any substance other than the potable water with which the system is supplied. Cross-connections can lead to backflow, which is the flow of liquid or gas opposite the intended direction.

Backflow has the following two causes:

1. Backsiphonage occurs when there is reduced or negative pressure (vacuum) in the supply piping. An example is siphoning gas out of a car or ice tea through a straw. Another example is a fire truck pumping water out of a fire hydrant. The hydrant is connected to the potable water main. Pumping will reduce the pressure in the main and any connection to the main through the domestic on site water system such as a hose in a swimming pool will cause a backsiphonage of the swimming pool water into the water main.

2. Backpressure occurs when equipment such as pumps or boilers create pressure higher than the pressure in the system to which it is connected. This causes the system pressure to be "overridden," resulting in reversed flows.

The probability that backflow may occur may not seem great; however, the following is quoted from the June 1989 EPA cross connection control manual, "Actual cross-connection may appear in many subtle forms and in unsuspected places. Reversal of pressure in the water may be freakish and unpredictable. The probability of contamination of drinking water through a cross-connection occurring within a single plumbing system may seem remote; but, considering the multitude of similar systems, the probability is great."

Since cross-connections can occur at any point in the distribution system, a breaking point of responsibility has been established. The user is responsible for maintaining water quality downstream of the meter. The purveyor (potable and/or recycled) has responsibility for maintaining water quality upstream of the meter.

The main concern present when recycled water or any other non-potable water is used on sites served with potable water is a cross-connection. Contamination of the drinking water supply can be prevented by careful plumbing practices and using appropriate backflow prevention devices. A backflow prevention assembly is a mechanical device which prevents water from flowing in a reverse direction. These required devices are plumbed directly into the potable water supply pipe.

Devices or methods for backflow protection are listed as follows:

Atmospheric Vacuum Breaker	(AVB)
Pressure Vacuum Breaker	(PVB)
Double Check Valve	(DC)
Reduced Pressure Principle Device	(RPPD)
Air Gap	(AG)

The most effective protection, an air gap (AG) is a physical break between a supply pipe and a receiving vessel. These are commonly used when supplying an impoundment with

potable water. An air gap separation must be at least twice the diameter of the supply line, measured vertically above the top rim of the receiving vessel.

Reduced Pressure Principle Device (RPPD) or Double Check Valve (DC) devices are sometimes required on the recycled water supply if on-site conditions could deteriorate the recycled water quality. Your purveyor and DHS maintain a list of devices approved for these uses.

SYSTEM IDENTIFICATION

Avoiding a cross-connection between the potable and recycled water systems is extremely important. The recycled water system must be clearly distinguishable from the potable water system. Recycled piping, outlets, and valves are color-coded purple to differentiate the recycled water system from the potable system. However, on retrofits, many underground components will not be identified differently, therefore, more detailed testing may be required to make determinations of system identification.

Under no circumstances should purple pipe or fixtures be used in the potable system, nor should potable pipe or fixtures be used in the recycled system. This point cannot be overstressed. A situation may arise where it is more convenient to use "just a little piece" of purple pipe to fix a break in the potable system. Do not do this. The integrity of both the recycled and potable systems will become suspect and cause your water purveyor to require you to physically expose enough piping to confidently identify each system.

CROSS-CONNECTION TESTS

Your local water agency, in conjunction with the local health department, will conduct periodic cross-connection tests to insure there are no connections between the potable water and recycled water systems. The site supervisor will take part in these tests. An initial cross-connection test is usually performed as part of the final inspection process. The interval between subsequent cross-connection tests depends on the complexity of the recycled water system and if contamination or uncertainty problems persist. This is decided on a case-by-case basis at the discretion of the DHS. In most cases, an annual or once every four-year cross-connection control shut down test is sufficient. If the test is once every four years, an annual walk through inspection is required. However, cross-connection tests will be performed where needed.

The protocol for these tests is based on the California DHS, Office of Drinking Water, November 1991 publication entitled Guidelines Regarding Backflow Protection for Users of Recycled Water. Specific instructions on how to conduct a cross-connection control shut down test can also be found in the latest edition of the Uniform Plumbing Code (UPC).

The test is accomplished by turning off the recycled water service at the meter and draining the recycled system. After a period of time, depending on the size of the system, the recycled system is checked for repressurization. System repressurization indicates a cross-connection to the potable water system. If there is no repressurization, then the recycled system is recharged with water and the potable system is turned off at the service meter and the potable system is drained. Again, depending on the size of the system, a period of time, not shorter than four hours is allowed to observe if the potable system becomes repressurized. This was accomplished by opening all water taps in the potable system to determine of any water flows through the taps. All hot water heaters and any other devices

that may repressurize the potable system must be shut down. This requires entry into all establishments on the site to ensure complete system shut down and to gain access to all potable water taps. If there is water flow through any of the taps, then a cross-connection with the recycled system is indicated.

The current testing method uses pressure recorders. The advantage of the pressure recorder is that it is usually not necessary to enter the buildings and recorder gives a permanent record of the test.

If a test reveals a cross-connection, both the recycled and potable water systems must be immediately shut down at the POC. The purveyor, DHS and Office of Drinking Water must be promptly notified.

TESTING AND MAINTENANCE OF BACKFLOW PREVENTION DEVICES

Title 17 of the California Code of Regulations requires that all backflow prevention devices be tested annually to verify that they are working property. Records of these tests and all repairs must be kept and made available to the health department and the local water district. The user is responsible for conducting tests and performing all needed repairs. Title 17 contains the following requirements for backflow prevention assembly testing and maintenance:

1. The water purveyor shall ensure that adequate maintenance and periodic testing are provided by the water user to ensure proper operation. The water purveyor will notify the water user when testing of the backflow preventers is needed. The notice will contain the date by which the test must be completed.

2. Backflow preventers must be tested at least annually or more frequently if determined to be necessary by the water purveyor or health agency.

3. Backflow preventers must be tested by certified persons who have demonstrated their competency in testing these devices to the water purveyor or health agency. Records must be maintained and submitted to the water purveyor annually.

4. Backflow preventers must be tested immediately after they are installed, relocated, or repaired and not placed in service unless they are functioning as required.

City of Upland
Recycled Water Program

Site Supervisor Training
Reference Guide

INTRODUCTION TO RECYCLED WATER

Water reclamation is the treatment and management of wastewater to produce water of suitable quality for non-potable beneficial uses. To produce recycled water, wastewater is treated at a reclamation plant that duplicates nature's own cleansing process, only at a much faster rate. The result is a high quality water that is safe to use for irrigation of landscaping and crops, playgrounds, golf courses, parks, cemeteries, freeway embankments and medians, and much more. Reclamation offers great potential for future additional water supplies in San Bernardino County where conventional water supply sources are scarce.

The Treatment Process

There are several process that wastewater must go through before it becomes recycled water. The major treatment processes are as follows:

Preliminary Treatment

A series of pretreatment processes designed to separate out coarse, non-treatable material from raw wastewater.

Primary Treatment

This process is designed to remove much of the solid matter discarded by wastewater through the physical processes of sedimentation and flotation. Untreated wastewater flows into a quiescent basin referred to as a primary sedimentation tank or primary clarifier where the material that is more dense than water settles out by gravity and the material that is less dense than water floats to the surface and skimmed off. Approximately 40-60% of the suspended solids and 20-50% of the BOD (biochemical oxygen demand) are removed from the waste stream. The product water from the primary treatment is known as primary effluent. Remaining suspended solids and some dissolved solids in primary effluent are treated biochemically in a subsequent process for physical separation and removal.

Secondary Treatment

The primary effluent contains finely dispersed organic solids that will not settle easily by gravity so a more sophisticated treatment technique is employed. Secondary treatment is accomplished through any one of a family of unique biological systems designed to remove BOD, suspended solids and some dissolved solids through a biological conversion of these materials to a settable form. The biomass is separated from the product water (secondary effluent) in a secondary clarifier. Secondary treatment systems typically remove 80% to 95% of suspended solids and BOD.

Tertiary Treatment

This is the polishing process where chemical coagulants are added to secondary effluent and the water is filtered through fine sand or other granular material to remove any residual particulate matter. The water is then chlorinated for disinfection to meet full Title 22 Health and Safety standards.

Uses of Recycled Water

Landscape irrigation will be the single largest use of recycled water within San Bernardino County. Additionally, recycled water will also be used for some industrial processing, cooling towers, soil compaction and dust suppression at construction sites, in recreational lakes, ponds and ornamental fountains, crop irrigation, and flushing toilets and urinals in some commercial buildings and offices. In fact, recycled water can be used for most non-potable needs.

Is it Safe?

Recycled water is safe to use! Potential health risks associated with the use of recycled water have been well documented nationwide as water reclamation projects are implemented and carefully monitored by responsible local health authorities and water quality control agencies. Tertiary recycled water is a highly treated, filtered and disinfected product according to the Department of Health Services criteria. These standards for recycled water are among the most stringent in the world. Referred to as "Title 22", these standards are incorporated in Title 22, Chapter 3, Division 4 of the California Code of Regulations, with stipulations applying to various types of reuse, and levels of required treatment. No health related problems have been traced to any of the water reclamation projects currently operating California.

How Does it Get to My Site?

A recycled water distribution system is separate from a potable water system and the sewer system. Each purveyor is responsible for constructing and maintaining the main transmission lines between the water reclamation plant and the end-use site. Similar to the potable system, the purveyor is responsible for delivering the recycled water to the customers' meter. From the meter on, all on-site facilities will be the responsibility of the users.

How is Using Recycled Water Different?

Recycled water facilities on the site will be separate from all potable systems. The recycled water customer will be required to post signs, mark meters and sprinkler heads, and ensure there are no cross-connections between the potable and recycled water systems. There will be an annual inspection by the water purveyor and Department of Health Services to ensure all regulations are adhered to.

When using recycled water, some water management practices may have to be changed slightly. Nutrients in recycled water, such as nitrogen and phosphorus, provide a fertilizer benefit. However, recycled water has a higher level of salts, so that leaching or other practices may be necessary depending on your specific soil characteristics.

1.0 INTRODUCTION TO HEALTH EFFECTS STUDY

By Richard Carlson
Department of Health Services

Recycled water is produced from municipal wastewater. The municipal wastewater undergoes a rigorous and controlled treatment process at wastewater reclamation plants. However, the waste stream comes from a variety of sources, the larger part of which is human, and human waste will contain pathogenic organisms. Pathogenic organisms found in municipal wastewater can be classified into four groups; viruses, bacteria, protozoan, and helminthes. Each group contains disease-causing organisms that are a public health concern. Treatment of the municipal wastewater to an end product of 2.2 disinfected tertiary recycled water, which is the type of water we are dealing with, will eliminate virtually all of these organisms.

That said, the recycled water treatment train does not eliminate every organism. The 2.2 mentioned above means that the sample does not exceed a statistical average of 2.2 total coliforms per 100 ml (or 83 coliforms per gallon) of recycled water over the last seven days as sampled daily at the treatment plant. The sample should not exceed 23 total coliforms per 100 ml in any 30-day period and can not exceed 240 total coliform in any one sample.

Coliforms are bacteria found in the intestinal tract of all humans and are used to monitor the quality of the recycled water. This quality of recycled water has been shown to be safe for many uses, but it is not considered safe to drink, nor is it safe to inhale the mist created in many of the approved, uses. It must be remembered that recycled water is not the same as domestic (potable) water. However, when property used and the appropriate rules and regulations are followed, 2.2 disinfected tertiary recycled water is safe for specific uses.

USER'S GUIDE OF PRACTICAL DO'S AND DON'TS FOR THE USE OF RECYCLED WATER*

DO'S:

1. Take preventative measures to insure no cross-connections can occur.

2. Maintain and submit as-built drawings of any and all changes or additions to your recycled water system.

3. When performing repairs or modifications to the recycled water system, use only materials approved for recycled water use.

4. If your system has quick couplers, be sure that the user supervisor assumes sole responsibility of the quick connects for these couplers and the use of these connectors is closely monitored.

5. Closely monitor the recycled water system operation and be alert to and minimize overspray, run-off, and ponding. If this occurs, make the necessary corrections and notify the appropriate agencies, if required.

6. Keep systems functioning properly. Repair any and all damage to the recycled water system immediately. Report breaks or spills directly to your recycled water purveyor.

7. Educate all workers of the correct uses and restrictions of recycled water.*

8. Be aware of the types of vegetation within your site boundaries and their responses to irrigation with recycled water. You may have to alter your water management practices based o soil and water characteristics.

9. Keep all records and references complete, up-to-date and accessible.

10. Keep others informed of all activities involving the recycled water system.

DON'TS:

1. Do not drink recycled water.

2. Recycled water should not be used to wash hands or other parts of the body.

3. Equipment (i.e. tanks valves, hoses, pipes, and pumps) that has been in contact with recycled water should not be used in conjunction with any potable water system unless adequately disinfected.

4. Do not attempt to modify or change the recycled water system without authorization from the recycled water supervisor.

5. Do not remove or tamper with recycled water warning signs.

*Check with your local water purveyor for specific rules and regulations.

2.0 STATE OF CALIFORNIA, DEPARTMENT OF HEALTH GUIDELINES FOR USE OF RECYCLED WATER FOR IRRIGATION AND IMPOUNDMENTS

A. General

1. Recycled water shall meet the Regional Water Quality Control Board Requirements and the requirements specified in the Wastewater Reclamation Criteria, established by the State of California Department of Health for health protection.

2. The discharge should be confined to the area designated and approved for disposal and reuse.

3. Maximum attainable separation of recycled water lines and domestic water lines should be practiced. Domestic and recycled water transmission and distribution mains should conform to separation and construction criteria of the local purveyor.

    a. The use area facilities must comply with the "Regulations Relating to Cross-Connections," Title 17, Chapter V, Section 7583-769P, inclusive, California Code of Regulations.

    b. Plans and specification of the existing and proposed recycled water system and domestic water system shall be submitted to State and/or local health agencies for review and approval prior to service.

4. All recycled water valves and outlets should be appropriately tagged to inform the public and employees that the water is not suitable for drinking.

5. All piping, valves, and outlets should be color-coded or otherwise marked to differentiate recycled water from domestic or other water.

6. Recycled water valves outlets, should be of a type or installed in such a manner that only authorized personnel have access.

7. Adequate means of notification should be provided to inform the public that recycled water is being used at the site. Such notification should include the posting of conspicuous signs with proper wording of sufficient size to be clearly read.

8. Adequate measures should be taken to minimize the breeding of flies, mosquitoes and other vectors of public health significance where water (recycled or domestic) is used.

B. Spray and Surface Irrigation of Crops

1. Irrigation should occur in a manner that minimizes ponding and runoff.

2. Irrigation should be done so as to minimize contact by the public with water spray.

a. Precautions should be taken to insure that recycled water will not be sprayed on walkways, passing vehicles, buildings, domestic water facilities, or areas not under control of the user.

b. Windblown spray from the irrigation area should not drift to areas off the designated site.

3. Irrigated areas must be kept completely separated from domestic water wells and reservoirs.

4. Adequate time should be provided between the last irrigation and harvesting to allow the crops and soil to dry.

5. Animals, especially milking animals, should not be allowed to graze on land irrigated with recycled water until it is thoroughly dry.

6. Adequate measures must be taken to prevent any direct contact between the edible portion of the crops and the recycled water.

C. Landscape Irrigation

1. Irrigation should occur in a manner that minimizes ponding and runoff.

2. At golf courses, notices should be printed on score cards stating that recycled water is used, and all water hazards containing recycled water should be posted with conspicuous signs.

3. Tank trucks used for carrying or spraying recycled water should be appropriately identified to indicate such.

4. Irrigation should be done so as to minimize contact by the public with water spray. Precautions should be taken to insure that recycled water will not be sprayed on sidewalks, passing vehicles, buildings, picnic tables, domestic water facilities, or areas not under control of the user.

a. Irrigation should be practiced during periods when the grounds will have maximum opportunity to dry before use by the public unless provisions are made to exclude the public from areas during and after spraying with recycled water.

b. Windblown spray from the irrigation area should not drift to areas off the designated site.

c. Drinking water fountains should be protected from direct or windblown recycled water spray.

5. Irrigated areas must be kept completely separated from domestic water wells and reservoir.

D. Impoundment

1. At restricted and non-restricted recreational impoundment and landscape impoundment all recycled water values and outlets should be appropriately tagged to inform the public that the water is not suitable for drinking.

2. Adequate measures should be taken to prevent body contact activities, such as wading or swimming, at restricted recreational impoundment containing recycled water.

3. Impoundment containing recycled water must be kept completely separated from domestic water wells and reservoirs.

4. Recreational impoundment should be operated and maintained under the supervision of qualified personnel.

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3.0 DUTIES AND RESPONSIBILITIES OF THE RECYCLED WATER USE SITE SUPERVISOR

All recycled water purveyors require that the user designate a Recycled Water Site Supervisor. This person shall be responsible for the safe and efficient use of recycled water by all involved personnel at the user's site. The purveyor must approve of the person appointed for this position. This person shall be available to the purveyor with regards to the operation and maintenance of the user's recycled water system. The user is responsible for notifying the purveyor immediately of any change in this position. The site supervisor must:

1. Be knowledgeable of what recycled water is and how it is produced;

2. Be knowledgeable of best management practices, specific equipment and principles relating to the intended use of recycled water;

3. Be responsible for keeping the equipment and facilities property maintained;

4. Be the 24-hour contact person responsible for the safe and efficient use of recycled water at the use site;

5. Educate all maintenance personnel on a continuous basis on the presence and use of recycled water;

6. Be responsible for maintaining up-to-date appropriate records of all on-site recycled and potable water systems. Requirements are use-site specific and are intended to document major changes made to on-site plumbing;

7. Be responsible for keeping the water agency informed of all failures, emergencies, and proposed changes that occur involving the recycled or potable water systems, and have current copy of recycled water use agreement available and readily accessible;

8. Be familiar with the purveyor's cross-connection control testing requirements;

9. Be knowledgeable of the recycled water purveyors Rules and Regulations for recycled water service.

4.0 CROSS CONNECTION CONTROL AND BACKFLOW PREVENTION DEVICES

A cross-connection is any unprotected actual or potential connection between a public or a user's water system and any other source or system through which it is possible to introduce into any part of the potable system any substance other than the potable water with which the system is supplied. Cross-connections can lead to backflow, which is the flow of liquid or gas opposite the intended direction.

Backflow has the following two causes:

1. Backsiphonage occurs when there is reduced or negative pressure (vacuum) in the supply piping. An example is siphoning gas out of a car or ice tea through a straw. Another example is a fire truck pumping water out of a fire hydrant. The hydrant is connected to the potable water main. Pumping will reduce the pressure in the main and any connection to the main through the domestic on site water system such as a hose in a swimming pool will cause a backsiphonage of the swimming pool water into the water main.

2. Backpressure occurs when equipment such as pumps or boilers create pressure higher than the pressure in the system to which it is connected. This cause the system pressure to be "overridden," resulting in reversed flows.

The probability that backflow may occur may not seem great; however, the following is quoted from the June 1989 EPA cross connection control manual, "Actual cross-connection may appear in many subtle forms and in unsuspected places. Reversal of pressure in the water may be freakish and unpredictable. The probability of contamination of drinking water through a cross-connection occurring within a single plumbing system may seem remote; but, considering the multitude of similar systems, the probability is great."

Since cross-connections can occur at any point in the distribution system, a breaking point of responsibility has been established. The user is responsible for maintaining water quality downstream of the meter. The purveyor (potable and/or recycled) has responsibility for maintaining water quality upstream of the meter.

The main concern present when recycled water or any other non-potable water is used on sites served with potable water is a cross-connection. Contamination of the drinking water supply can be prevented by careful plumbing practices and using appropriate backflow prevention devices. A backflow prevention assembly is a mechanical device which prevents water from flowing in a reverse direction. These required devices are plumbed directly into the potable water supply pipe.

Devices or methods for backflow protection are listed as follows:

Atmospheric Vacuum Breaker	(AVB)
Pressure Vacuum Breaker	(PVB)
Double Check Valve	(DC)

Reduced Pressure Principle Device	(RPPD)
Air Gap	(AG)

The most effective protection, an air gap (AG) is a physical break between a supply pipe and a receiving vessel. These are commonly used when supplying an impoundment with potable water. An air gap separation must be at least twice the diameter of the supply line, measured vertically above the top rim of the receiving vessel.

Reduced Pressure Principle Device (RPPD) or Double Check Valve (DC) devices are sometimes required on the recycled water supply if on-site conditions could deteriorate the recycled water quality. Your purveyor and DOEH maintain a list of devices approved for these uses.

SYSTEM IDENTIFICATION

Avoiding a cross-connection between the potable and recycled water systems is extremely important. The recycled water system must be clearly distinguishable from the potable water system. Recycled piping, outlets, and valves are color coded purple to differentiate the recycled water system from the potable system. However, on retrofits, many underground components will not be identified differently, therefore, more detailed testing may be required to make determinations of system identification.

Under no circumstances should purple pipe or fixtures be used in the potable system, nor should potable pipe or fixtures be used in the recycled system. This point cannot be overstressed. A situation may arise where it is more convenient to use “just a little piece” of purple pipe to fix a break in the potable system. Do not do this. The integrity of both the recycled and potable systems will become suspect and cause your water purveyor to require you to physically expose enough piping to confidently identify each system.

CROSS-CONNECTION TESTS

Your local water agency, in conjunction with the local health department, will conduct periodic cross-connection tests to insure there are no connections between the potable water and recycled water systems. The site supervisor will take part in these tests. An initial cross-connection test is usually performed as part of the final inspection process. The interval between subsequent cross-connection tests depends on the complexity of the recycled water system and if contamination or uncertainty problems persist. This is decided on a case-by-case basis at the discretion of the DOEH. In most cases, an annual or once every four-year cross-connection control shut down test is sufficient. If the test is once every four years, an annual walk through inspection is required. However, cross-connection tests will be performed where needed.

The protocol for these tests is based on the California DOHS, Office of Drinking Water, November 1991 publication entitled Guidelines Regarding Backflow Protection for Users of Recycled Water. Specific instructions on how to conduct a cross-connection control shut down test can also be found in the latest edition of the Uniform Plumbing Code (UPC).

The test is accomplished by turning off the recycled water service at the meter and draining the recycled system. After a period of time, depending on the size of the system, the recycled system is checked for repressurization. System repressurization indicates a cross-connection to the potable water system. If there is no repressurization, then the recycled system is recharged with water and the potable system is turned off at the service meter and the potable system is drained. Again, depending on the size of the system, a period of time, not shorter than four hours is allowed to observe if the potable system becomes repressurized. This was accomplished by opening all water taps in the potable system to determine of any water flows through the taps. All hot water heaters and any other devices that may repressurize the potable system must be shut down. This requires entry into all establishments on the site to ensure complete system shut down and to gain access to all potable water taps. If there is water flow through any of the taps, then a cross-connection with the recycled system is indicated.

The current testing method uses pressure recorders. The advantage of the pressure recorder is that it is usually not necessary to enter the buildings and recorder gives a permanent record of the test.

If a test reveals a cross-connection, both the recycled and potable water systems must be immediately shut down at the POC. The purveyor, DOEH and Office of Drinking Water must be promptly notified.

TESTING AND MAINTENANCE OF BACKFLOW PREVENTION DEVICES

Title 17 of the California Code of Regulations requires that all backflow prevention devices be tested annually to verify that they are working property. Records of these tests and all repairs must be kept and made available to the health department and the local water district. The user is responsible for conducting tests and performing all needed repairs. Title 17 contains the following requirements for backflow prevention assembly testing and maintenance:

1. The water purveyor shall ensure that adequate maintenance and periodic testing are provided by the water user to ensure proper operation. The water purveyor will notify the water user when testing of the backflow preventers is needed. The notice will contain the date by which the test must be completed.

2. Backflow preventers must be tested at least annually or more frequently if determined to be necessary by the water purveyor or health agency.

3. Backflow preventers must be tested by certified persons who have demonstrated their competency in testing these devices to the water purveyor or health agency. Records must be maintained and submitted to the water purveyor annually.

4. Backflow preventers must be tested immediately after they are installed, relocated, or repaired and not placed in service unless they are functioning as required.

Cucamonga Valley Water District

INTRODUCTION TO RECYCLED WATER

Water reclamation is the treatment and management of wastewater to produce a water of suitable quality for non-potable beneficial uses. To produce recycled water, wastewater is treated at a reclamation plant that duplicates nature's own cleansing process, only at a much faster rate. The result is a high quality water that is safe to use for irrigation of landscaping and crops, playgrounds, golf courses, parks, cemeteries, freeway embankments and medians, and much more. Reclamation offers great potential for future additional water supplies in San Bernardino County where conventional water supply sources are scarce.

The Treatment Process

There are several processes that wastewater must go through before it becomes recycled water. The major treatment processes are as follows:

Preliminary Treatment – A series of pretreatment processes designed to separate out coarse, non-treatable material from raw wastewater.

Primary Treatment – This process is designed to remove much of the solid matter carried by wastewater through the physical processes of sedimentation and flotation. Untreated wastewater flows into a quiescent basin referred to as a primary sedimentation tank or primary clarifier where the material that is more dense than water settles out by gravity and the material that is less dense than water floats to the surface and is skimmed off. Approximately 40-60% of the suspended solids and 20-50% of the BOD (biochemical oxygen demand) are removed from the waste stream. The product water from primary treatment is known as primary effluent. Remaining suspended solids and some dissolved solids in primary effluent are treated biochemically in a subsequent process for physical separation and removal.

Secondary Treatment – Primary effluent contains finely dispersed organic solids that will not settle easily by gravity so a more sophisticated treatment technique is employed. Secondary treatment is accomplished through any one of a family of unique biological systems designed to remove BOD, suspended solids, and some dissolved solids through a biological conversion of these materials to a settleable form. The biomass is separated from the product water (secondary effluent) in a secondary clarifier. Secondary treatment systems typically remove 80 - 95% of suspended solids and BOD.

Tertiary Treatment – this is the polishing process where chemical coagulants are added to secondary effluent and the water is filtered through fine sand or other granular material to remove any residual particulate matter. The water is then chlorinated for disinfection to meet full Title 22 Health and Safety standards.

Cucamonga Valley Water District

Uses of Recycled Water

Landscape irrigation will be the single largest use of recycled water within San Bernardino County. Additionally, recycled water will also be used for some industrial processing, cooling towers, soil compaction and dust suppression at construction sites, in recreational lakes, ponds and ornamental fountains, crop irrigation, and flushing toilets and urinals in some commercial buildings and offices. In fact, recycled water can be used for most non-potable needs.

Is if Safe?

Recycled water is safe to use! Potential health risks associated with the use of recycled water have been well documented nationwide as water reclamation projects are implemented and carefully monitored by responsible local health authorities and water quality control agencies. Tertiary recycled water is a highly treated, filtered and disinfected product according to the Department of Health Services criteria. These standards for recycled water are among the most stringent in the world. Referred to as "Title 22," these standards are incorporated in Title 22, Chapter 3, Division 4 of the California Code of Regulations, with stipulations applying to various types of reuse, and levels of required treatment. No health-related problems have been traced to any of the water reclamation projects currently operating in California.

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A recycled water distribution system is separate from a potable water system and the sewer system. Each purveyor is responsible for constructing and maintaining the main transmission lines between the water reclamation plant and the end-use site. Similar to the potable system, the purveyor is responsible for delivering the recycled water to the customer's meter. From the meter on, all on-site facilities will be the responsibility of the user.

How is using Recycled Water Different?

Recycled water facilities on the site will be separate from all potable systems. The recycled water customer will be required to post signs, mark meters and sprinkler heads, and ensure there are no cross-connections between the potable and recycled water systems. There will be an annual inspection by the water purveyor (which may include a Department of Health Services representative) to ensure all regulations are adhered to.

When using recycled water, some water management practices may have to be changed slightly. Nutrients in recycled water, such as nitrogen and phosphorus, provide a fertilizer benefit. However, recycled water has a higher level of salts, so leaching or other practices may be necessary, depending on your specific soil characteristics.

Cucamonga Valley Water District

INTRODUCTION TO HEALTH EFFECTS STUDY

By Richard Carlson
Department of Health Services

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That said, the recycled water treatment train does not eliminate every organism. The 2.2 mentioned above means that the sample does not exceed a statistical average of 2.2 total coliforms per 100 ml (or 83 coliforms per gallon) of recycled water over the last seven days as sampled daily at the treatment plant. The sample should not exceed 23 total coliforms per 100 ml in any 30-day period and can not exceed 240 total coliform in any on sample.

Coliforms are bacteria found in the intestinal tract of all humans and are used to monitor the quality of the recycled water. This quality of recycled water has been shown to be safe for many uses, but it is not considered safe to drink, nor is it safe to inhale the mist created in many of the approved uses. It must be remembered that recycled water is not the same as domestic (potable) water. However, when properly used and the appropriate rules and regulations are followed, 2.2 disinfected tertiary recycled water is safe for specific uses.

Cucamonga Valley Water District

USER'S GUIDE OF PRACTICAL DO'S AND DONT'S FOR THE USE OF RECYCLED WATER*

DO'S

1. Take preventative measures to insure no cross-connections can occur.
2. Maintain and submit as-built drawings of any and all changes or additions to your recycled water system.
3. When performing repairs or modifications to the recycle water system, use only materials approved for recycled water use.
4. If your system has quick couplers, be sure that the user supervisor assumes sole responsibility of the quick connects for these couplers and the use of these connectors is closely monitored.
5. Closely monitor the recycle water system operation and be alert to and minimize overspray, run-off, and ponding. If this occurs, make the necessary corrections and notify the appropriate agencies, if required.
6. Keep systems functioning properly. Repair any and all damage to the recycled water system immediately. Report breaks or spills directly to your recycled water purveyor.
7. Educate all workers of the correct uses and restrictions of recycled water.*
8. Be aware of the types of vegetation within your site boundaries and their responses to irrigation with recycled water. You may have to alter your water management practices based on soil and water characteristics.
9. Keep all records and references complete, up-to-date and accessible.
10. Keep others informed of all activities involving the recycled water systems.

DON'TS

1. Do not drink recycled water.
2. Recycled water should not be used to wash hands or other parts of the body.
3. Equipment (i.e. tanks, valves, hoses, pipes, and pumps) that has been in contact with recycled water should not be used in conjunction with any potable water system unless adequately disinfected.
4. Do not attempt to modify or change the recycled water system without authorization from the recycled water user-supervisor and/or the District.
5. Do not remove or tamper with recycled water warning signs.

* Check with your local recycled water purveyor for specific rules and regulations.

Cucamonga Valley Water District

STATE OF CALIFORNIA, DEPARTMENT OF HEALTH
GUIDELINES FOR USE OF RECYCLED WATER
FOR
IRRIGATION AND IMPOUNDMENTS

A. General

1. Recycled water shall meet the Regional Water Quality control Board requirements and the requirements specified in the Wastewater Reclamation Criteria, established by the State of California Department of Health for health protection.
2. The discharge should be confined to the area designated and approved for disposal and reuse.
3. Maximum attainable separation of recycled water lines and domestic water lines should be practiced. Domestic and recycled water transmission and distribution mains should conform to separation and construction criteria for the local purveyor.
    a. The use area facilities must comply with the "Regulations Relating to Cross Connections, " Title 17, Chapter V, Section 7583-769P, inclusive, California Code of Regulations.
    b. Plans and specification of the existing and proposed recycled water system and domestic water system shall be submitted to State and/or local health agencies for review and approval prior to service.
4. All recycled water valves and outlets should be appropriately tagged to inform the public and employees that the water is not suitable for drinking.
5. All piping, valves, and outlets should be color-coded or otherwise marked to differentiate recycled water from domestic or other water.
6. Recycled water valves and outlets, should be of a type or installed in such a manner that only authorized personnel have access.
7. Adequate means of notification should be provided to inform the public that recycled water is being used at the site. Such notification should include the posting of conspicuous signs with proper wording of sufficient size to be clearly read.
8. Adequate measures should be take to minimize the breeding of flies, mosquitoes, and other vectors of public health significance where water (recycled or domestic) is used.

B. Spray and Surface Irrigation of Crops

1. Irrigation should occur in a manner that minimizes ponding and runoff.
2. Irrigation should be performed so as to minimize public contact by water spray.
    a. Precautions should be taken to insure that recycled water will not be sprayed on walkways, passing vehicles, buildings, domestic water facilities, or areas not under control of the user.

b. Windblown spray from the irrigation area should not drift to areas off the designated site.

3. Irrigated areas must be kept completely separated from domestic water wells and reservoirs.
4. Adequate time should be provided between the last irrigation and harvesting, to allow the crops and soils to dry.

C. Landscape Irrigation

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3. Tank trucks used for carrying or spraying recycled water should be appropriately identified to indicate such.
4. Irrigation should be performed to minimize public contact by water spray. Precautions should be taken to insure that recycled water will not be sprayed on sidewalks, passing vehicles, buildings, picnic tables, domestic water facilities, or areas not under control of the user.
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   b. Windblown spray from the irrigation area should not drift to areas off the designated site.
   c. Drinking water fountains should be protected from direct or windblown recycled water spray.
5. Irrigated areas must be kept completely separated from domestic water wells and reservoirs.

D. Impoundment

1. At restricted and non-restricted recreational and landscape impoundments, all recycled water valves and outlets should be appropriately tagged to inform the public that the water is not suitable for drinking.
2. Adequate measures should be taken to prevent body contact activities, such as wading or swimming, at restricted recreational impoundment containing recycled water.
3. Impoundment containing recycled water must be kept completely separated from domestic water wells and reservoirs.
4. Recreational impoundment should be operated and maintained under the supervision of qualified personnel.

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Cucamonga Valley Water District

DUTIES AND RESPONSIBILITIES OF THE RECYCLED WATER USE SITE SUPERVISOR

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8. Be familiar with the purveyor's cross-connection control testing requirements;
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Cucamonga Valley Water District

CROSS-CONNECTION CONTROL AND BACKFLOW PREVENTION DEVICES

A cross-connection is any unprotected actual or potential connection between a public or a user's water system and any other source or system through which it is possible to introduce into any part of the potable system any substance other that the potable water with which the system is supplied. Cross-connections can lead to backflow, which is the flow of liquid or gas opposite the intended direction.

Backflow has the following two causes:

1. Backsiphonage – Backsiphonage occurs when there is reduced or negative pressure (vacuum) in the supply piping. Examples of backsiphonage are siphoning gas out of a car, using a straw to drink, or a fire truck pumping water out of a fire hydrant. The hydrant is connected to the potable water main. Pumping will reduce the pressure in the main and any connection to the main through the domestic on site water system, such as a hose in a swimming pool, will cause a backsiphonage of the swimming pool water into the water main.
2. Backpressure occurs when equipment, such as pumps or boilers, creates pressure higher than the pressure in the system to which it is connected. This causes the system pressure to be "overridden," resulting in reversed flows.

The probability that backflow can occur may not seem great; however, the following is quoted form the June 1989 EPA cross connection control manual. "Actual cross-connections may appear in many subtle forms and in unsuspected places. Reversal of pressure in the water may be freakish and unpredictable. The probability of contamination of drinking water through a cross-connection occurring within a single plumbing system may seem remote; but, considering the multitude of similar systems, the probability is great."

Since cross-connections can occur at any point in the distribution system, a breaking point of responsibility has been established. The user is responsible for maintaining water quality downstream of the meter. The purveyor (potable and/or recycled) has responsibility for maintaining water quality upstream of the meter.

The main concern, when recycled water or any other non-potable water is used on sites served with potable water, is a cross-connection. Contamination of the drinking water supply can be prevented by careful plumbing practices and use of appropriate backflow prevention devises. A backflow prevention assembly is a mechanical device, which prevents water from flowing in a reverse direction. These required devices are plumbed directly into the potable water supply pipe.

Listed below in ascending order are methods or devices for backflow protection:

Atmospheric Vacuum Breaker (AVB)

Pressure Vacuum Breaker	(PVB)
Double Check Valve	(DC)
Reduced Pressure Principle Device	(RPPD)
Air Gap	(AG)

The most effective protection, an air gap (AG), is a physical break between a supply pipe and a receiving vessel. These are commonly used when supplying an impoundment with potable water. An air gap separation must be at least twice the diameter of the supply line, measured vertically above the top rim of the receiving vessel.

RPPD or DC devices are sometimes required on the recycled water supply if on-site conditions could deteriorate the recycled water quality. Your local water agency maintains a list of devices approved for these uses.

SYSTEM IDENTIFICATION

Avoiding a cross-connection between the potable and recycled water systems is extremely important. The recycled water system must be clearly distinguishable from the potable water system. Recycled piping, outlets, and valves are color-coded purple to differentiate the recycled water system from the potable system. However, on retrofits, many underground components will not be identified differently, therefore, more detailed testing may be required to make determinations of system identification.

Under no circumstances should purple pipe or fixtures be used in the potable system, nor should potable pipe or fixtures be used in the recycled system. This point cannot be overstressed. A situation may arise where it is more convenient to use "just a little piece" of purple pipe to fix a break in the potable system. Do not do this. The integrity of both the recycled and potable systems will become suspect and cause your water purveyor to require you to physically expose enough piping to confidently identify each system.

CROSS-CONNECTION TESTS

Your local water agency, in conjunction with the local health department, will conduct periodic cross-connection tests to insure there are no connections between the potable water and recycled water systems. The site supervisor will take part in these tests. An initial cross-connection test is usually performed as part of the final inspection process. The interval between subsequent cross-connection tests depends on the complexity of the recycled water system and if contamination or uncertainty problems persist. This is decided on a case-by-case basis at the discretion of the DOHS. In most cases, an annual or once every four-year cross-connection control shut down test is sufficient. If the test is once every four years, an annual walk through inspection is required. However, cross-connection tests will be performed where needed.

Cucamonga Valley Water District

The protocol for these tests is based on the California, Office of Drinking Water, November 1991 publication entitled Guidelines Regarding Backflow Protection for Users of Recycled Water. Specific instructions on how to conduct a cross-connection control shut down test can also be found in the latest edition of the Uniform Plumbing Code (UPC).

The test is accomplished by turning off the recycled water service at the meter and draining the recycled system. After a period of time, depending on the size of the system, the recycled system is checked for re-pressurization. System re-pressurization indicates a cross-connection to the potable water system. If there is no re-pressurization, then the recycled system is recharged with water and the potable system is turned off at the service meter and the potable system is drained. Again, depending on the size of the system, a period of time, not shorter than four hours is allowed to observe if the potable system becomes re-pressurized. This is accomplished by opening all water taps in the potable system to determine if any water flows through the taps. All hot water heaters and any other devices that may re-pressurize the potable system must be shut down. This requires entry into all establishments on the site to ensure complete system shut down and to gain access to all potable water taps. If there is water flow through any of the taps, then a cross-connection with the recycled system is indicated.

The current testing method uses pressure recorders. The advantage of the pressure recorder is that it is usually not necessary to enter the buildings and the recorder gives a permanent record of the test.

If a test reveals a cross-connection, both the recycled and potable water systems must immediately be shut down at the POC. The purveyor, DOHS, and Office of Drinking Water must then be promptly notified. Neither system may be reactivated until the cross-connection has been eliminated, all contamination has been removed, and the regulatory agencies have been satisfied that the problem has been corrected.

TESTING AND MAINTENANCE OF BACKFLOW PREVENTION DEVISES

Title 17 of the California Code of Regulations requires that all backflow prevention devices be tested annually to verify that they are working properly. Records of these tests and all repairs must be kept and made available to the health department and the local water agency. The user is responsible for conducting tests and performing all needed repairs. Title 17 contains the following requirements for backflow prevention assembly testing and maintenance:

1. The water purveyor shall ensure that the water user provides adequate maintenance and periodic testing to ensure proper operation. The water purveyor will notify the water user when testing of the backflow preventers is needed. The notice will contain the date by which the test must be completed.

Cucamonga Valley Water District

2. Backflow preventers must be tested at least annually or more frequently if determined to be necessary by the water purveyor or health agency.
3. Certified persons who have demonstrated their competency in testing these devises to the water purveyor or health agency must test backflow preventers. Records must be maintained and submitted to the water purveyor annually.
4. Backflow preventers must be tested immediately after they are installed, relocated, or repaired and not place in service unless they are functioning as required.

City of Ontario
Site Supervisor Training
Reference Guide

INTRODUCTION TO RECYCLED WATER

Water reclamation is the treatment and management of wastewater to produce water of suitable quality for non-potable beneficial uses. To produce recycled water, wastewater is treated at a reclamation plant that duplicates nature's own cleansing process, only at a much faster rate. The result is a high quality water that is safe to use for irrigation of landscaping and crops, playgrounds, golf courses, parks, cemeteries, freeway embankments and medians, and much more. Reclamation offers great potential for future additional water supplies in San Bernardino County where conventional water supply sources are scarce.

The Treatment Process

There are several process that wastewater must go through before it becomes recycled water. The major treatment processes are as follows:

Preliminary Treatment

A series of pretreatment processes designed to separate out coarse, non-treatable material from raw wastewater.

Primary Treatment

This process is designed to remove much of the solid matter discarded by wastewater through the physical processes of sedimentation and flotation. Untreated wastewater flows into a quiescent basin referred to as a primary sedimentation tank or primary clarifier where the material that is denser than water settles out by gravity and the material that is less dense than water floats to the surface and skimmed off. Approximately 40-60% of the suspended solids and 20-50% of the BOD (biochemical oxygen demand) are removed from the waste stream. The product water from the primary treatment is known as primary effluent. Remaining suspended solids and some dissolved solids in primary effluent are treated biochemically in a subsequent process for physical separation and removal.

Secondary Treatment

The primary effluent contains finely dispersed organic solids that will not settle easily by gravity so a more sophisticated treatment technique is employed. Secondary treatment is accomplished through any one of a family of unique biological systems designed to remove BOD, suspended solids and some dissolved solids through a biological conversion of these materials to a settable form. The biomass is separated from the product water (secondary effluent) in a secondary clarifier. Secondary treatment systems typically remove 80% to 95% of suspended solids and BOD.

Tertiary Treatment

This is the polishing process where chemical coagulants are added to secondary effluent and the water is filtered through fine sand or other granular material to remove any residual

particulate matter. The water is then chlorinated for disinfection to meet full Title 22 Health and Safety standards.

Uses of Recycled Water

Landscape irrigation will be the single largest use of recycled water within San Bernardino County. Additionally, recycled water will also be used for some industrial processing, cooling towers, soil compaction and dust suppression at construction sites, in recreational lakes, ponds and ornamental fountains, crop irrigation, and flushing toilets and urinals in some commercial buildings and offices. In fact, recycled water can be used for most non-potable needs.

Is it Safe?

Recycled water is safe to use! Potential health risks associated with the use of recycled water have been well documented nationwide as water reclamation projects are implemented and carefully monitored by responsible local health authorities and water quality control agencies. Tertiary recycled water is a highly treated, filtered and disinfected product according to the Department of Health Services criteria. These standards for recycled water are among the most stringent in the world. Referred to as "Title 22", these standards are incorporated in Title 22, Chapter 3, Division 4 of the California Code of Regulations, with stipulations applying to various types of reuse, and levels of required treatment. No health related problems have been traced to any of the water reclamation projects currently operating California.

How Does it Get to My Site?

A recycled water distribution system is separate from a potable water system and the sewer system. Each purveyor is responsible for constructing and maintaining the main transmission lines between the water reclamation plant and the end-use site. Similar to the potable system, the purveyor is responsible for delivering the recycled water to the customers' meter. From the meter on, all on-site facilities will be the responsibility of the users.

How is Using Recycled Water Different?

Recycled water facilities on the site will be separate from all potable systems. The recycled water customer will be required to post signs, mark meters and sprinkler heads, and ensure there are no cross-connections between the potable and recycled water systems. There will be an annual inspection by the water purveyor and Department of Health Services to ensure all regulations are adhered to.

When using recycled water, some water management practices may have to be changed slightly. Nutrients in recycled water, such as nitrogen and phosphorus, provide a fertilizer benefit. However, recycled water has a higher level of salts, so that leaching or other practices may be necessary depending on your specific soil characteristics.

INTRODUCTION TO HEALTH EFFECTS STUDY

By Richard Carlson
Department of Health Services

Recycled water is produced from municipal wastewater. The municipal wastewater undergoes a rigorous and controlled treatment process at wastewater reclamation plants. However, the waste stream comes from a variety of sources, the larger part of which is human, and human waste will contain pathogenic organisms. Pathogenic organisms found in municipal wastewater can be classified into four groups; viruses, bacteria, protozoan, and helminthes. Each group contains disease-causing organisms that are a public health concern. Treatment of the municipal wastewater to an end product of 2.2 disinfected tertiary recycled water, which is the type of water we are dealing with, will eliminate virtually all of these organisms.

That said, the recycled water treatment train does not eliminate every organism. The 2.2 mentioned above means that the sample does not exceed a statistical average of 2.2 total coliforms per 100 ml (or 83 coliforms per gallon) of recycled water over the last seven days as sampled daily at the treatment plant. The sample should not exceed 23 total coliforms per 100 ml in any 30-day period and cannot exceed 240 total coliform in any one sample.

Coliforms are bacteria found in the intestinal tract of all humans and are used to monitor the quality of the recycled water. This quality of recycled water has been shown to be safe for many uses, but it is not considered safe to drink, nor is it safe to inhale the mist created in many of the approved, uses. It must be remembered that recycled water is not the same as domestic (potable) water. However, when property used and the appropriate rules and regulations are followed, 2.2 disinfected tertiary recycled water is safe for specific uses.

USER'S GUIDE OF PRACTICAL DO'S AND DON'TS FOR THE USE OF RECYCLED WATER*

DO'S:

1. Take preventative measures to insure no cross-connections can occur.

2. Maintain and submit as-built drawings of any and all changes or additions to your recycled water system.

3. When performing repairs or modifications to the recycled water system, use only materials approved for recycled water use.

4. If your system has quick couplers, be sure that the user supervisor assumes sole responsibility of the quick connects for these couplers and the use of these connectors is closely monitored.

5. Closely monitor the recycled water system operation and be alert to and minimize overspray, run-off, and ponding. If this occurs, make the necessary corrections and notify the appropriate agencies, if required.

6. Keep systems functioning properly. Repair any and all damage to the recycled water system immediately. Report breaks or spills directly to your recycled water purveyor.

7. Educate all workers of the correct uses and restrictions of recycled water.*

8. Be aware of the types of vegetation within your site boundaries and their responses to irrigation with recycled water. You may have to alter your water management practices based on soil and water characteristics.

9. Keep all records and references complete, up-to-date and accessible.

10. Keep others informed of all activities involving the recycled water system.

DON'TS:

1. Do not drink recycled water.

2. Recycled water should not be used to wash hands or other parts of the body.

3. Equipment (i.e. tanks valves, hoses, pipes, and pumps) that has been in contact with recycled water should not be used in conjunction with any potable water system unless adequately disinfected.

4. Do not attempt to modify or change the recycled water system without authorization from the recycled water supervisor.

5. Do not remove or tamper with recycled water warning signs.

*Check with your local water purveyor for specific rules and regulations.

STATE OF CALIFORNIA, DEPARTMENT OF HEALTH GUIDELINES FOR USE OF RECYCLED WATER FOR IRRIGATION AND IMPOUNDMENTS

A. General

1. Recycled water shall meet the Regional Water Quality Control Board Requirements and the requirements specified in the Wastewater Reclamation Criteria, established by the State of California Department of Health for health protection.

2. The discharge should be confined to the area designated and approved for disposal and reuse.

3. Maximum attainable separation of recycled water lines and domestic water lines should be practiced. Domestic and recycled water transmission and distribution mains should conform to separation and construction criteria of the local purveyor.

    a. The use area facilities must comply with the "Regulations Relating to Cross-Connections," Title 17, Chapter V, Section 7583-769P, inclusive, California Code of Regulations.

    b. Plans and specification of the existing and proposed recycled water system and domestic water system shall be submitted to State and/or local health agencies for review and approval prior to service.

4. All recycled water valves and outlets should be appropriately tagged to inform the public and employees that the water is not suitable for drinking.

5. All piping, valves, and outlets should be color-coded or otherwise marked to differentiate recycled water from domestic or other water.

6. Recycled water valves outlets, should be of a type or installed in such a manner that only authorized personnel have access.

7. Adequate means of notification should be provided to inform the public that recycled water is being used at the site. Such notification should include the posting of conspicuous signs with proper wording of sufficient size to be clearly read.

8. Adequate measures should be taken to minimize the breeding of flies, mosquitoes and other vectors of public health significance where water (recycled or domestic) is used.

B. Spray and Surface Irrigation of Crops

1. Irrigation should occur in a manner that minimizes ponding and runoff.

2. Irrigation should be done so as to minimize contact by the public with water spray.

a. Precautions should be taken to insure that recycled water would not be sprayed on walkways, passing vehicles, buildings, domestic water facilities, or areas not under control of the user.

b. Windblown spray from the irrigation area should not drift to areas off the designated site.

3. Irrigated areas must be kept completely separated from domestic water wells and reservoirs.

4. Adequate time should be provided between the last irrigation and harvesting to allow the crops and soil to dry.

5. Animals, especially milking animals, should not be allowed to graze on land irrigated with recycled water until it is thoroughly dry.

6. Adequate measures must be taken to prevent any direct contact between the edible portion of the crops and the recycled water.

C. Landscape Irrigation

1. Irrigation should occur in a manner that minimizes ponding and runoff.

2. At golf courses, notices should be printed on scorecards stating that recycled water is used, and all water hazards containing recycled water should be posted with conspicuous signs.

3. Tank trucks used for carrying or spraying recycled water should be appropriately identified to indicate such.

4. Irrigation should be done so as to minimize contact by the public with water spray. Precautions should be taken to insure that recycled water will not be sprayed on sidewalks, passing vehicles, buildings, picnic tables, domestic water facilities, or areas not under control of the user.

a. Irrigation should be practiced during periods when the grounds will have maximum opportunity to dry before use by the public unless provisions are made to exclude the public from areas during and after spraying with recycled water.

b. Windblown spray from the irrigation area should not drift to areas off the designated site.

c. Drinking water fountains should be protected from direct or windblown recycled water spray.

5. Irrigated areas must be kept completely separated from domestic water wells and reservoir.

D. Impoundment

1. At restricted and non-restricted recreational impoundment and landscape impoundment all recycled water values and outlets should be appropriately tagged to inform the public that the water is not suitable for drinking.

2. Adequate measures should be taken to prevent body contact activities, such as wading or swimming, at restricted recreational impoundment containing recycled water.

3. Impoundment containing recycled water must be kept completely separated from domestic water wells and reservoirs.

4. Recreational impoundment should be operated and maintained under the supervision of qualified personnel.

(Condensed, edited and reproduced from California State Department of Health Services)

DUTIES AND RESPONSIBILITIES OF THE RECYCLED WATER USE SITE SUPERVISOR

All recycled water purveyors require that the user designate a Recycled Water Site Supervisor. This person shall be responsible for the safe and efficient use of recycled water by all involved personnel at the user's site. The purveyor must approve of the person appointed for this position. This person shall be available to the purveyor with regards to the operation and maintenance of the user's recycled water system. The user is responsible for notifying the purveyor immediately of any change in this position. The site supervisor must:

1. Be knowledgeable of what recycled water is and how it is produced;

2. Be knowledgeable of best management practices, specific equipment and principles relating to the intended use of recycled water;

3. Be responsible for keeping the equipment and facilities property maintained;

4. Be the 24-hour contact person responsible for the safe and efficient use of recycled water at the use site;

5. Educate all maintenance personnel on a continuous basis on the presence and use of recycled water;

6. Be responsible for maintaining up-to-date appropriate records of all on-site recycled and potable water systems. Requirements are use-site specific and are intended to document major changes made to on-site plumbing;

7. Be responsible for keeping the water agency informed of all failures, emergencies, and proposed changes that occur involving the recycled or potable water systems, and have current copy of recycled water use agreement available and readily accessible;

8. Be familiar with the purveyor's cross-connection control testing requirements;

9. Be knowledgeable of the recycled water purveyors Rules and Regulations for recycled water service.

CROSS CONNECTION CONTROL AND BACKFLOW PREVENTION DEVICES

A cross-connection is any unprotected actual or potential connection between a public or a user's water system and any other source or system through which it is possible to introduce into any part of the potable system any substance other than the potable water with which the system is supplied. Cross-connections can lead to backflow, which is the flow of liquid or gas opposite the intended direction.

Backflow has the following two causes:

1. Backsiphonage occurs when there is reduced or negative pressure (vacuum) in the supply piping. An example is siphoning gas out of a car or ice tea through a straw. Another example is a fire truck pumping water out of a fire hydrant. The hydrant is connected to the potable water main. Pumping will reduce the pressure in the main and any connection to the main through the domestic on site water system such as a hose in a swimming pool will cause a backsiphonage of the swimming pool water into the water main.

2. Backpressure occurs when equipment such as pumps or boilers create pressure higher than the pressure in the system to which it is connected. This causes the system pressure to be "overridden," resulting in reversed flows.

The probability that backflow may occur may not seem great; however, the following is quoted from the June 1989 EPA cross connection control manual, "Actual cross-connection may appear in many subtle forms and in unsuspected places. Reversal of pressure in the water may be freakish and unpredictable. The probability of contamination of drinking water through a cross-connection occurring within a single plumbing system may seem remote; but, considering the multitude of similar systems, the probability is great."

Since cross-connections can occur at any point in the distribution system, a breaking point of responsibility has been established. The user is responsible for maintaining water quality downstream of the meter. The purveyor (potable and/or recycled) has responsibility for maintaining water quality upstream of the meter.

The main concern present when recycled water or any other non-potable water is used on sites served with potable water is a cross-connection. Contamination of the drinking water supply can be prevented by careful plumbing practices and using appropriate backflow prevention devices. A backflow prevention assembly is a mechanical device which prevents water from flowing in a reverse direction. These required devices are plumbed directly into the potable water supply pipe.

Devices or methods for backflow protection are listed as follows:

Atmospheric Vacuum Breaker	(AVB)
Pressure Vacuum Breaker	(PVB)
Double Check Valve	(DC)
Reduced Pressure Principle Device	(RPPD)
Air Gap	(AG)

The most effective protection, an air gap (AG) is a physical break between a supply pipe and a receiving vessel. These are commonly used when supplying an impoundment with

potable water. An air gap separation must be at least twice the diameter of the supply line, measured vertically above the top rim of the receiving vessel.

Reduced Pressure Principle Device (RPPD) or Double Check Valve (DC) devices are sometimes required on the recycled water supply if on-site conditions could deteriorate the recycled water quality. Your purveyor and DHS maintain a list of devices approved for these uses.

SYSTEM IDENTIFICATION

Avoiding a cross-connection between the potable and recycled water systems is extremely important. The recycled water system must be clearly distinguishable from the potable water system. Recycled piping, outlets, and valves are color-coded purple to differentiate the recycled water system from the potable system. However, on retrofits, many underground components will not be identified differently, therefore, more detailed testing may be required to make determinations of system identification.

Under no circumstances should purple pipe or fixtures be used in the potable system, nor should potable pipe or fixtures be used in the recycled system. This point cannot be overstressed. A situation may arise where it is more convenient to use "just a little piece" of purple pipe to fix a break in the potable system. Do not do this. The integrity of both the recycled and potable systems will become suspect and cause your water purveyor to require you to physically expose enough piping to confidently identify each system.

CROSS-CONNECTION TESTS

Your local water agency, in conjunction with the local health department, will conduct periodic cross-connection tests to insure there are no connections between the potable water and recycled water systems. The site supervisor will take part in these tests. An initial cross-connection test is usually performed as part of the final inspection process. The interval between subsequent cross-connection tests depends on the complexity of the recycled water system and if contamination or uncertainty problems persist. This is decided on a case-by-case basis at the discretion of the DHS. In most cases, an annual or once every four-year cross-connection control shut down test is sufficient. If the test is once every four years, an annual walk through inspection is required. However, cross-connection tests will be performed where needed.

The protocol for these tests is based on the California DHS, Office of Drinking Water, November 1991 publication entitled Guidelines Regarding Backflow Protection for Users of Recycled Water. Specific instructions on how to conduct a cross-connection control shut down test can also be found in the latest edition of the Uniform Plumbing Code (UPC).

The test is accomplished by turning off the recycled water service at the meter and draining the recycled system. After a period of time, depending on the size of the system, the recycled system is checked for repressurization. System repressurization indicates a cross-connection to the potable water system. If there is no repressurization, then the recycled system is recharged with water and the potable system is turned off at the service meter and the potable system is drained. Again, depending on the size of the system, a period of time, not shorter than four hours is allowed to observe if the potable system becomes repressurized. This was accomplished by opening all water taps in the potable system to determine of any water flows through the taps. All hot water heaters and any other devices

that may repressurize the potable system must be shut down. This requires entry into all establishments on the site to ensure complete system shut down and to gain access to all potable water taps. If there is water flow through any of the taps, then a cross-connection with the recycled system is indicated.

The current testing method uses pressure recorders. The advantage of the pressure recorder is that it is usually not necessary to enter the buildings and recorder gives a permanent record of the test.

If a test reveals a cross-connection, both the recycled and potable water systems must be immediately shut down at the POC. The purveyor, DHS and Office of Drinking Water must be promptly notified.

TESTING AND MAINTENANCE OF BACKFLOW PREVENTION DEVICES

Title 17 of the California Code of Regulations requires that all backflow prevention devices be tested annually to verify that they are working property. Records of these tests and all repairs must be kept and made available to the health department and the local water district. The user is responsible for conducting tests and performing all needed repairs. Title 17 contains the following requirements for backflow prevention assembly testing and maintenance:

1. The water purveyor shall ensure that adequate maintenance and periodic testing are provided by the water user to ensure proper operation. The water purveyor will notify the water user when testing of the backflow preventers is needed. The notice will contain the date by which the test must be completed.

2. Backflow preventers must be tested at least annually or more frequently if determined to be necessary by the water purveyor or health agency.

3. Backflow preventers must be tested by certified persons who have demonstrated their competency in testing these devices to the water purveyor or health agency. Records must be maintained and submitted to the water purveyor annually.

4. Backflow preventers must be tested immediately after they are installed, relocated, or repaired and not placed in service unless they are functioning as required.

APPENDIX G:

IEUA WASTE DISCHARGE PERMIT

California Regional Water Quality Control Board
Santa Ana Region

July 10, 2009

ITEM: *7

SUBJECT: Issuance of Waste Discharge and Producer/User Reclamation Requirements for the Inland Empire Utilities Agency's Regional Water Recycling Facilities, Surface Water Discharges and Recycled Water Use, Order No. R8-2009-0021, NPDES No. CA8000409, San Bernardino County

DISCUSSION:

See attached Fact Sheet

RECOMMENDATIONS:

Adopt Order No. R8-2009-0021, NPDES No. CA8000409 as presented.

COMMENT SOLICITATION:

Comments were solicited from the discharger and the following agencies:

U.S. Environmental Protection Agency, Permits Issuance Section (WTR-5) – Doug Eberhardt
U.S. Army District, Los Angeles, Corps of Engineers - Regulatory Branch
U.S. Fish and Wildlife Service, Carlsbad – Christine Medak
State Water Resources Control Board, Office of the Chief Counsel – David Rice
State Department of Fish and Game, Los Alamitos - Ms. Latoni
California Department of Public Health, San Bernardino – Sean McCarthy
California Department of Public Health, Carpenteria - Jeff Stone
State Department of Water Resources, Glendale – Charles Keene
Santa Ana Watershed Project Authority – Celeste Cantu
Santa Ana River Dischargers Association – Ed Filadelfia
Orange County Water District - Nira Yamachika
San Bernardino County Transportation/Flood Control District – Naresh Varma
San Bernardino County Environmental Health Services – Daniel Avera
City of Chino, Public Works Department – Jose Alire
City of Chino Hills - Public Works Department
City of Fontana – Chuck Hays, chays@fontana.org
City of Montclair - Nicole Greene
City of Ontario – Mohamed El-Amamy
City of Upland – Maria Linzay
Cucamonga Valley Water District -
Inland Empire Waterkeeper – Autumn DeWoody
Orange County Coastkeeper - Garry Brown
Lawyers for Clean Water C/c San Francisco Baykeeper
Natural Resources Defense Council – David Beckman
Inland Empire Utilities Agency - Patrick Sheilds

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

SANTA ANA REGION

3737 Main Street, Suite 500, Riverside, California 92501-3348
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http://www.waterboards.ca.gov/santaana

ORDER NO. R8-2009- 0021
NPDES NO. CA8000409

WASTE DISCHARGE AND PRODUCER/USER RECLAMATION REQUIREMENTS FOR INLAND EMPIRE UTILITIES AGENCY REGIONAL WATER RECYCLING FACILITIES SURFACE WATER DISCHARGES AND RECYCLED WATER USE

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 1. Discharger Information

Discharger/ Operator	Inland Empire Utilities Agency			
Name of Facility	Regional Water Recycling Plant No. 1 (RP-1)	Regional Water Recycling Plant No. 4 (RP-4)	Regional Water Recycling Plant No. 5 (RP-5)	Carbon Canyon Water Reclamation Facility (CCWRF)
Facility Address	2450 East Philadelphia Street	12811 Sixth Street	6068 Kimball Ave, Building "C".	14950 Telephone Avenue
	Ontario, CA 91761	Rancho Cucamonga, CA 91729	Chino, CA 91708	Chino, CA 91710
	San Bernardino County			
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a major discharge.				

The discharge by Inland Empire Utilities Agency (IEUA) from the discharge points identified below is subject to waste discharge requirements as set forth in this Order:

Table 2. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Tertiary treated effluent from RP-1	N33°56'39"	W117°38'34"	Prado Park Lake, overflow from the lake to an unnamed creek, then to Reach 1A of Chino Creek, a tributary to Reach 3 of Santa Ana River in Prado Basin
002	Tertiary treated effluent from RP-1&RP-4	N34°01'31"	W117°33'56"	Reach 1 of Cucamonga Creek, then to Mill Creek, then to Reach 1A of Chino Creek, a tributary to Reach 3 of Santa Ana River in Prado Basin
003	Tertiary treated effluent from RP-5	N33°57'44"	W117°40'41"	Reach 1B of Chino Creek, a tributary to Reach 3 of Santa Ana River
004	Tertiary treated effluent from CCWRF	N33°58'56	W117°41'48"	Reach 2 of Chino Creek, a tributary to Reach 3 of Santa Ana River
005	Recycled water from RP-1	N34°01'29"	W117°35'57"	Use area overlying Chino North "Max Benefit" GMZ (or Chino 1, 2, and 3 "Antidegradation" GMZs – see Fact Sheet)
006	Recycled water from RP-4	N34°04'59"	W117°31'35"	
007	Recycled water from RP-5	N33°57'51"	W117°40'24"	
008	Recycled water from CCWRF	N33°58'47"	W117°41'37"	
S-001	Stormwater from RP-1	N34°01'36"	W117°35'59"	Stormwater runoff to Reach 1 of Cucamonga Creek
S-002	Stormwater from RP-1	N34°01'28"	W117°35'58"	Stormwater runoff to Reach 1 of Cucamonga Creek

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	July 20, 2009
This Order shall become effective on:	July 20, 2009
This Order shall expire on:	July 1, 2014
The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:	January 2, 2014

I, Gerard J. Thibeault, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Santa Ana Region, on July 20, 2009.

Gerard J. Thibeault, Executive Officer

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I. FACILITY INFORMATION

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 4. Facility Information

Discharger/Operator	Inland Empire Utilities Agency			
Name of Facility (RWRF)	RP-1	RP-4	RP-5	CCWRF
Address	2450 East Philadelphia Street	12811 Sixth Street	6068 Kimball Avenue Building "C"	14950 Telephone Avenue
	Ontario, CA 91761	Rancho Cucamonga, CA 91729	Chino, CA 91708	Chino, CA 91710
	San Bernardino County			
Facility Contact, Title and Phone	Patrick O. Sheilds, Executive Manager of Operations, (909) 993-1806			
Authorized Person to Sign and Submit Reports	Patrick O. Sheilds, Executive Manager of Operations, (909) 993-1806			
Address	6075 Kimball Avenue, Chino, CA 91708			
Mailing/Billing Address	P.O. Box 9020, Chino Hills, CA 91709			
Type of Facility	POTW			
Facilities Permitted Flow	84.4 million gallons per day (mgd)			
Facility Design Flow	44 mgd	14 mgd	15 mgd (and 1.3 mgd RP-2 sludge treatment system wastewater flows)	11.4 mgd

II. FINDINGS

The California Regional Water Quality Control Board, Santa Ana Region (hereinafter Regional Water Board), finds:

A. Background. The Inland Empire Utilities Agency (hereinafter Discharger, or IEUA) owns and operates a regional wastewater collection system and four regional water recycling facilities (hereinafter, Facilities), including Regional Water Recycling Plants Nos. 1, 4, and 5 and the Carbon Canyon Water Reclamation Facility (CCWRF). The Discharger is currently discharging from these Facilities pursuant to the following waste discharge and producer/user water reclamation requirements:

1. Order No. R8-2006-0010, National Pollutant Discharge Elimination System (NPDES) Permit No. CA0105279, as amended by Orders No. R8-2007-0045 and No. R8-2007-0078, for treated wastewater discharges from Regional Water Recycling Plant No. 1 (RP-1) and Regional Water Recycling Plant No. 4 (RP-4);

2. Order No. R8-2008-0028, NPDES No. CA8000402 for treated wastewater discharges from Regional Water Recycling Plant No. 5 (RP-5); and

3. Order No. R8-2004-0020, NPDES No. CA8000073, as amended by Orders No. R8-2006-0038 and No. R8-2007-0078, for treated wastewater discharges from Carbon Canyon Water Reclamation Facility (CCWRF).

The Discharger submitted a Report of Waste Discharge (ROWD), dated January 27, 2009, and applied for a NPDES permit to consolidate the three waste discharge and producer/user water reclamation requirements identified above into one permit to regulate a total discharge of up to 84.4 million gallons per day (mgd) of tertiary treated wastewater from RP-1, RP-4, RP-5, and CCWRF.

For the purposes of this Order, references to the "discharger" or "permittee" in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

B. Facility Description. IEUA owns and operates a regional wastewater collection system and four water recycling plants. Wastewater can be diverted to different plants via available routing options built into the regional system (see Figure 1 of Attachment C for further detail). After treatment, effluent/recycled water can be discharged to nearby outfall(s) or it can be recycled for industrial uses, irrigation and groundwater recharge. The wastewater treatment systems consist of primary, secondary, and tertiary treatment. Treated wastewater is discharged from various discharge points either to Prado Park Lake, Reach 1 of Cucamonga Creek, or Chino Creek. The lake and the creeks are tributaries to Reach 3 of the Santa Ana River within the Prado Basin Management Zone. Recycled water is used in areas overlying the Chino North "Maximum Benefit" Groundwater Management Zone (GMZ) (or Chino 1, 2, and 3 "Antidegradation" GMZs). Groundwater recharge of recycled water is regulated under separate waste discharge requirements. Attachment B provides maps of the area

around these Facilities. Attachment C provides flow schematics at each Facility, the IEUA System-Wide influent flow interrelationship diagram, and a schematic of the IEUA System-Wide Water Recycling Distribution System.

C. **Legal Authorities.** This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this Facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, Division 7 of the Water Code (commencing with section 13260).

D. **Background and Rationale for Requirements**. The Regional Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through E and G through K are also incorporated into this Order.

E. **California Environmental Quality Act (CEQA).** Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code section 21000 et seq. (*County of Los Angeles v. California State Water Resources Control Board* (2006) 143 Cal.App.4th 985, mod. (Nov. 6, 2006, B184034) 50 Cal.Rptr.3d 619, 632-636). This action also involves the re-issuance of waste discharge requirements for an existing facility that discharges treated wastewater to land and as such, is exempt from the provisions of California Environmental Quality Act (commencing with Section 21100) in that the activity is exempt pursuant to Title 14 of the California Code of Regulations Section 15301.

F. **Technology-based Effluent Limitations**. Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations[1], require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at Part 133 and/or Best Professional Judgment (BPJ) in accordance with Part 125, section 125.3. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).

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[1] *All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.*

G. **Water Quality-Based Effluent Limitations.** Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. This Order contains requirements, expressed as a technology equivalence requirement, more stringent than secondary treatment requirements. These requirements are necessary to meet applicable water quality standards.

The rationale for these requirements, which consist of tertiary or equivalent treatment requirements and other provisions, is discussed in the Fact Sheet.

Section 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

H. **Water Quality Control Plans.** The Regional Water Board adopted a revised Water Quality Control Plan for the Santa Ana Region (hereinafter Basin Plan) that became effective on January 24, 1995. The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters in the Santa Ana Region addressed through the plan. More recently, the Basin Plan was amended significantly to incorporate revised boundaries for groundwater subbasins, now termed "management zones", new nitrate-nitrogen and TDS objectives for the new management zones, and new nitrogen and TDS management strategies applicable to both surface and ground waters.

This Basin Plan Amendment was adopted by the Regional Water Board on January 22, 2004. The State Water Resources Control Board (State Water Board) and Office of Administrative Law (OAL) approved the Amendment on September 30, 2004 and December 23, 2004, respectively. EPA approved the surface water standards components of the N/TDS Amendment on June 20, 2007.

In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which established State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Based on the criteria specified in the State Water Board Resolution, the Basin Plan specifies that Reaches 1A, 1B, and 2 of Chino Creek, Reach 1 of Cucamonga Creek and Reach 5 of the Santa Ana River, beginning at the intersection of Orange Avenue in the City of Redlands, and downstream reaches are excepted from the municipal and domestic supply beneficial use.

As discussed in detail in the Fact Sheet (Attachment F), beneficial uses applicable to the Prado Basin Management Zone, Reach 1 of Cucamonga Creek, Reaches 1A, 1B, and 2 of Chino Creek, and Reach 3 of the Santa Ana River are as follows:

Table 5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
001	Prado Park Lake overflow from the lake to an unnamed creek, then to Reach 1A of Chino Creek	Present or Potential: Water contact recreation (REC-1), non-contact water recreation (REC-2), warm freshwater habitat, wildlife habitat (WILD), and rare, threatened and endangered species. Recreational use at Prado Park Lake is restricted to fishing and boating. Excepted from Municipal and Domestic Supply.
002	Reach 1 of Cucamonga Creek, then to Mill Creek, thence to Reach 1A of Chino Creek	Present or Potential: Groundwater Recharge, Water contact recreation (REC-1), non-contact water recreation (REC-2), Limited warm freshwater habitat, and wildlife habitat (WILD). Excepted from Municipal and Domestic Supply.
003	Reach 1B of Chino Creek	Present or Potential: Water contact recreation (REC-1), non-contact water recreation (REC-2), warm freshwater habitat, wildlife habitat (WILD), and rare, threatened and endangered species. Excepted from Municipal and Domestic Supply.
004	Reach 2 of Chino Creek	Present or Potential: Groundwater Recharge, Water contact recreation (REC-1), non-contact water recreation (REC-2), Cold freshwater habitat, and wildlife habitat (WILD). Excepted from Municipal and Domestic Supply.
001, 002, 003, 004, S-001, & S-002	Reach 3 of Santa Ana River within Prado Basin Area	Present or Potential: Agricultural supply, groundwater recharge, water contact recreation, non-contact water recreation, warm freshwater habitat, wildlife habitat, and rare, threatened or endangered species. Excepted from Municipal and Domestic Supply.
001, 002, 003, 004, 005, 006, 007, 008, S-001, & S-002	Chino North "Max Benefit" GMZ/Chino 1, 2 and 3 "antidegradation" GMZs	Present or Potential: Municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.
	Orange GMZ (affected GMZ downstream of discharge points)	Present or Potential: Municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.

Requirements of this Order implement the Basin Plan.

I. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.

J. **Compliance Schedules and Interim Requirements – Not Applicable**

K. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

L. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes. (40 C.F.R. section 131.21; 65 Fed. Reg. 24641 (April 27, 2000).) Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000 may be used for CWA purposes, whether or not approved by USEPA.

M. **Stringency of Requirements for Individual Pollutants.** This Order contains both technology-based and water quality based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD_5 and Suspended Solids. Restrictions on the same pollutants are discussed in Section IV.B.2. of Attachment F. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, this Order contains effluent limitations more stringent than the minimum, federal technology-based requirements that are necessary to meet water quality standards. These limitations are not more stringent than required by the CWA.

Water quality-based effluent limitations have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to section 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations for priority pollutants are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. With the exception of certain surface water standards changes adopted as part of the Nitrogen/TDS Basin Plan Amendment (see Section H, above), all beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to section 131.21(c)(1). The surface water standards changes adopted as part of the Nitrogen/TDS Basin Plan Amendment were approved by USEPA on June 20, 2007.

N. **Antidegradation Policy.** Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. As discussed in the Fact Sheet, discharges in accordance with the terms and conditions of this Order will not result in a lowering of water quality. Therefore, the permitted discharges are consistent with the antidegradation provisions of section 131.12 and State Water Board Resolution No. 68-16.

O. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit. With the exception of the average monthly limitation for free cyanide, all effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Orders and are consistent with the anti-backsliding requirements of the CWA and federal regulations.

P. **Endangered Species Act.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

Q. **Monitoring and Reporting.** Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment E.

R. **Pretreatment:** The Discharger has established an approved regional pretreatment program. The approved pretreatment program and its components, such as Ordinance No.97-OR5, local limits (adopted by the Discharger in 2000), and control mechanisms, among others, are hereby made an enforceable condition of this Order.

S. **Biosolids Requirements.** On February 19, 1993, the USEPA issued a final rule for the use and disposal of sewage sludge, 40 CFR, Part 503. This rule requires that producers of sewage sludge meet certain reporting, handling, and disposal requirements. The State of California has not been delegated the authority to implement this program, therefore, the U.S. Environmental Protection Agency is the implementing agency. However, this Order includes Regional Water Board biosolids requirements.

T. **State General Waste Discharge Requirements for Sanitary Sewer Systems.** The State Water Board issued General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003 on May 2, 2006, requiring public agencies that own sanitary sewer systems comprised of more than one mile of pipes or sewer lines, to enroll for coverage under the General Order. The General Order requires agencies to develop sanitary sewer management plans (SSMPs) and report all sanitary sewer overflows (SSOs).

This Order requires the Discharger and other governmental agencies[2] to obtain enrollment for regulation under the General Water Quality Order No. 2006-0003. The Discharger has already enrolled.

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[2] *Member agencies and sewering agencies discharging wastewater into the Facility.*

U. **Standard and Special Provisions.** Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. The rationale for the special provisions contained in this Order is provided in the attached Fact Sheet.

V. **Provisions and Requirements Implementing State Law.** The provisions/requirements in subsections IV.B, IV.C, V.B, and VI.C. of this Order are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

W. **Notification of Interested Parties.** The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet of this Order.

X. **Consideration of Public Comment.** The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet of this Order.

IT IS HEREBY ORDERED, that this Order supersedes Order No. R8-2006-0010 as amended by Orders No. R8-2007-0045 and No. R8-2007-0078; Order No. R8-2008-0028, and Order No. R8-2004-0020 as amended by Order Nos. R8-2006-0038, and R8-2007-0078, except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

III. DISCHARGE PROHIBITIONS

A. The direct discharge of secondary treated wastewater to Chino Creek and Reach 1 of Cucamonga Creek other than when the flow[3] in the creeks results in a dilution of 20:1 or more at the point of discharge is prohibited.

B. Discharge of wastewater at a location or in a manner different from those described in this Order is prohibited.

C. The bypass or overflow of untreated wastewater or wastes to surface waters or surface water drainage courses is prohibited, except as allowed in Standard Provision I.G. of Attachment D, Federal Standard Provisions.

D. The discharge of any substances in concentrations toxic to animal or plant life is prohibited.

E. The discharge of any radiological, chemical, or biological warfare agent or high level radiological waste is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations –Discharge Points (DP) 001, 002, 003, and 004

Unless otherwise specifically specified hereinafter, compliance with the following effluent limitations is measured at monitoring locations M-001, M-002, M-003 and M-004 as described in the attached MRP (Attachment E).

1. Final Effluent Limitations for discharges under conditions without 20:1 dilution in the receiving water – DPs 001, 002, 003 and 004

a. The Discharge shall maintain compliance with the following effluent limitations at:

(1) DPs 001, 002, 003 and 004 with compliance measured at Monitoring Locations M-001A & B, M-002A & B, M-003 and M-004, respectively, as described in the attached MRP:

Table 6. Effluent Limitations at DP 001 through DP 004

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	20	30	--	--	--
Total Suspended Solids	mg/L	20	30	--	--	--
Ammonia-Nitrogen	mg/L	4.5	--	--	--	--
Total Chlorine Residual[3]	mg/L					0.1

(2) DPs 001 and 002 with compliance measured at Monitoring Locations M-001B and M-002A, respectively, as described in the attached MRP:

[3] *See Section VII.M. – Compliance Determination.*

Table 7. Effluent Limitations Applicable at DP 001 and DP 002 only

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
Free Cyanide	µg/L	4.2	--	8.5
Bis(2-ethylhexyl) Phthalate	µg/L	5.9		11.9
Selenium	µg/L	4.1		8.2

(3) DP 003 with compliance measured at Monitoring Location M-003, as described in the attached MRP:

Table 8. Effluent Limitations Applicable at DP 003 only

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
Free Cyanide	µg/L	4.6	--	7.3
Bromodichloromethane	µg/L	46	--	92

(4) DP 004 with compliance measured at Monitoring Location M-004, as described in the attached MRP:

Table 9. Effluent Limitations Applicable at DP 004 only

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
Free Cyanide	µg/L	4.3	--	8.5
Bis(2-ethylhexyl) Phthalate	µg/L	5.9	--	11.9

b. **Percent Removal:** The average monthly percent removal of BOD 5-day 20°C and total suspended solids shall not be less than 85 percent. (See Compliance Determination Section VII.N.)

c. **TDS Limitations** - The lower of the two total dissolved solids (TDS) limits specified in (1) or (2), below, is the limit.

(1) The 12-month flow weighted running average TDS constituent concentration and mass emission rates shall not exceed 550 mg/L and 366,960 lbs/day[4], respectively. This limitation may be met on an agency-wide basis using flow weighted averages of the discharges from the Discharger's RP-1, RP-4, RP-5 and CCWRF, or

(2) The 12-month flow weighted running average TDS concentration shall not exceed the 12-month flow weighted running average TDS concentration in the water supply by more than 250 mg/L[5]. This limitation may be met on an agency-wide basis using flow weighted averages of the water supplied to the Discharger's RP-1, RP-4, RP-5 and CCWRF service areas.

d. The 12-month flow weighted running average Total Inorganic Nitrogen (TIN) concentration and mass emission rates shall not exceed 8 mg/L and 5,338 lbs/day[6], respectively. This limitation may be met on an agency-wide basis using flow weighted averages of the discharges from the Discharger's RP-1, RP-4, RP-5 and CCWRF.

e. The discharge shall at all times be adequately oxidized, filtered, and disinfected treated wastewater and shall meet the following limitations.

(1) The turbidity of the filtered wastewater shall not exceed any of the following:

(a) Average of 2 Nephelometric Turbidity Unit (NTU) within any 24-hour period;

(b) 5 NTU more than 5 percent of the time in any 24-hour period; and

(c) 10 NTU at any time.

(2) The disinfected effluent shall meet the following:

(a) When chlorine disinfection process is utilized following filtration, a CT (the product of total chlorine residual and modal contact time measured at the same point) value of not less than 450 milligram-minutes per liter at all times with a modal contact time of at least 90 minutes[7], based on peak dry weather design flow[8] shall be provided[9].

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4 *Based on wasteload allocation volume of 80 mgd and concentration of 550 mg/L.*

5 *See Section VII.L. - Compliance Determination.*

6 *Based on wasteload allocation volume of 80 mgd and concentration of 8 mg/L.*

7 *The modal contact time requirement is applicable only to the use of recycled water and not to surface water discharges, provided the receiving water provides a 1:1 dilution. The receiving water considered here shall exclude upstream POTW effluent flow.*

8 *"Peak Dry Weather Flow" means the arithmetic mean of the maximum peak flow rates sustained over some period of time (for example three hours) during the maximum 24-hour dry weather period. Dry weather period is defined as period of little or no rainfall.*

(b) When a disinfection process combined with the filtration process is utilized, the combined process shall demonstrate[10] inactivation and/or removal of 99.999 percent of the plaque-forming units of F-specific bacteriophage MS-2[11], or polio virus in the wastewater. A virus that is at least as resistant to disinfection as polio virus may be used for purposes of the demonstration.

(c) The weekly average concentration of total coliform bacteria shall not exceed a Most Probable Number (MPN) of 2.2 total coliform bacteria per 100 milliliters (ml). (see Compliance Determination VII.J.1., below)

(d) The number of total coliform bacteria shall not exceed an MPN of 23 total coliform bacteria per 100 ml in more than one sample in any 30-day period.

(e) No total coliform bacteria sample shall exceed an MPN of 240 total coliform bacteria per 100 ml.

f. There shall be no visible oil and grease in the discharge.

g. The pH of the discharge shall be within 6.5 to 8.5 pH[12].

h. Wastewater discharged at DP 001 shall be limited to treated and disinfected effluent that meets the conditions in Section IV.A.1.

i. Wastewater discharged at DP 002 through DP 004 shall be limited to treated and disinfected effluent that meets the conditions in Section IV.A.1., except for discharges of treated wastewater that meets the conditions specified in Section IV.A.4., when the flow[13] in Reaches 1B or 2 of Chino Creek or Reach 1 of Cucamonga Creek results in a dilution of 20:1 or more at the point of discharge.

2. Interim Effluent Limitations – Not Applicable

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9 *Modal contact time and CT shall be calculated based on the minimum one-hour average value in a 24-hr period.*

10 *Meeting the discharge limits in A.1.e.(2).(c),(d), and (e) shall constitute the demonstration required by this sub-paragraph.*

11 *F-Specific bacteriophage MS-2 means a strain of a specific type of virus that infects coliform bacteria that is traceable to the American Type Culture Collection (ATCC) 15597B1) and is grown on lawns of E. coli (ATCC 15597).*

12 *See Section VII.K. Compliance Determination.*

13 *Exclusive of discharges to surface waters from upstream publicly owned treatment works.*

3. Toxicity Requirements/Discharge Specifications

a. There shall be no acute or chronic toxicity in the plant effluent nor shall the plant effluent cause any acute or chronic toxicity in the receiving water. All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in human, plant, animal, or indigenous aquatic life. This Order contains no numeric limitation for toxicity. However, the Discharger shall conduct chronic toxicity monitoring.

b. The Discharger shall implement the accelerated monitoring as specified in Attachment E when the result of any single chronic toxicity test of the effluent exceeds 1.0 TUc.

4. Effluent Limitations at DPs 002, 003, and 004, Under Conditions with 20:1 or More Dilution

The discharge of treated and disinfected effluent when the creek flow[14] at monitoring locations R-002U, R-003U, and/or R-004U results in a dilution of 20:1 (receiving water flow : wastewater flow) or more shall maintain compliance with the following effluent limitations at DPs 002, 003, and/or 004 with compliance measured at Monitoring Locations M002, M003 and M-004, respectively, as described in the attached MRP.

a. Numeric Effluent Limitations

Table 10. Effluent Limitations Under 20:1 Dilution

Parameter	Units	Effluent Limitations			
		Average Monthly	Average Weekly	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	30	45	--	--
Total Suspended Solids	mg/L	30	45	--	--
Total Residual Chlorine	mg/L	-	-	-	2.1

b. Treated wastewater shall at all times be adequately oxidized and disinfected wastewater and shall meet the following limitations:

(1) The weekly average number of coliform bacteria does not exceed a median of 23 per 100 milliliters as determined from the daily coliform bacteria values for the last seven (7) days. (see also Compliance Determination VII.J.2., below)

[14] *Exclusive of discharges to surface waters from upstream publicly owned treatment works.*

(2) The discharge shall be considered adequately oxidized if the 5-day @ 20°C Biochemical Oxygen Demand and Total Suspended Solids constituent concentrations of the discharge are less than or equal to the limitations shown in IV.A.4.a., above.

c. The monthly average biochemical oxygen demand and suspended solids concentrations of the discharge shall not be greater than fifteen percent (15%) of the monthly average influent concentration.

d. The pH of the discharge shall be within 6.5 to 8.5 pH[15].

B. Land Discharge Specifications – Not Applicable

C. Reclamation Specifications – DP 005 through DP 008

1. Upon the effective date of this Order, the use of recycled water for parks, landscape irrigation, and/or other similar uses shall maintain compliance with the following effluent limitations at DP 005 through DP 008 with compliance measured at monitoring locations REC-001 through REC-004, respectively, and where representative samples of recycled water can be obtained for laboratory testing and analysis as described in the attached Monitoring and Reporting Program (Attachment E). The Discharger shall submit for approval by the Executive Officer a list of other monitoring location(s) not specified herein where representative samples of recycled water could be obtained for laboratory testing and analysis.

   a. Physical/Biological Limitations:

Table 11. Recycled Water Effluent Limitations

Parameter	Units	Effluent Limitations	
		Average Monthly	Average Weekly
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	20	30
Total Suspended Solids	mg/L	20	30

   b. TDS Limitations: The following TDS limitations apply to recycled water uses, except groundwater recharge, that would affect underlying local Groundwater Management Zone(s). These limitations may be met on an agency-wide basis using flow-weighted averages of the discharges from the Discharger's RP-1, RP-4, RP-5 and CCWRF.

[15] *See Section VII.K. Compliance Determination*

(1) If maximum benefit is demonstrated (see Provisions VI.C.6.), the 12-month flow weighted running average total dissolved solids concentration shall not exceed 550 mg/L.

(2) If maximum benefit is not demonstrated (see Provisions VI.C.6.), the 12-month flow weighted running average total dissolved solids concentration shall not exceed the following:

Table 12. Recycled Water Effluent TDS Limitations

Groundwater Management Zone	TDS limit, mg/L
Chino 1	280
Chino 2	250
Chino 3	260

c. Recycled water described in Section 60307(a) of Division 4, Chapter 3, Title 22, California Code of Regulations and for irrigation of food crops, parks and playground, school yards, residential landscaping and other irrigation uses not specified in Section 60304(a) of Division 4, Chapter 3, Title 22, California Code of Regulations or not prohibited in other Sections of the California Code of Regulations shall at all times be adequately oxidized, filtered, and disinfected tertiary treated wastewater and shall meet the following limitations:

(1) The turbidity of the filter effluent when filtration is through natural undisturbed soils or a bed of filter media shall not exceed any of the following:

(a) Average of 2 Nephelometric Turbidity Units (NTU) within any 24-hour period;
(b) 5 NTU more than 5 percent of the time in any 24-hour period; and
(c) 10 NTU at any time.

(2) The disinfected effluent shall meet the following:

(a) The weekly average total coliform bacteria[16] shall not exceed a Most Probable Number (MPN) of 2.2 total coliform bacteria per 100 milliliters (ml).
(b) The number of total coliform organism shall not exceed an MPN of 23 total coliform bacteria per 100 ml in more than one sample in any 30-day period.
(c) No total coliform sample shall exceed an MPN of 240 total coliform bacteria per 100 ml.

[16] *See Compliance Determination Section VII.J.1.*

(d) A chlorine disinfection process following filtration that provides a CT (the product of total chlorine residual and modal contact time[17] measured at the same point) value of not less than 450 milligram-minutes per liter at all times with a modal contact time of at least 90 minutes, based on peak dry weather design flow.

d. Recycled water used for irrigation of food crops where the edible portion is produced above ground and not contacted by the recycled water shall at all times be adequately oxidized and disinfected so that average weekly total coliform bacteria in the disinfected effluent does not exceed a most probable number (MPN) of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed, and the number of total coliform bacteria does not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30-day period.

e. Recycled water used for the uses listed below shall be an oxidized and disinfected water so that the average weekly total coliform bacteria[18] in the disinfected effluent does not exceed a most probable number (MPN) of 23 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed, and the number of total coliform bacteria does not exceed an MPN of 240 per 100 milliliters in more than one sample in any 30 day period.

(1) Industrial boiler feed, nonstructural fire fighting, backfill consolidation around nonpotable piping, soil compaction, mixing concrete, dust control on roads and streets, cleaning roads, sidewalks and outdoor work areas and industrial process water that will not come into contact with workers.
(2) Irrigation of cemeteries, freeway landscaping, restricted access golf courses, ornamental nursery stock and sod farms where access by the general public is not restricted, pasture for animals producing milk for human consumption, and any nonedible vegetation where access is controlled so that irrigated area cannot be used as if it were part of a park, playground or school yard.

f. For recycled water uses specified in Sections 60304 and 60307 of Title 22 where filtration is provided pursuant Section 60301.320(a) and coagulation is not used as part of the treatment process, the Discharger shall comply with the following:

(1) The turbidity of the influent to the filters is continuously measured and the influent turbidity does not exceed 5 NTU for more than 15 minutes and never exceeds 10 NTU;
(2) The filtered wastewater turbidity shall not exceed 2 NTU within any 24-hour period; and;

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[17] *Modal contact time and CT shall be calculated daily based on the minimum one-hour average value in a 24-hour period.*

[18] *See Compliance Determination Section VII.J.2.*

(3) Should the filter influent turbidity exceed 5 NTU for more than 15 minutes, chemical addition shall be automatically activated if available, if not, the wastewater shall be diverted.

2. For new reuse sites, the use of recycled water shall only commence after the California Department of Public Health (CDPH) grants final approval for such use. The Discharger shall provide the Regional Water Board with a copy of the CDPH approval letter within 30 days of the approval notice.

3. The Discharger shall be responsible for assuring that recycled water is delivered and utilized in conformance with this Order, the recycling criteria contained in Title 22, Division 4, Chapter 3, Sections 60301 through 60355, California Code of Regulations. The Discharger shall conduct periodic inspections of the facilities of the recycled water users to monitor compliance by the users with this Order.

4. The Discharger shall establish and enforce Rules and Regulations for Recycled Water users, governing the design and construction of recycled water use facilities and the use of recycled water in accordance with the uniform statewide recycling criteria established pursuant to the California Water Code Section 13521.

   a. Use of recycled water by the Discharger shall be consistent with its Rules and Regulations for Recycled Water Use.

   b. Any revisions made to the Rules and Regulations shall be subject to the review of the Regional Water Board, the California Department of Public Health, and the County Environmental Health Department. The revised Rules and Regulations or a letter certifying that the Discharger's Rules and Regulations contain the updated provisions in this Order, shall be submitted to the Regional Water Board within 60 days of adoption of this Order by the Regional Water Board.

5. The Discharger shall, within 60 days of the adoption of this Order, review and update as necessary its program to conduct compliance inspections of recycled water reuse sites. Inspections shall determine the status of compliance with the Discharger's Rules and Regulations for Recycled Water Use.

6. The storage, delivery, or use of recycled water shall not individually or collectively, directly or indirectly, result in a pollution or nuisance, or adversely affect water quality, as defined in the California Water Code.

7. Prior to delivering recycled water to any new user, the Discharger shall submit to the California Department of Public Health and the County Environmental Health Department a report containing the following information for review and approval:

   a. The average number of persons estimated to be served at each use site area on a daily basis.

b. The specific boundaries of the proposed use site area including a map showing the location of each facility, drinking water fountain, and impoundment to be used.

c. The person or persons responsible for operation of the recycled water system at each use area.

d. The specific use to be made of the recycled water at each use area.

e. The methods to be used to assure that the installation and operation of the recycled system will not result in cross connections between the recycled water and potable water piping systems. This shall include a description of the pressure, dye or other test methods to be used to test the system.

f. Plans and specifications which include following:
(1) Proposed piping system to be used.
(2) Pipe locations of both the recycled and potable systems.
(3) Type and location of the outlets and plumbing fixtures that will be accessible to the public.
(4) The methods and devices to be used to prevent backflow of recycled water into the potable water system.
(5) Plan notes relating to specific installation and use requirements.

8. The Discharger shall require the user(s) to designate an on-site supervisor responsible for the operation of the recycled water distribution system within the recycled water use area. The supervisor shall be responsible for enforcing this Order, prevention of potential hazards, the installation, operation and maintenance of the distribution system, maintenance of the distribution and irrigation system plans in "as-built" form, and for the distribution of the recycled wastewater in accordance with this Order.

9. Recycled water shall at all times be maintained within the property lines of any user. There shall be no direct or indirect discharge of recycled water into drainage systems that could affect surface water quality standards.

D. Stormwater Discharge Specifications – S-001 and S-002

1. Storm water[19] discharges shall maintain compliance with the following effluent limitations at S-001 and S-002 with compliance measured at monitoring locations STORM-001 and STORM-002 and shall not:

a. Cause or contribute to a violation of any applicable water quality standards contained in the Basin Plan or in the State or Federal regulations.

b. Cause or threaten to cause pollution, contamination, or nuisance.

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19 *Storm water means storm water runoff and surface runoff and drainage.*

c. Contain a hazardous substance equal to or in excess of a reportable quantity listed in 40 CFR Part 117 and/or 40 CFR Part 302.

d. Adversely impact human health or the environment.

e. Result in noncompliance with the lawful requirements of municipalities, counties, drainage districts, and other local agencies on storm water discharges into storm drain systems or other courses under their jurisdiction.

2. Stormwater discharges from this Facility shall comply with the Stormwater Requirements in Attachment J and K.

3. The Discharger must update and implement the Storm Water Pollution Prevention Plan for the Facility in accordance with Attachment J of this Order.

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

1. Receiving water limitations are based upon water quality objectives contained in the Basin Plan. As such, they are a required part of this Order. The discharge shall not cause the following in Prado Park Lake, Reach 1 of Cucamonga Creek, Reaches 1A, 1B and 2 of Chino Creek or Reach 3 of the Santa Ana River and downstream reaches:

   a. Coloration of the receiving waters, which causes a nuisance or adversely affects beneficial uses.

   b. Deposition of oil, grease, wax or other materials in the receiving waters in concentrations which result in a visible film or in coating objects in the water, or which cause a nuisance or affect beneficial uses.

   c. An increase in the amounts of suspended or settleable solids in the receiving waters, which will cause a nuisance or adversely affect beneficial uses as a result of controllable water quality factors.

   d. Taste or odor-producing substances in the receiving waters at concentrations, which cause a nuisance or adversely affect beneficial uses.

   e. The presence of radioactive materials in the receiving waters in concentrations, which are deleterious to human, plant or animal life.

   f. The depletion of the dissolved oxygen concentration below 5.0 mg/L.

   g. The temperature of the receiving waters to be raised above 90°F (32°C) during the period of June through October, or above 78°F (26°C) during the rest of the year.

h. The concentration of pollutants in the water column, sediments, or biota to adversely affect the beneficial uses of the receiving water. The discharge shall not result in the degradation of inland surface water communities and populations, including vertebrate, invertebrate, and plant species.

2. The discharge of wastes shall not cause a violation of any applicable water quality standards for receiving waters adopted by the Regional Water Board or State Water Board, as required by the Clean Water Act and regulations adopted thereunder.

3. Pollutants not specifically mentioned and limited in this Order shall not be discharged at levels that will bioaccumulate in aquatic resources to levels, which are harmful to human health or animal life.

4. The discharge shall not contain constituent concentrations of mercury that will result in the bioaccumulation of methylmercury in fish flesh tissue greater than 0.3 milligram methylmercury/kilogram. (See also Section VI.C.1.e. and VI.C.2.a., below).

B. Groundwater Limitations

The use of recycled water shall not cause the underlying groundwater to be degraded, to exceed water quality objectives, unreasonably affect beneficial uses, or cause a condition of pollution or nuisance.

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.

2. The Discharger shall comply with the following provisions:

   a. Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from this Facility, may subject the Discharger to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Discharger to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.

b. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, discharge limitations (e.g., maximum daily effluent limitation), or receiving water limitation of this Order, the Discharger shall notify the Regional Water Board by telephone (951) 782-4130 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Regional Water Board waives confirmation. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures being taken to remedy the current noncompliance and, prevent recurrence including, where applicable, a schedule of implementation. Other noncompliance requires written notification as above at the time of the normal monitoring report.

c. Neither the treatment nor the discharge of pollutants shall create a pollution, contamination, or nuisance as defined by Section 13050 of the CWC.

d. The Discharger shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this Order, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the noncomplying discharge.

e. This Order may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:

(1) Violation of any terms or conditions of this Order;
(2) Obtaining this Order by misrepresentation or failure to disclose fully all relevant facts, or;
(3) In addition to any other grounds specified herein, this Order may be modified or revoked at any time if, on the basis of any data, the Regional Water Board determines that continued discharges may cause unreasonable degradation of the aquatic environment.

f. If an effluent standard or discharge prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307 (a) of the Clean Water Act for a toxic pollutant which is present in the discharge, and such standard or prohibition is more stringent than any limitation for that pollutant in this Order, this Order may be modified or revoked and reissued to conform to the effluent standard or discharge prohibition.

g. The Discharger shall file with the Regional Water Board a Report of Waste Discharge at least 180 days before making any material change in the character, location, or volume of the discharge. A material change includes, but is not limited to, the following:

(1) Adding a major industrial waste discharge to a discharge of essentially domestic sewage, or adding a new process or product by an industrial facility resulting in a change in the character of the waste.
(2) Significantly changing the disposal method or location, such as changing the disposal to another drainage area or water body.
(3) Significantly changing the method of treatment.
(4) Increasing the treatment plant design capacity beyond that specified in this Order.

h. The provisions of this Order are severable, and if any provision of this Order, or the application of any provision of this Order to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Order, shall not be affected thereby.

i. The Discharger shall maintain a copy of this Order at the site so that it is available to site operating personnel at all times. Key operating personnel shall be familiar with its content.

j. The Discharger shall optimize chemical additions needed in the treatment process to meet waste discharge requirements so as to minimize total dissolved solid increases in the treated wastewater.

k. Collected screenings, sludge, and other solids removed from liquid wastes shall be disposed of in a manner approved by the Regional Water Board's Executive Officer.

l. The Discharger has demonstrated a correlation between the biological oxygen demand (BOD_5) and total organic carbon (TOC) concentrations in the effluent to the satisfaction of the Executive Officer. Therefore, compliance with the BOD_5 limits and monitoring requirements contained in this Order may be determined based on analyses of the TOC of the effluent.

m. In the event of any change in control or ownership of land or waste discharge facility presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be forwarded to the Regional Water Board.

n. The treatment facilities shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.

B. Monitoring and Reporting Program (MRP) Requirements

The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E of this Order. This monitoring and reporting program may be modified by the Executive Officer at any time during the term of this Order, and may include an increase in the number of parameters to be monitored, the frequency of the monitoring or the number and size of samples to be collected. Any increase in the number of parameters to be monitored, the frequency of the monitoring or the number and size of samples to be collected may be reduced back to the levels specified in the original monitoring and reporting program at the discretion of the Executive Officer.

C. Special Provisions

1. Reopener Provisions

a. This Order will be reopened to address any changes in State or federal plans, policies or regulations that would affect the quality requirements for the discharges.

b. This Order may be reopened to include effluent limitations for pollutants determined to be present in the discharge in concentrations that pose a reasonable potential to cause or contribute to violations of water quality standards.

c. This Order may be reopened and modified in accordance with the requirements set forth at 40 CFR 122 and 124, to include the appropriate conditions or limits to address demonstrated effluent toxicity based on newly available information, or to implement any EPA-approved new State water quality standards applicable to effluent toxicity.

d. This Order may be reopened for modification, or revocation and reissuance, as a result of the detection of a reportable priority pollutant generated by special conditions included in this Order. These special conditions may be, but are not limited to, fish tissue sampling, whole effluent toxicity, monitoring requirements on internal waste stream(s), and monitoring for surrogate parameters. Additional requirements may be included in this Order as a result of the special condition monitoring data.

e. This Order may be reopened to include an appropriate bioaccumulation based effluent limit for mercury if test results (as required in Attachment E of this Order) show that the concentration levels of methylmercury in the fish tissue are at or above 0.3 milligrams per kilogram.

f. This Order may be reopened to incorporate appropriate biosolids requirements if the State Water Resources Control Board and the Regional Water Quality Control Board are given the authority to implement regulations contained in 40 CFR 503.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. By September 1, 2009, the Discharger shall notify the Executive Officer of its continuous involvement with the comprehensive mercury investigation program currently being conducted by a group of Santa Ana River system dischargers. If the Discharger discontinues its involvement with this comprehensive program, the Discharger shall, within 60 days of that date, submit for the approval of the Executive Officer its plan for the annual testing of mercury levels in fish flesh samples collected from the Santa Ana River, upstream of, at, and downstream of the point of the discharge point. Upon approval, the Discharger shall implement the plan.

b. Toxicity Reduction Requirements.

(1) The Discharger shall develop an Initial Investigation Toxicity Reduction Evaluation (IITRE) work plan that describes the steps the Discharger intends to follow if required by Toxicity Requirements b.(2), below. The work plan shall include at a minimum:

(a) A description of the investigation and evaluation techniques that will be used to identify potential causes/sources of the exceedance, effluent variability, and/or efficiency of the treatment system in removing toxic substances. This shall include a description of an accelerated chronic toxicity testing program.

(b) A description of the methods to be used for investigating and maximizing in-house treatment efficiency and good housekeeping practices.

(c) A description of the evaluation process to be used to determine if implementation of a more detailed TRE\TIE is necessary.

(2) The Discharger shall implement the IITRE work plan whenever the results of chronic toxicity tests of the effluent exceed:

(a) A two month median value of 1.0 TUc for survival or reproduction endpoint or,
(b) Any single test value of 1.7 TUc for survival endpoint.

(3) The Discharger shall develop a detailed Toxicity Reduction Evaluation and Toxicity Identification Evaluation (TRE/TIE) work plan that shall describe the steps the Discharger intends to follow if the implemented IITRE fails to identify the cause of, or to rectify, the toxicity.

(4) The Discharger shall use as guidance, at a minimum, EPA manuals EPA/600/2-88/070 (industrial), EPA/600/4-89-001A (municipal), EPA/600/6-91/005F (Phase I), EPA/600/R-92/080 (Phase II), and EPA-600/R-92/081 (Phase III) to identify the cause(s) of toxicity. If during the life of this Order the aforementioned EPA manuals are revised or updated, the revised/updated manuals may also be used as guidance. The detailed TRE/TIE work plan shall include:

(a) Further actions to investigate and identify the cause of toxicity;
(b) Actions the Discharger will take to mitigate the impact of the discharge and to prevent the recurrence of toxicity; and
(c) A schedule for these actions.

(5) The Discharger shall implement the TRE/TIE workplan if the IITRE fails to identify the cause of, or rectify, the toxicity, or if in the opinion of the Executive Officer the IITRE does not adequately address an identified toxicity problem.

(6) The Discharger shall assure that adequate resources are available to implement the required TRE/TIE.

3. Best Management Practices and Pollution Prevention

a. Pollutant Minimization Program

(1) The Discharger shall develop and conduct a Pollutant Minimization Program (PMP) as further described below when there is evidence (e.g., sample results reported as DNQ when the effluent limitation is less than the MDL, sample results from analytical methods more sensitive than those methods required by this Order, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling) that a priority pollutant is present in the effluent above an effluent limitation and either:

(a) A sample result is reported as DNQ and the effluent limitation is less than the RL; or
(b) A sample result is reported as ND and the effluent limitation is less than the MDL.

(2) The PMP shall include, but not be limited to, the following actions and submittals acceptable to the Regional Water Board:

(a) An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling;

(b) Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system;

(c) Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant(s) in the effluent at or below the effluent limitation;

(d) Implementation of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy; and

(e) An annual status report that shall be sent to the Regional Water Board including:

i. All PMP monitoring results for the previous year;
ii. A list of potential sources of the reportable priority pollutant(s);
iii. A summary of all actions undertaken pursuant to the control strategy; and
iv. A description of actions to be taken in the following year.

4. Construction, Operation and Maintenance Specifications

a. The Discharger's wastewater treatment plants shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to Title 23, Division 3, Chapter 14, California Code of Regulations.

b. The Discharger shall provide safeguards to assure that should there be reduction, loss, or failure of electric power, the Discharger will comply with the requirements of this Order.

c. The Discharger shall update as necessary, the "Operation and Maintenance Manual(s) (O&M Manual)" which it has developed for the treatment facilities to conform to latest plant changes and requirements. The O&M Manual(s) shall be readily available to operating personnel onsite. The O&M Manual(s) shall include the following:

(1) Description of the treatment plant table of organization showing the number of employees, duties and qualifications and plant attendance schedules (daily, weekends and holidays, part-time, etc). The description should include documentation that the personnel are knowledgeable and qualified to operate the treatment facility so as to achieve the required level of treatment at all times.
(2) Detailed description of safe and effective operation and maintenance of treatment processes, process control instrumentation and equipment.
(3) Description of laboratory and quality assurance procedures.
(4) Process and equipment inspection and maintenance schedules.
(5) Description of safeguards to assure that, should there be reduction, loss, or failure of electric power, the Discharger will be able to comply with requirements of this Order.
(6) Description of preventive (fail-safe) and contingency (response and cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. These plans shall identify the possible sources (such as loading and storage areas, power outage, waste treatment unit failure, process equipment failure, tank and piping failure) of accidental discharges, untreated or partially treated waste bypass, and polluted drainage.

5. Special Provisions for Municipal Facilities (POTWs Only)

a. Sewer Collection System Requirements: The Discharger's collection system is part of the system that is subject to this Order. As such, the Discharger must properly operate and maintain its collection system (40 C.F.R. § 122.41(e)). The Discharger must report any non-compliance (40 C.F.R. § 122.41(l)(6) and (7)) and mitigate any discharge from the collection system in violation of this Order (40 C.F.R. § 122.41(d)). See the Order at Standard Provision VI.A.2.b. and Attachment D, subsections I.D, V.E, V.H, and I.C.

Furthermore, the General Waste Discharge Requirements for Collection System Agencies (Order No. 2006-0003 DWQ) contains requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows. While the Discharger must comply with both Order No. 2006-0003 DWQ and this Order, the General Collection System WDR more clearly and specifically stipulates requirements for operation and maintenance and for reporting and mitigating sanitary sewer overflows. The Discharger and other governmental agencies that are discharging wastewater into the facility are required to obtain enrollment for regulation under Order No. 2006-0003-DWQ.

b. Sludge Disposal Requirements

(1) Collected screenings, sludge, and other solids removed from liquid wastes shall be disposed of in a manner that is consistent with State Water Board and Integrated Waste Management Board's joint regulations (Title 27) of the California Code of Regulations and approved by the Regional Water Board's Executive Officer.
(2) The use and disposal of biosolids shall comply with existing Federal and State laws and regulations, including permitting requirements and technical standards included in 40 CFR 503.
(3) Any proposed change in biosolids use or disposal practice from a previously approved practice should be reported to the Executive Officer and EPA Regional Administrator at least 90 days in advance of the change.
(4) The Discharger shall take all reasonable steps to minimize or prevent any discharge or biosolids use or disposal that has the potential of adversely affecting human health or the environment.

c. Pretreatment Program

(1) The Discharger shall update as necessary and implement an acceptable pretreatment program.

(2) The Discharger shall update as necessary the appropriate contractual agreements with all governmental agencies[20]. The contractual agreements shall give the Discharger the authority to implement and enforce the approved pretreatment program within the sewer service areas of the treatment Facility. The Discharger shall assure that any other steps necessary to provide this implementation and enforcement authority (e.g. adoption of ordinances, etc.) are taken by all governmental agencies. If a governmental agency has an EPA approved pretreatment program for any portion of the service area of the treatment facility, the Discharger's pretreatment program shall contain provisions ensuring that that governmental agency's program is implemented. In the event that any agency discharging to Discharger's facility fails to effectively implement its individual EPA approved pretreatment program, the Discharger shall implement and enforce its approved program within that agency's service area.

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[20] *Member agencies and sewering agencies discharging wastewater into the Facility.*

(3) The Discharger shall ensure that the POTW[21] pretreatment program for all contributory agencies discharging to the Discharger's treatment facility are implemented and enforced. The Discharger shall be responsible and liable for the performance of all Control Authority pretreatment requirements contained in 40 CFR 403, including any subsequent regulatory revisions to Part 403. Where Part 403 or subsequent revisions place mandatory actions upon the Discharger as Control Authority but does not specify a timetable for completion of the actions, the Discharger shall submit for approval of the Regional Water Board's Executive Officer, a schedule for implementation of the required actions and shall implement the approved schedule. The schedule for implementation shall be submitted within six months from the date that such mandatory actions are established. For violations of pretreatment requirements, the Discharger shall be subject to enforcement actions, penalties, fines and other remedies by the EPA, or other appropriate parties, as provided in the CWA, as amended (33 USC 1351 et seq.). The EPA or the Regional Water Board may also initiate enforcement action against an industrial user (IU) for non-compliance with applicable standards and requirements as provided in the CWA.

(4) The Discharger shall perform the pretreatment functions as required in 40 CFR Part 403 including, but not limited to:

(a) Enforce the pretreatment requirements under 40 CFR 403.5 and 403.6;

(b) Implement the necessary legal authorities as provided in 40 CFR 403.8(f)(1);

(c) Implement the programmatic functions as provided in 40 CFR 403.8(f)(2);

(d) Publish a list of significant non-compliance as required by 40 CFR 403.8(f)(2)(vii); and

(e) Provide the requisite funding and personnel to implement the pretreatment program as provided in 40 CFR 403.8(f)(3).

(5) The following wastes shall not be introduced into the treatment works:

(a) Wastes which create a fire or explosion hazard in the treatment works;

(b) Wastes which will cause corrosive structural damage to treatment works, but, in no case, wastes with a pH lower than 5.0 unless the works are designed to accommodate such wastes;

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[21] *Publicly owned treatment works.*

(c) Wastes at a flow rate and/or pollutant discharge rate which is excessive over relatively short time periods so that there is a treatment process upset and subsequent loss of treatment efficiency;

(d) Solid or viscous wastes in amounts that would cause obstruction to the flow in sewers or otherwise interfere with the proper operation of the treatment works.

(6) The Discharger shall ensure compliance with any existing or future pretreatment standard promulgated by EPA under Section 307 of the CWA or amendments thereto for any discharge to the municipal system.

(7) The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement.

(8) The Discharger shall require each user not in compliance with any pretreatment standard to submit periodic notice (over intervals not to exceed nine months) of progress toward compliance with applicable toxic and pretreatment standards developed pursuant to the CWA or amendments thereto. The Discharger shall forward a copy of such notice to the Regional Water Board and to the EPA Regional Administrator.

(9) The Discharger shall operate the wastewater collection system under a comprehensive industrial pretreatment and pollutant control program for the control of discharge of toxic wastes from point sources. If the California Department of Health Services identifies any contaminants that may pose a risk of contamination to a drinking water supply, it may designate those contaminants for inclusion in the pretreatment and source control program requirements for IEUA to minimize the possibility that the influent wastewater to RP-1 and RP-4 will be contaminated with such toxic chemicals. The source control program shall include:

(a) An assessment of the fate of the specified contaminant compounds through the wastewater and recycled water treatment systems.

(b) A source investigation and monitoring program focused on the specified contaminants.

(c) An outreach program to industrial, commercial and residential communities within the sewage collection agency's service area to manage and minimize the discharge of compounds of concern at the source.

(d) A proactive program for maintaining an inventory of compounds discharged into the wastewater collection system so that new compounds of concern can be evaluated rapidly.

6. Other Special Provisions

a. As necessary based on the consideration of evidence regarding the implementation of the maximum benefit commitments shown in Attachment L , the Regional Water Board will be asked to make a determination of whether those commitments are being satisfied. If the Regional Water Board finds that the maximum benefit commitments are not being satisfied, then the Discharger shall implement a mitigation program approved by the Regional Water Board for recycled water use in the Chino 1, 2 or 3 Groundwater Management Zones using recycled water in excess of the limitations applicable to the Groundwater Management Zones (Sections IV.A.1.c. and IV.A.1.d., and Sections IV.C.1.b.). A proposed mitigation plan and schedule shall be submitted within 60-days of notification by the Regional Water Board Executive Officer of the need to do so. The Discharger shall implement the plan and schedule upon approval by the Regional Water Board.

7. Compliance Schedules – Not Applicable

VII. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in section IV of this Order will be determined as specified below:

A. General.
Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined in the MRP and Attachment A of this Order. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

B. Multiple Sample Data.
When determining compliance with an AMEL or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

1. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

2. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

C. Average Monthly Effluent Limitation (AMEL).

If the average (or when applicable, the median determined by subsection B above for multiple sample data) of daily discharges over a calendar month exceeds the AMEL for a given parameter, this will represent a single violation, though the Discharger will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Discharger will be considered out of compliance for that calendar month. The Discharger will only be considered out of compliance for days when the discharge occurs. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month.

D. Average Weekly Effluent Limitation (AWEL).

If the average or when applicable, the median determined by subsection B above for multiple sample data of daily discharges over a calendar week exceeds the AWEL for a given parameter, this will represent a single violation, though the Discharger will be considered out of compliance for each day of that week for that parameter, resulting in 7 days of non-compliance. If only a single sample is taken during the calendar week and the analytical result for that sample exceeds the AWEL, the Discharger will be considered out of compliance for that calendar week. The Discharger will only be considered out of compliance for days when the discharge occurs. For any one calendar week during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar week.

E. Maximum Daily Effluent Limitation (MDEL).

If a daily discharge or when applicable, the median determined by subsection B above for multiple sample data of a daily discharge exceeds the MDEL for a given parameter, the Discharger will be considered out of compliance for that parameter for that 1 day only within the reporting period. For any 1 day during which no sample is taken, no compliance determination can be made for that day.

F. Instantaneous Minimum Effluent Limitation.

If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both are lower than the instantaneous minimum effluent limitation would result in two instances of non-compliance with the instantaneous minimum effluent limitation).

G. Instantaneous Maximum Effluent Limitation.

If the analytical result of a single grab sample is higher than the instantaneous maximum effluent limitation for a parameter, the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both exceed the instantaneous maximum effluent limitation would result in two instances of non-compliance with the instantaneous maximum effluent limitation).

H. 12-Month Running Average Effluent Limitation (12-MRAEL).

Compliance with the 12-month flow weighted running average limits under Discharge Specification IV.A.1.c., IV.A.1.d., and IV.C.1.b. shall be determined by the arithmetic mean of the last twelve monthly averages.

I. Turbidity Limitations.

The Discharger shall be considered in compliance with Discharge Specifications IV.A.1.e.(1) and IV.C.1.c.(1), if the following conditions are met. If the Discharger is using a properly operating backup turbidimeter, the reading of the backup turbidimeter shall be considered in determining whether there has been an actual noncompliance:

1. There are no excursions above the limits specified in Discharge Specifications IV.A.1.e.(1)(a) and (b) and IV.C.1.c.(1)(a) and (b);
2. Exceedances of the "10 NTU at any time" turbidity requirement do not exceed a duration of one minute.
3. The apparent exceedance was caused by interference with, or malfunction of, the monitoring instrument.

J. Coliform Organism Effluent Limitations.

1. Compliance with the average weekly total coliform limit expressed in Discharge Specification IV.A.1.e.(2)(b), IV.C.1.c.(2)(a), and IV.C.1.d. shall be based on a median of test results from the previous 7 days. To comply with the limit, the 7-day median MPN must not exceed 2.2 per 100 milliliters on any day during the week. However, only one violation is recorded for each calendar week, even if the 7-day median MPN value is greater than 2.2 for more than one day in the week.

2. Compliance with the average weekly total coliform limit expressed in Discharge Specification IV.C.1.e. shall be based on a median of test results from the previous 7 days. To comply with the limit, the 7-day median MPN must not exceed 23 per 100 milliliters on any day during the week. However, only one violation is recorded for each calendar week, even if the 7-day median MPN value is greater than 23 for more than one day in the week.

K. pH Effluent Limitations.

Pursuant to 40 CFR 401.17, the Discharger shall be in compliance with the pH limitations specified in the Discharge Specification IV.A.1.g., IV.A.4.d., above, provided that both of the following conditions are satisfied:

1. The total time during which the pH values are outside the required range of 6.5-8.5 pH values shall not exceed 7 hours and 26 minutes in any calendar month; and
2. No individual excursion from the range of pH values shall exceed 60 minutes.

L. TDS Increment Limit.

Compliance with Discharge Specifications IV.A.1.c.(2) shall be based on IEUA's (RP-1, RP- 4, RP-5, and CCWRF) agency-wide flow weighted TDS water supply quality and shall be determined from TDS analysis of secondary treated wastewater. The Discharger shall provide the necessary calculations showing the overall TDS water supply quality.

M. Total Chlorine Residual Limitation (TCR)

Compliance determinations for total chlorine residual shall be based on 99% compliance. To determine 99% compliance with the effluent limitation for total chlorine residual, the following conditions shall be satisfied:

1. For TCR Limit specified in Section IV.A.1. :
   a The total time during which the total chlorine residual values are above 0.1 mg/L (instantaneous maximum value) shall not exceed 7 hours and 26 minutes in any calendar month;
   b No individual excursion from 0.1 mg/L value shall exceed 5 minutes; and
   c No individual excursion shall exceed 5.0 mg/L.

2. For TCR Limit specified in Section IV.A.4.:
   a The total time during which the total chlorine residual values are above 2.1 mg/L (instantaneous maximum value) shall not exceed 7 hours and 26 minutes in any calendar month;
   b No individual excursion from 2.1 mg/L value shall exceed 5 minutes; and
   c No individual excursion shall exceed 10.5 mg/L.

N. Percent Removal

Compliance with the 85 percent average monthly removal requirement (See Effluent Limitations and Discharge Specifications Section IV.A.1.b.)shall be determined for each individual facility (RP-1, RP-4, RP- 5, and CCWRF).

O. Priority Pollutants.

The Discharger shall be deemed out of compliance with an effluent limitation if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation.

1. Compliance determination shall be based on the reporting level selected from minimum level (ML)[22] specified in Attachment H of this Order, unless an alternative reporting level is approved by the Regional Water Board's Executive Officer. When there is more than one ML value for a given substance, the Discharger shall select the ML value that is below the calculated effluent limitation, and use its associated analytical method, listed in Attachment H of this Order. If no ML value is below the effluent limitation, then the Regional Water Board will select as the reporting level the lowest ML value and its associated analytical method.

2. When determining compliance with an average monthly limit and more than one sample result is available in a month, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of detected but not quantified (DNQ) or not detected (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

   a. The data set shall be ranked from low to high, reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

   b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ. If a sample result, or the arithmetic mean or median of multiple sample results, is below the reporting level, and there is evidence that the priority pollutant is present in the effluent above an effluent limitation and the Discharger conducts a pollutant minimization program (PMP)[23] the Discharger shall not be deemed out of compliance.

P. Non-Priority Pollutants.

The discharge shall be considered to be in compliance with an effluent limitation that is less than or equal to the method detection limit (MDL) specified in 40 CFR 136 if the arithmetic mean of all test results for the monitoring period is less than the constituent effluent limitation. Analytical results that are less than the specified MDL shall be assigned a value of zero.

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[22] *Minimum level is the concentration at which the entire analytical system must give a recognizable signal and acceptable point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.*

[23] *The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation.*

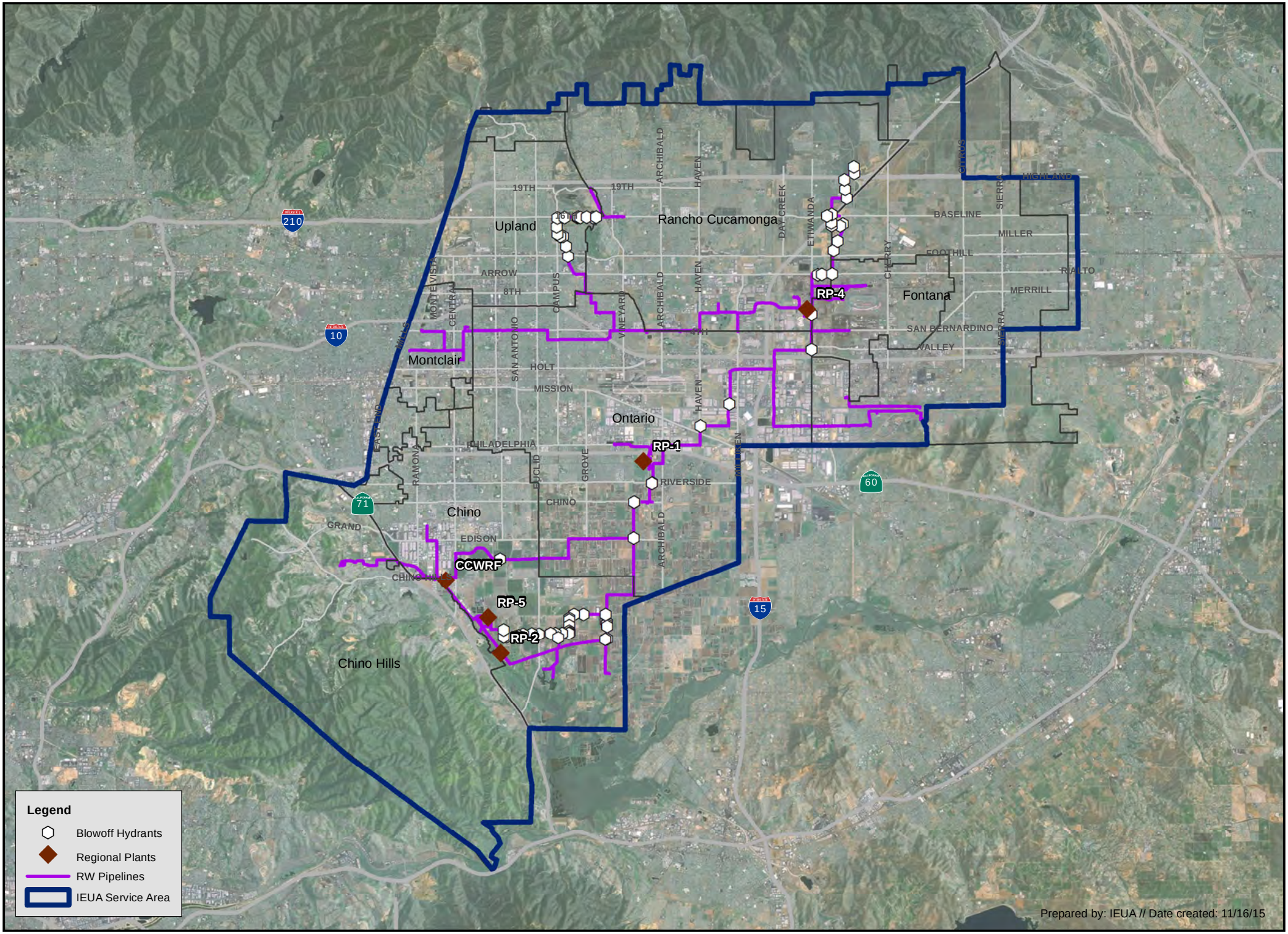
Q. Compliance Determination

Compliance determinations shall be based on available analyses for the time interval associated with the effluent limitation. Where only one sample analysis is available in a specified time interval (e. g., monthly or weekly average), that sample shall serve to characterize the discharge for the entire interval. If quarterly sample results show noncompliance with the average monthly limit and that sample result is used for compliance determinations for each month of the quarter, then three separate violations of the average monthly limit shall be deemed to have occurred.

Compliance with a single effluent limitation which applies to a group of chemicals (e.g., PCBs), based on a single sample shall be determined by considering the concentrations of individual members of the group to be zero if the analytical response for the individual chemical falls below the method detection limit (MDL) for that chemical.

APPENDIX H:

MAP OF RECYCLED WATER DISTRIBUTION AND TRANSMISSION



Inland Empire Utilities Agency

RW Pipeline and Hydrants

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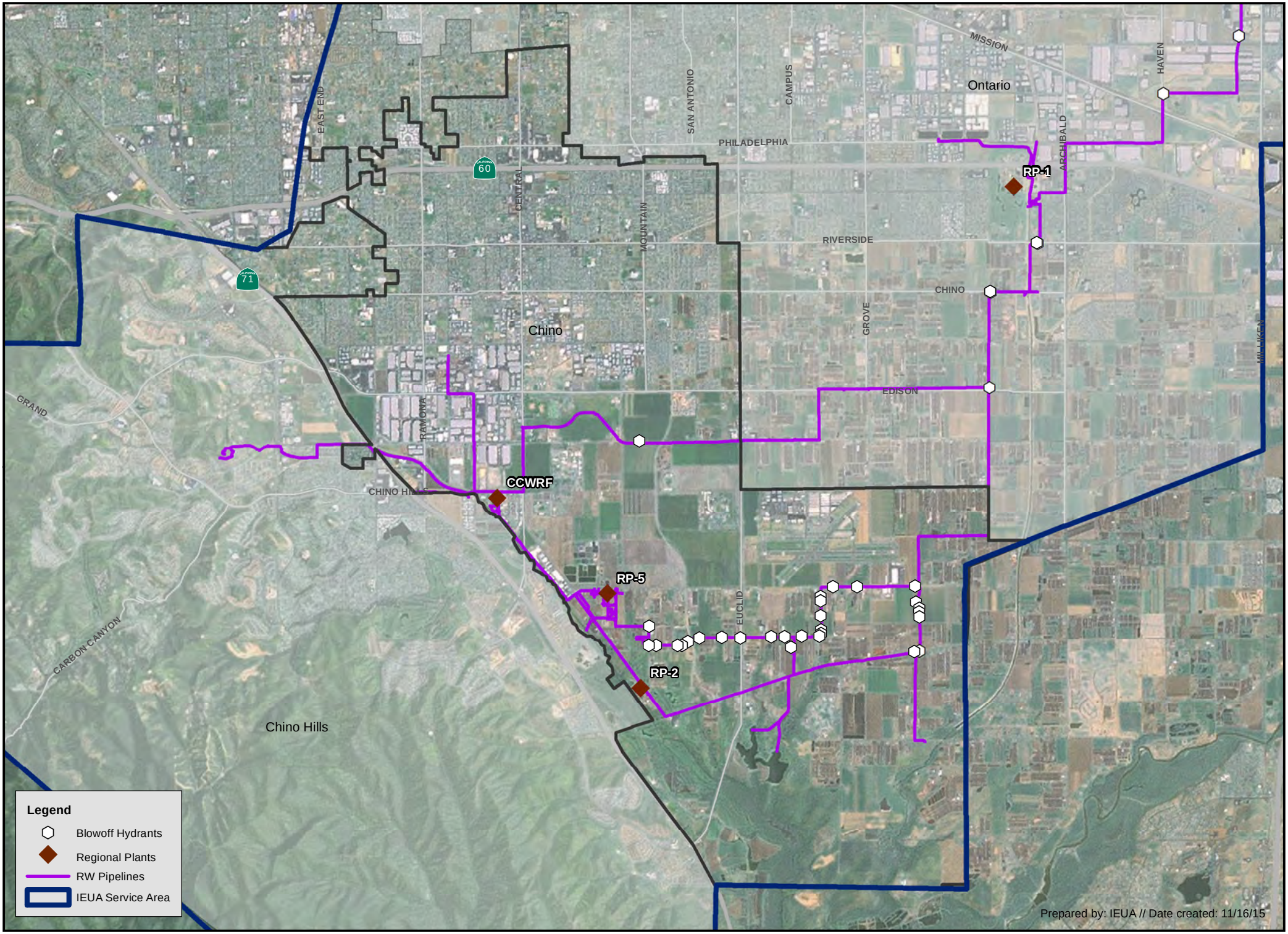

Inland Empire Utilities Agency
RW Pipeline and Hydrants

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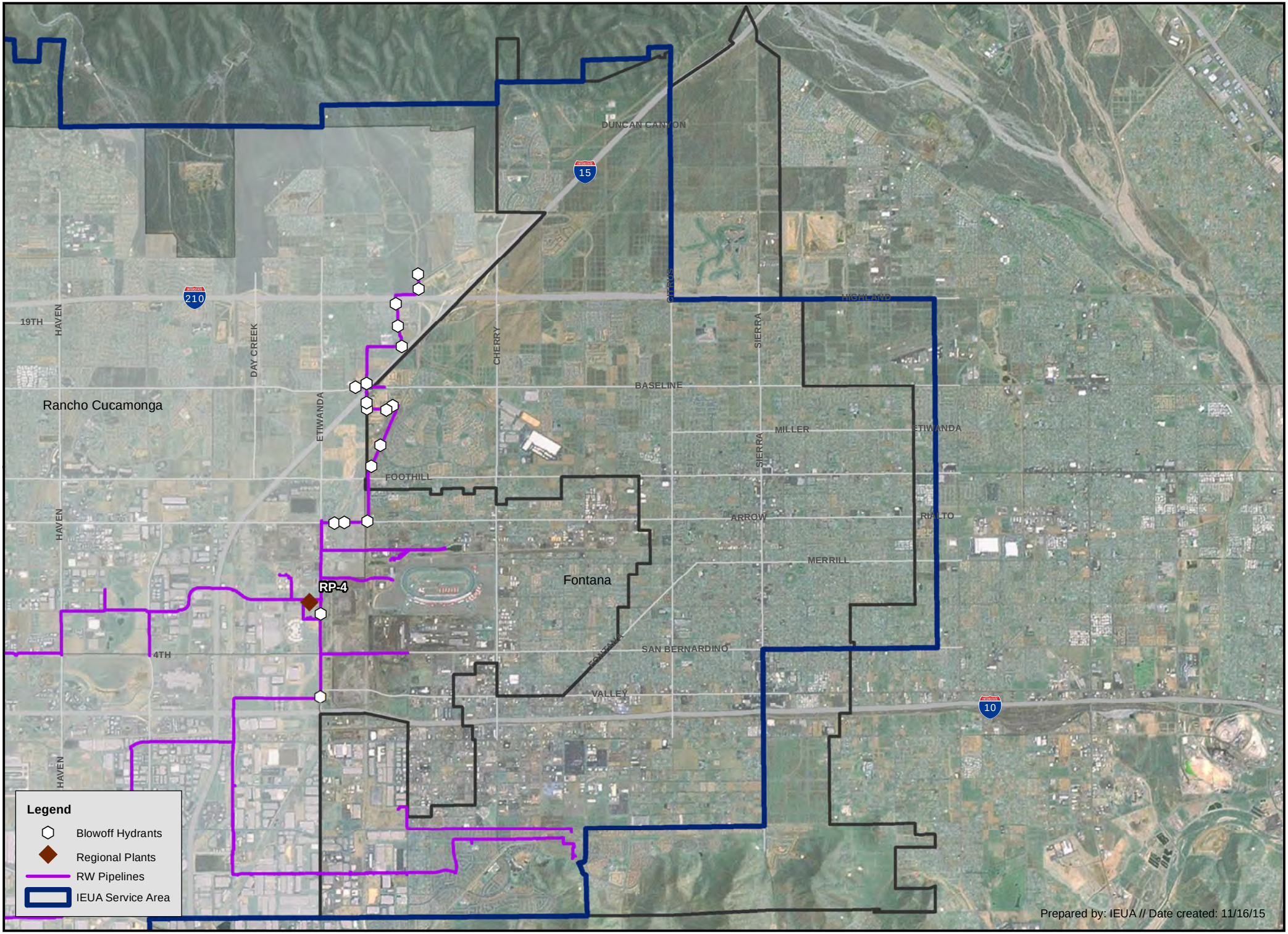


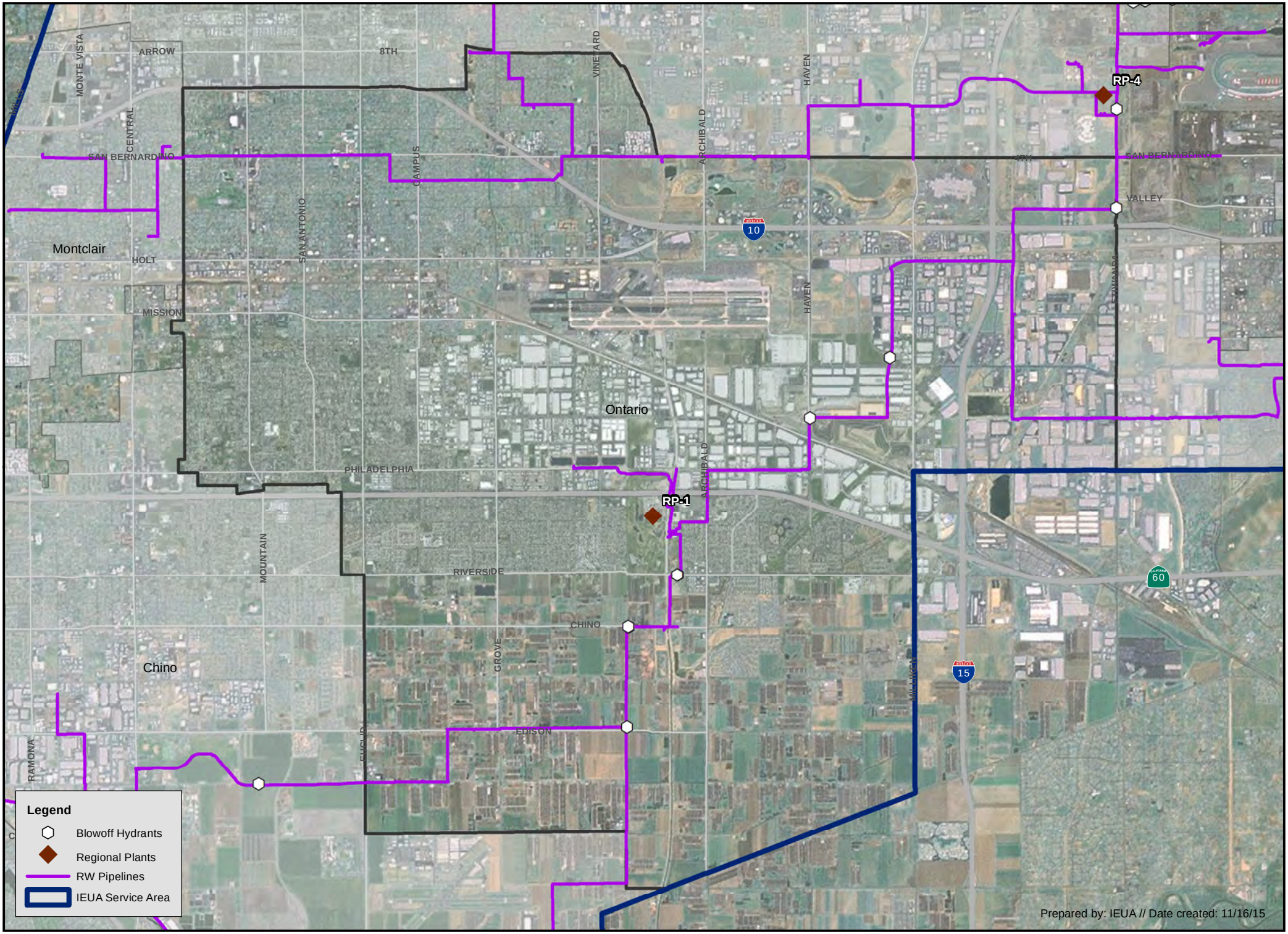
Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Inland Empire Utilities Agency

RW Pipeline and Hydrants

0 0.25 0.5 1 Miles

N

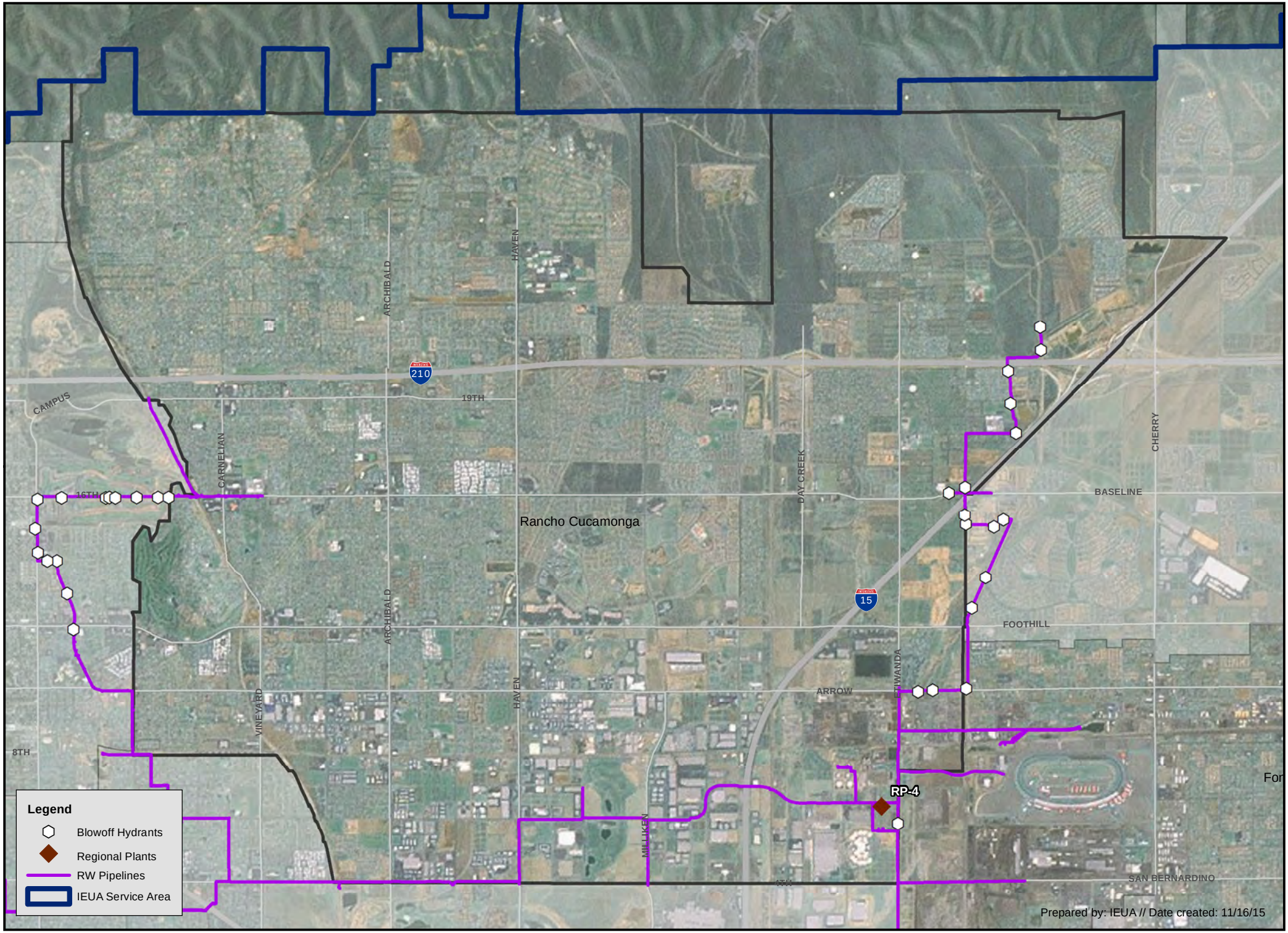


Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Inland Empire Utilities Agency

RW Pipeline and Hydrants

0 0.25 0.5 1 Miles

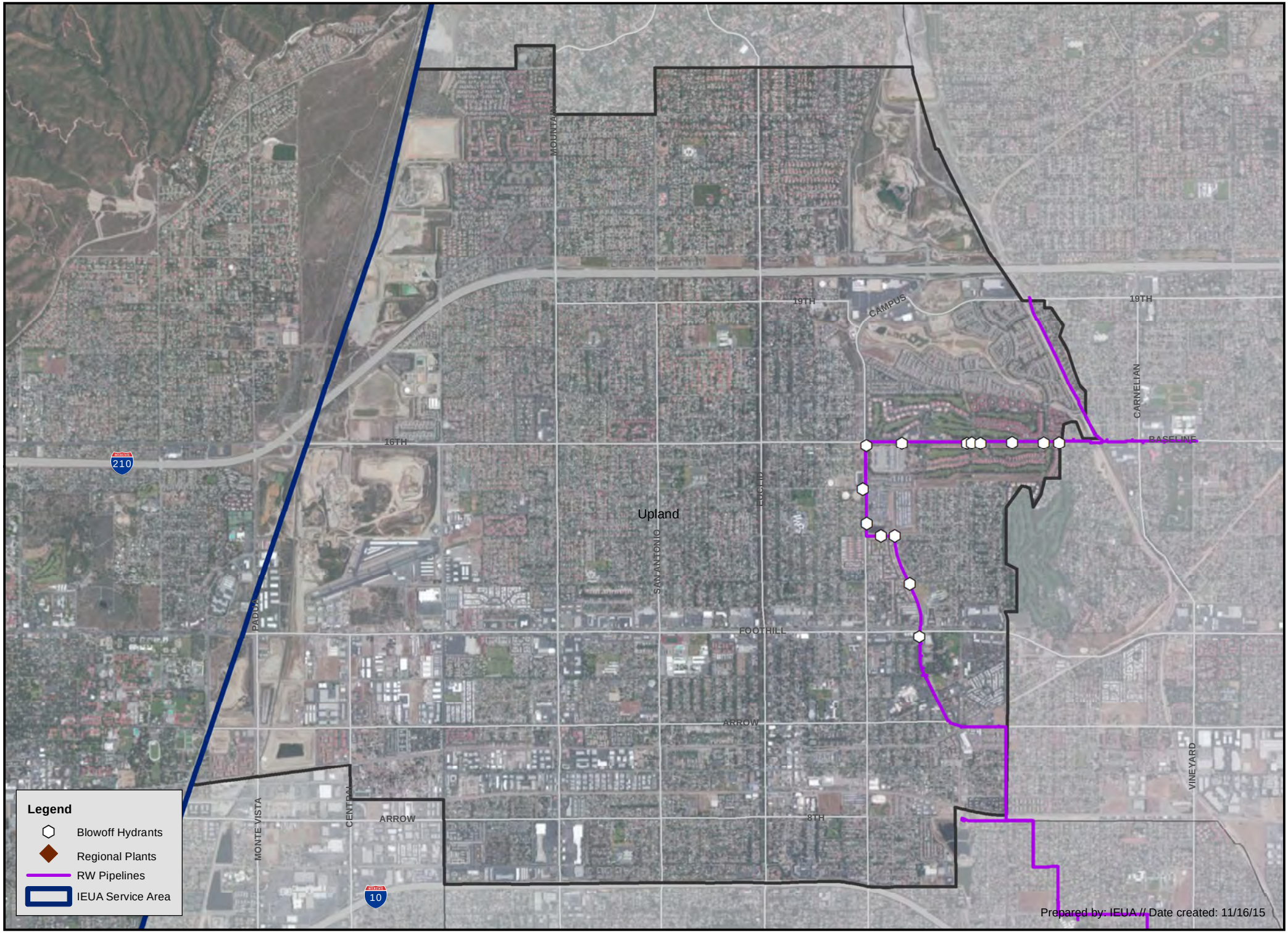


Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Inland Empire Utilities Agency

RW Pipeline and Hydrants

0 0.25 0.5 1 Miles



Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Inland Empire Utilities Agency

RW Pipeline and Hydrants

0 0.25 0.5 1 Miles

N

APPENDIX I:

DOHS GUIDELINES FOR THE PREPARATION OF AN ENGINEERING REPORT

TATE OF CALIFORNIA-HEALTH AND HUMAN SERVICES AGENCY GRAY DAVIS, *GOVERNOR*
)EPARTMENT OF HEALTH SERVICES
DIVISION OF DRINKING WATER AND ENVIRONMENTAL MANAGEMENT
DRINKING WATER PROGRAM
RECYCLED WATER UNIT

GUIDELINES FOR THE PREPARATION OF AN ENGINEERING REPORT FOR THE PRODUCTION, DISTRIBUTION AND USE OF RECYCLED WATER

March 2001
(Replaces September 1997 Version)

1.0 INTRODUCTION

The current State of California Water Recycling Criteria (adopted in December 2000) require the submission of an engineering report to the California Regional Water Quality Control Board (RWQCB) and the Department of Health Services (DHS) before recycled water projects are implemented. These reports must also be amended prior to any modification to existing projects. The purpose of an engineering report is to describe the manner by which a project will comply with the Water Recycling Criteria. The Water Recycling Criteria are contained in Sections 60301 through 60355, inclusive, of the California Code of Regulations, Title 22. The Criteria prescribe:

* Recycled water quality and wastewater treatment requirements for the various types of allowed uses,

* Use area requirements pertaining to the actual location of use of the recycled water (including dual plumbed facilities), and

* Reliability features required in the treatment facilities to ensure safe performance.

Section 60323 of the Water Recycling Criteria specifies that the engineering report be prepared by a properly qualified engineer, registered in California and experienced in the field of wastewater treatment.

Recycled water projects vary in complexity. Therefore, reports will vary in content, and the detail presented will depend on the scope of the proposed project and the number and nature of the agencies involved in the production, distribution, and use of the recycled water. The report should contain sufficient information

to assure the regulatory agencies that the degree and reliability of treatment is commensurate with the requirements for the proposed use, and that the distribution and use of the recycled water will not create a health hazard or nuisance.

The intent of these guidelines is to provide a framework to assist in developing a comprehensive report which addresses all necessary elements of a proposed or modified project. Such a report is necessary to allow for the required regulatory review and approval of a recycled water project.

References which may assist in addressing various project elements include:

- State of California Water Recycling Criteria (December 2000)
- State of California Regulations Relating to Cross-Connections
- California Waterworks Standards
- California Water Code
- Guidelines for the Distribution of Non-potable Water, (California-Nevada Section-AWWA, 1992)
- Guidelines For The On-Site Retrofit of Facilities Using Disinfected Tertiary Recycled Water (California-Nevada Section-AWWA, 1997)
- Manual of Cross-Connection Control/Procedures and Practices (DOHS)
- Ultraviolet Disinfection - Guidelines for Drinking Water and Water Reuse (NWRI/AWWARF, December 2000)

2.0 RECYCLED WATER PROJECT

The following sections discuss the type of information that should be presented and described in the engineering report. Some sections may be applicable only to certain types of uses.

2.1 General

The report shall identify all agencies or entities that will be involved in the design, treatment, distribution, construction, operation and maintenance of the recycled facilities, including a description of any legal arrangements outlining authorities and responsibilities between the

agencies with respect to treatment, distribution and use of recycled water. In areas where more than one agency/entity is involved in the reuse project, a description of arrangements for coordinating all reuse-related activities (e.g. line construction/repairs) shall be provided. An organizational chart may be useful.

2.2 Rules and Regulations

The procedures, restrictions, and other requirements that will be imposed by the distributor and/or user should be described. In multiple projects covered under a Master Permit issued by the Regional Boards where the reuse oversight responsibility is delegated to the distributor and/or user, the requirements and restrictions should be codified into a set of enforceable rules and regulations. The rules and regulations should include a compliance program to be used to protect the public health and prevent cross connections. Describe in the report the adoption of enforceable rules and regulations that cover all of the design and construction, operation and maintenance of the distribution systems and use areas, as well as use area control measures. Provide a description of the organization of the agency or agencies who has the authority to implement and enforce the rules and regulations, and the responsibilities of pertinent personnel involved in the reuse program. Reference to any ordinances, rules of service, contractual arrangements, etc. should be provided.

2.3 Producer - Distributor - User

The producer is the public or private entity that will treat and/or distribute the recycled water used in the project. Where more than one entity is involved in the treatment or distribution of the recycled water, the roles and responsibilities of each entity (i.e. producer, distributor, user) should be described.

2.4 Raw Wastewater

Describe the chemical quality, including ranges with median and 95th percentile values;

Describe the source of the wastewater to be used and the proportion and types of industrial waste, and

Describe all source control programs.

2.5 Treatment Processes

Provide a schematic of the treatment train;

Describe the treatment processes including loading rates and contact times;

All filtration design criteria should be provided (filtration and backwash rates, filter depth and media specifications, etc.). The expected turbidities of the filter influent (prior to the addition of chemicals) and the filter effluent should be stated;

State the chemicals that will be used, the method of mixing, the degree of mixing, the point of application, and the dosages. Also describe the chemical storage and handling facilities, and

Describe the operation and maintenance manuals available.

2.6 Plant Reliability Features

The plant reliability features proposed to comply with Sections 60333 - 60355 of the Water Recycling Criteria should be described in detail. The discussion of each reliability feature should state under what conditions it will be actuated. When alarms are used to indicate system failure, the report should state where the alarm will be received, how the location is staffed, and who will be notified. The report should also state the hours that the plant will be staffed.

2.7 Supplemental Water Supply

The report should describe all supplemental water supplies. The description should include:

* Purpose
* Source
* Quality
* Quantity available
* Cross-connection control and backflow prevention measures

2.8 Monitoring and Reporting

The report should describe the planned monitoring and reporting program, including all monitoring required by the Water Recycling Criteria, and include the frequency and location of sampling. Where continuous analysis and recording equipment is used, the method and frequency of calibration

should be stated. All analyses shall be performed by a laboratory approved by the State Department of Health Services.

2.9 Contingency Plan

Section 60323 (c) of the Water Recycling Criteria requires that the engineering report contain a contingency plan designed to prevent inadequately treated wastewater from being delivered to the user. The contingency plan should include:

* A list of conditions which would require an immediate diversion to take place;

* A description of the diversion procedures;

* A description of the diversion area including capacity, holding time and return capabilities;

* A description of plans for activation of supplemental supplies (if applicable);

* A plan for the disposal or treatment of any inadequately treated effluent;

* A description of fail safe features in the event of a power failure, and

  A plan (including methods) for notifying the recycled water user(s), the regional board, the state and local health departments, and other agencies as appropriate, of any treatment failures that could result in the delivery of inadequately treated recycled water to the use area.

3.0 TRANSMISSION AND DISTRIBUTION SYSTEMS

Maps and/or plans showing the location of the transmission facilities and the distribution system layout should be provided. The plans should include the ownership and location of all potable water lines, recycled water lines and sewer lines within the recycled water service area and use area(s).

4.0 USE AREAS

The description of each use area should include:

* The type of land uses;

* The specific type of reuse proposed;

* The party(s) responsible for the distribution and use of the recycled water at the site;

* Identification of other governmental entities which may have regulatory jurisdiction over the re-use site such as the US Department of Agriculture, State Department of Health Services, Food and Drug Branch, the State Department of Health Services, Licensing and Certification Section, etc. These agencies should also be provided with a copy of the Title 22 Engineering Report for review and comment.

* Use area containment measures;

* A map showing:

  -Specific areas of use

  -Areas of public access

  -Surrounding land uses

  -The location and construction details of wells in or within 1000 feet of the use area

  -Location and type of signage

* The degree of potential access by employees or the public;

* For use areas where both potable and recycled water lines exist, a description of the cross-connection control procedures which will be used.

In addition to the general information described above, the following should be provided for the following specific proposed uses:

4.1 Irrigation

-Detailed plans showing all piping networks within the use area including recycled, potable, sewage and others as applicable.

-Description of what will be irrigated (e.g. landscape, specific food crop, etc.);

-Method of irrigation (e.g. spray, flood, or drip);

-The location of domestic water supply facilities in or adjacent to the use area;

-Site containment measures;

-Measures to be taken to minimize ponding;

-The direction of drainage and a description of the area to which the drainage will flow;

-A map and/or description of how the setback distances of Section 60310 will be maintained;

-Protection measures of drinking water fountains and designated outdoor eating areas, if applicable;

-Location and wording of public warning signs,

-The proposed irrigation schedule (if public access is included), and

-Measures to be taken to exclude or minimize public contact.

4.2 Impoundments

-The type of use or activity to be allowed on the impoundment;

-Description of the degree of public access;

-The conditions under which the impoundment can be expected to overflow and the expected frequency, and

-The direction of drainage and a description of the area to which the drainage will flow.

4.3 Cooling

-Type of cooling system (e.g. cooling tower, spray, condenser, etc.);

-Type of biocide to be used, if applicable;

-Type of drift eliminator to be used, if applicable, and

-Potential for employee or public exposure, and mitigative measures to be employed.

4.4 Groundwater Recharge

An assessment of potential impacts the proposal will have on underlying groundwater aquifers. The appropriate information

shall be determined through consultation with the Department on a case by case basis.

4.5 Dual Plumbed Use Areas

In accordance with Sections 60313 through 60316 of the Water Recycling Criteria.

4.6 Other Industrial Uses

The appropriate information shall be determined on a case by case basis.

4.7 Use Area Design

The report should discuss how domestic water distribution system shall be protected from the recycled water in accordance with the Regulations Relating to Cross-Connections and the California Waterworks Standards, and how the facilities will be designed to minimize the chance of recycled water leaving the designated use area. Any proposed deviation from the Water Recycling Criteria and necessity therefore, should be discussed in the report.

4.8 Use Area Inspections and Monitoring

The report should describe the use area inspection program. It should identify the locations at the use area where problems are most likely to occur (e.g. ponding, runoff, overspray, cross-connections, etc.) and the personnel in charge of the monitoring and reporting of use area problems.

4.9 Employee Training

The report should describe the training which use area employees will receive to ensure compliance with the Recycled Water Criteria, and identify the entity that will provide the training and its' frequency. The report should also identify any written manuals of practice to be made available to employees.

APPENDIX J:

SITE SPECIFIC ENGINEERING REPORTS (SAMPLE)

SITE SPECIFIC SAMPLE ENGINEERING REPORT

ENGINEERING REPORT

Use of Recycled Water for Crop Irrigation

Date

Prepared for
City of XXXX

With assistance from
Inland Empire Utilities Agency

Prepared by
XXXX

Table of Contents

Exhibits

Appendices

ENGINEERING REPORT

PURPOSE OF REPORT

The purpose of this Engineering Report is to document the proposed use of recycled water at XXXX for food crop irrigation purposes. XXXX henceforth referred to as (User), is located adjacent to Inland Empire Utilities Agency's (IEUA) existing regional recycled water

Recycled water will replace the existing groundwater supply produced by the User from an on-site well. Groundwater production from this well has been reduced by a declining water table caused in part by the nearby Chino Desalter Authority groundwater production facilities.

This report is prepared in compliance with the California State Department of Health Services (DHS) *Guidelines for the Preparation of an Engineering Report for the Production, Distribution and Use of Recycled Water*, issued in March, 2001. The development, production, delivery and use of recycled water within the Chino Basin area is in response to encouragement from the California Regional Water Quality Control Board as well as other regional and local agencies concerned with water resource management and water quality protection within the basin.

SOURCES OF WATER SUPPLY

The source of recycled water supply is from the IEUA Regional Water Recycling Plant No. 1 (RP-1), located at 2450 East Philadelphia Avenue, Ontario, California, which was designed and is operated in compliance with the requirements specified in Section 60313(b) of the Water Reclamation Criteria, Title 22 of the California Code of Regulations.

Recycled water will be supplied to the user via a 12-inch diameter service connection (i.e., turnout, pipeline and meter) to IEUA's regional 30-inch diameter TP-1 Outfall pipeline as shown on Exhibit 1.

The City approved and adopted Ordinance No. 2689 for the regulation and use of recycled water in May 1999. The User will comply with the requirements of this Ordinance (as presented in Appendix A).

This proposed reuse site does not have domestic (potable) water supply service.

DESCRIPTION OF SERVICE AREA

The XXXX enterprise constitutes a 140-acre farming operation located at XXXX , XXXX . Recycled water will only be utilized for agricultural irrigation needs within the site. The User currently owns and operates an existing on-site well, booster pumping facility (required for adequate spray irrigation pressures) and an 8-in main irrigation delivery system. The facilities are identified in Exhibit 1 and shown on Exhibit 2 - photos 2c and 2f.

PROPOSED USE

Recycled water will be used for both spray/sprinkler and flood irrigation of seasonal food crops including strawberry, cucumber, string beans and tomato. The User currently requires approximately 55 pounds per square inch (psi) of static pressure for irrigation purposes. A maximum demand of 1,200 gallons per minute (gpm) is anticipated between the normal hours (6 a.m. to 8 p.m.) of operation. Total annual usage is estimated in the range of 300 to 400 acre-feet.

MONITORING/SUPERVISION

The XXXX enterprise is owned and operated by Mr. XXXX . The property, including associated well rights, is owned by XXXX .

Mr. XX will be personally responsible for day-to-day supervision of crop production and irrigation and will also serve as the On-site Recycled Water Supervisor (see Appendix A, Sec. 6-8.705).

The City will provide training for the appropriate use and handling of recycled water prior to use. The "Site Supervisor Training Reference Guide" (attached as Appendix C) has been provided to and reviewed with Mr. XX and his personnel. An on-site training session has been scheduled prior to final connection and conversion to recycled water.

SIGNAGE AND EQUIPMENT IDENTIFICATION

The City will post advisory signs to the general public of recycled water use by the User. Signs will be posted as required along Edison and Eucalyptus Avenues fronting the irrigation area, as shown on Exhibit 1. The signs will state "Irrigated with Recycled Water – Do Not Drink". A universal symbol for "Do Not Drink" will be incorporated on dual-language signage.

IRRIGATION RESTRICTIONS

Irrigation water (flood and sprinkler) will be confined to the designated areas of reuse. Sufficient distance exists between street right-of-way and the irrigated crops; in addition, irrigation equipment is positioned to prevent runoff and minimize over-spray potential (see Exhibit 2 photos 2a and 2e). The property is enclosed by fence on all sides and a dirt road extends around the site's internal perimeter. Ground elevations within the site are slightly below surrounding street levels. Surface drainage in the vicinity characteristically flows southward toward the Santa Anna River.

CROSS CONNECTION CONTROL

The proposed reuse site and associated distribution facilities are not connected to the City's potable water service system; and therefore both site and facilities do not pose a potential for cross-connection to the domestic drinking water system. The City's cross-connection inspection and testing procedures are attached as Appendix B. The City's cross-connection emergency response plan is provided in Appendix D.

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Photo 2a. XX looking Northwest

Photo 2b. XX looking Northwest

Exhibit 2 – Reuse Site Photos (sheet 1 of 3)

Photo 2c. XX looking Southeast

Photo 2d. XX looking Southwest

Exhibit 2 – Reuse Site Photos (sheet 2 of 3)

Photo 2e. XX looking West along fence

Photo 2f. XX existing well (northeast corner of property)

Exhibit 2 – Reuse Site Photos (sheet 3 of 3)

Appendix A.
RW Site Supervisor Information and Ordinance

Appendix A

RECYCLED WATER SITE SUPERVISOR INFORMATION AND ORDINANCE 2689

User:

User Address:

User Supervisor:

Title:

Normal workweek:

Normal work hours:

Telephone No. – work hours:

Telephone No. – off hours:

ORDINANCE NO. 2689
AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF XX , CALIFORNIA, ADDING CHAPTER 8C TO THE XX MUNICIPAL CODE TO PROVIDE FOR THE REGULATION AND USE OF RECYCLED WATER

THE CITY COUNCIL OF THE CITY OF XX , CALIFORNIA, DOES ORDAIN AS FOLLOWS:

SECTION 1: Chapter 8C is hereby added to Title 6 of the XX Municipal Code as follows:

CHAPTER 8C
RECYCLED WATER USE

Section

Sec. 6-8.700. Authority. Recycled water use is regulated by the California Regional Water Quality Control Board, Santa Ana Region (RWQCB). In accordance with waste discharge requirements for water reclamation projects, the RWQCB requires control mechanisms to regulate facilities distributing recycled water. Article 2 of Chapter 7 of Division 7 of the California Water Code establishes a State policy to encourage the use of recycled water. Permission to use recycled water is based on Inland Empire Utilities Agency's ability to adequately treat domestic wastewater to the point that the recycled water (effluent) meets the requirements of existing Title 22, Chapter 3 regulations of the California Code of Regulations. These regulations were adopted to ensure proper health protection and specify the treatment degree to meet the needs of the intended applications.

Sec. 6-8.701. Purpose. The purpose of this Chapter is to establish procedures, specifications, and limitations for the safe and orderly development and operation of recycled water facilities and systems within the City's service area, and adopt rules and regulations controlling such use.

Sec. 6-8.702. Goals. The goals of this Chapter are as follows:

(a) Achieve conservation of potable water supplies by using recycled water for current and future demands. Recycled water uses may include:

(1) Agricultural irrigation.

(2) Commercial uses (including flushing toilets and urinals).

(3) Construction use.

(4) Industrial processes.

(5) Landscape irrigation.

(6) Landscape and/or recreational impoundments.

(7) Wildlife habitat.

(b) Maintain recycled water quality through a stringent pretreatment program for industrial wastewater.

(c) Prevent direct human consumption of recycled water through:

(1) Adherence to all applicable rules and regulations.

(2) Posting of warning signs by the user.

(3) Cross-connection/backflow prevention program.

(d) Control runoff of recycled water through monitoring of the installation and operation of all recycled water facilities and use areas.

(e) Monitor recycled water quality.

Sec. 6-8.703. Policy. It is the policy of the City that recycled water be used for any purposes approved for recycled water use, when it is economically, technically, and institutionally feasible. Recycled water shall be the primary source of supply for commercial and industrial uses, whenever available and/or feasible. Use of potable water for commercial and industrial uses shall be contrary to City policy; shall not be considered the most beneficial use of a natural resource; and shall be avoided to the maximum extent feasible.

Sec. 6-8.704. Priority. Connection to the Recycled Water System shall be provided on a first-come, first-served basis, as long as infrastructure and recycled water supplies are available.

Sec. 6-8.705. Definitions. Unless the context specifically indicates otherwise, the following terms and phrases, as used in this Chapter, in addition to the definitions set forth in Title 22, Division 4, Chapter 3, Regulations of the California Code of Regulations, shall have the meanings hereinafter designated.

(a) "Agency" shall mean the Inland Empire Utilities Agency (IEUA).

(b) "Agricultural Use" shall mean water used for the production of crops and/or livestock.

(c) "Air-Gap Separation" shall mean a physical break between a supply pipe and a receiving vessel. The air gap shall be at least double the diameter of the supply pipe, measured vertically from the flood rim of the receiving vessel to the supply pipe; however, in no case shall this separation be less than one (1) inch.

(d) "Applicant" shall mean any person, group, firm, partnership, corporation, association, or agency that applies for recycled water service.

(e) "Application Rate" shall mean the rate at which irrigation water is applied to a design or use area, expressed in gallons per minute.

(f) "Approved Use" shall mean an application of recycled water in a manner, and for a purpose, designated in a Recycled Water Use Agreement in compliance with applicable State and local rules and regulations.

(g) "Approved Use Area" shall mean a site with well-defined boundaries designated in a Recycled Water Use Agreement in compliance with applicable rules and regulations.

(h) "As-built Drawings" shall mean the record drawings that show the completed facilities as constructed or modified.

(i) "Automatic System" shall mean the electronically actuated controllers, valves, and associated equipment used to program and operate irrigation systems for the efficient application of recycled water.

(j) "Auxiliary Water Supply" shall mean any water supply on or available to the premises other than the City's potable water.

(k) "AWWA" shall mean the American Water Works Association.

(l) "City Council" shall mean the City Council of the City

(m) "Commercial/Industrial Use" shall mean the water used for toilets, urinals, decorative fountains, decorative indoor and outdoor landscape, industrial process such as rinsing, washing, cooling, flushing, circulation, or construction; and other uses approved by the City.

(n) "Commodity Charge" shall mean a charge imposed by the City for all metered, recycled water used.

(o) "Cross-Connection" shall mean any unapproved and/or unprotected, actual or potential, connection between any part of a potable water system and any equipment, source, or system containing water or other substances not approved as safe and potable for human consumption.

(p) "Direct Beneficial Use" shall mean the use of recycled water which has been transported from the point of production to the point of use, without an intervening discharge to waters of the State.

(q) "Administrator" shall mean the City Manager of the City or his authorized representative.

(r) "Discharge" shall mean any release or distribution of recycled water to a use area or disposal site/mechanism. Such discharges are subject to approval by the City.

(s) "DHS" shall mean the California Department of Health Services.

(t) "Double Check Valve Assembly" shall mean a double check valve (DC) that as a minimum, conform to the AWWA Standard C506-78 (R83) adopted on January 28, 1978 for Double Check Valve Type Backflow Prevention Devices which is herein incorporated by reference.

(u) "Greenbelt Areas" shall mean those areas including, but not limited to, parkways, parks, right-of-ways, and landscaping within and/or surrounding a community.

(v) "HCF" shall mean a unit of measure equaling one hundred (100) cubic feet or 748 gallons.

(w) "Industrial Process Water" shall mean the water used in industrial facilities for blending, rinsing, washing, or cooling.

(x) "Infiltration Rate" shall mean the rate at which water penetrates the soil surface and enters the soil profile.

(al) "Recycled Water Use Agreement" shall mean an agreement between the user and the City to use recycled water in compliance with all applicable rules and regulations

(am) "Recreational Impoundment" shall mean a body of recycled water used for recreational activities including, but not limited to, fishing, boating, and/or swimming. Allowable uses will depend on treatment level of the recycled water.

(an) "Reduced Pressure Principle Backflow Prevention Device" shall mean a reduced pressure principle backflow prevention device (RP) that as a minimum, conform to the AWWA Standard C506-78 (R83) adopted on January 28, 1978 for Reduced Pressure Principle Type Backflow Prevention Devices which is herein incorporated by reference.

(ao) "Regulatory Agency" shall mean any public entity legally constituted by Federal, State and local statutes to protect health and water quality.

(ap) "Runoff" shall mean the flow of water along natural or manmade surfaces away from the designated use area..

(aq) "RWQCB" shall mean the California Regional Water Quality Control Board, Santa Ana Region.

(ar) "Secondary Effluent" shall mean any oxidized wastewater that has been treated by gravity sedimentation to remove settled solids remaining after the primary biological treatment process.

(as) "Service" shall mean the delivery of recycled water to a user.

(at) "Service Connection" shall mean City facilities between the City recycled water distribution system and the customer's meter, including, but not limited to, the meter, meter box, valves, and piping equipment.

(au) "Standard Specifications" shall mean the specifications approved by the City for construction of recycled water facilities.

(av) "Tertiary Effluent" shall mean any secondary effluent which has been filtered and disinfected, and meets all applicable requirements under Title 22. Allowable uses for tertiary effluent shall include body contact and irrigation of human food crops.

(aw) "Unauthorized Discharge" shall mean any release of recycled water that violates any applicable Federal, State, or local statutes, regulations, Chapters, contracts or other requirements.

(ax) "Use Area" shall mean the specific area designated to be served with recycled water through on-site recycled water facilities.

(ay) "User" shall mean any person, group, firm, partnership, corporation, association or agency accepting recycled water from the City's recycled water facilities for use in accordance with this Chapter. "Applicant," "Owner," or "Customer" are terms that are to be considered as users.

(az) "Windblown Spray" shall mean any dispersed, airborne particles of recycled water capable of being transmitted through the air to a location other than that for which the direct application of recycled water is approved.

Sec. 6-8.706. Administrator. Except as otherwise provided herein, the City Manager shall administer, implement, and enforce the provisions of this Chapter. The City Manager may, at his discretion, delegate any or all of these powers and duties.

Sec. 6-8.707. Validity. If any section, subsection, sentence, clause or phrase of this Chapter establishing rules and regulations for the use of recycled water is for any reason found to be invalid or unconstitutional, such decision shall not affect the remaining portions of this Chapter. The City Council declares that it would have approved this Chapter by section, subsection, sentence, clause, or phrase irrespective of the fact that any one or more of the sections, subsections, sentences, clauses or phrases be declared invalid or unconstitutional.

Sec. 6-8.708. Service area. The rules and regulations contained in this Chapter apply to recycled water service to lands and/or improvements lying within the legal boundaries of the City, to properties contiguous to the City under the same ownership as abutting lands within the City or its designated service boundary. Recycled water service shall be provided to a specific service area when related distribution facilities are completed and service becomes available.

Sec. 6-8.709. Determination of recycled use area.

(a) General

(1) The City Council may adopt a Recycled Water Master Plan or utilize the Inland Empire Utilities Agency Recycled Water Master Plan designating current and potential areas for recycled water use. The Master Plan shall be in accordance with the requirements of all DHS and RWQCB, and shall encourage recycled water use. The Master Plan shall be reviewed and updated as needed.

(2) The City Council may review the Recycled Water Master Plan and recommend where water service should be made with recycled water in place of potable water. Where it is determined recycled water is, or will be available within five (5) years, the City may request modifications to existing on-site water facilities and require construction of recycled water systems in new developments.

(3) The City Council may enter into agreements with surrounding cities and/or other agencies to determine recycled water use service areas within the City and jurisdiction of those entities.

(b) Existing potable water service

(1) The City Council may make determinations of areas where existing potable water use should be replaced with recycled water use.

(2) A notice of the determination to use recycled water shall be mailed to the current owner, explaining the reasons for use and resultant procedures needed to facilitate recycled water use.

(c) New recycled water service

(1) On submittal by applicant of a tentative map, land use permit, other proposed land development/land use, or request for recycled water service, the Administrator shall make preliminary determinations if recycled water service can be provided to the area in question.

(2) The Administrator may require the use of recycled water for approved uses, and refuse or otherwise restrict potable water service when recycled water is available and approved for use.

Sec. 6-8.710. Authorized uses. Uses of recycled water include only those uses approved by the California State Department of Health Services (DHS) and for which Title 22 of the California Code of Regulations provides treatment requirements. Each such use will be considered for approval on case-by-case basis. Prior to approval, the user must comply with the requirements established by this Chapter and any other requirements imposed by the Inland Empire Utilities Agency, DHS, or any other regulatory agencies that have jurisdiction over such use.

Sec. 6-8.711. Conditions of service.

(a) Prior to obtaining recycled water service, the user must enter into a Recycled Water Use Agreement with the City. Recycled water use shall be subject to terms and conditions established in the agreement, and in accordance with this Chapter, and other applicable codes, rules, and regulations. If any of the conditions of service are not satisfied at all times, the Recycled Water Use Agreement may be revoked by the Administrator after which all recycled water service shall cease.

(b) The City shall not be liable for any damage by recycled water or resulting from:

(1) Defective plumbing.

(2) Broken or faulty services or recycled water mains.

(3) On-site facilities failures.

(4) High or low pressure conditions.

(5) Interruptions of service.

(6) Any inappropriate or illegal use or management practices.

(c) All recycled water will be provided to the user in the conditions and quantity specified in the Recycled Water Use Agreement.

(d) Recycled water use will not be subject to the same restrictions as potable water during drought conditions and will be supplied as available.

(e) Recycled water service may be terminated whenever the quality of the recycled water does not comply with the requirements of the regulatory agencies, or at any time the provisions of this Chapter, or the conditions specified in the Recycled Water Use Agreement are violated.

Sec. 6-8.712. Other applicable rules and codes. Other guidelines, rules and regulations, ordinances, specifications that may be applied by the City Manager to govern the use of recycled water within the City include:

(a) Regulations that deal with backflow prevention, billing, deposits, penalties, delinquencies, and metering for potable water as established in Sections 6-8.50 to 6-8.64 of the Municipal Code.

(b) Regional Recycled Water Distribution System Ordinance (Ordinance No. 63, Inland Empire Utilities Agency.)

(c) Water Reclamation (Title 22, Division 4 of the California Code of Regulations.)

(d) Regulations Relating to Cross-Connections (Title 17 of the California Code of Regulations.)

(e) Guidelines for Distribution Of Non-potable Water (California-Nevada Section AWWA.)

Sec. 6-8.713. Recycled water service application. The steps for obtaining recycled water service are as follows:

(a) The user completes and submits a recycled water service application, including existing facility "as-built" drawings or proposed facility plans as appropriate, description of where and how recycled water use is proposed, and any other information pertinent to the use of recycled water as requested by the Administrator.

(b) The user prepares an Engineering Report describing proposed/requested recycled water use(s). The City may prepare the report on behalf of the user, provided that the user pays all costs associated with the preparation of the report. The Engineering Report shall be consistent with DHS guidelines.

(c) The completed Engineering Report will be forwarded to the State Department of Health Services (DHS) for review and approval.

(d) The user and the City will address any concerns that the DHS may have regarding the Engineering Report and revise the report accordingly.

(e) Once the DHS approves the Engineering Report, the applicant will enter into a Recycled Water Use Agreement with the City, and pay any applicable fees.

(f) The Administrator will schedule a start-up test of on-site recycled water system to ensure that cross-connections do not exist.

(g) Upon the successful completion of the test, the Administrator may authorize recycled water service to begin.

Sec. 6-8.714. Recycled Water Use Agreement. Recycled Water Use Agreement shall be subject to the following conditions:

(a) The applicant shall pay any specified connection fees, service line charges and other charges, and adhere to the requirements prescribed by this Chapter and to any additional requirements required by other agencies governing recycled water use.

(b) In order to maintain acceptable operating conditions throughout the recycled water system, the Administrator may schedule recycled water use for specific applications. Such scheduling may involve programming deliveries to different users and/or to various portions of a single users on-site system. Any scheduling shall consider the operating constraints of the affected users.

(c) The Administrator may temporarily terminate recycled water service at any time recycled water produced by the Inland Empire Utilities Agency reclamation plant does not meet the requirements of the regulatory agencies. Recycled water service would, in such case, be restored when the recycled water meets the governing requirements.

(d) At a minimum, the Recycled Water Use Agreement shall include the following:

(1) Names and addresses of owner the property and user of the recycled water.

(2) A statement that no changes in the proposed system will be undertaken without amending the Agreement.

(3) A statement that the applicant recognizes potential penalties for violation of this Chapter and any regulatory agencies.

(4) A copy of the DHS approved Engineering Report.

(5) Specific quantity of recycled water to be used, including estimated average annual use in acre-feet, and the maximum gallons per minutes (GPM) needed at the point of connection (POC) as shown on the plans.

(6) Approved uses.

(d) The user and the City will address any concerns that the DHS may have regarding the Engineering Report and revise the report accordingly.

(e) Once the DHS approves the Engineering Report, the applicant will enter into a Recycled Water Use Agreement with the City, and pay any applicable fees.

(f) The Administrator will schedule a start-up test of on-site recycled water system to ensure that cross-connections do not exist.

(g) Upon the successful completion of the test, the Administrator may authorize recycled water service to begin.

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(b) In order to maintain acceptable operating conditions throughout the recycled water system, the Administrator may schedule recycled water use for specific applications. Such scheduling may involve programming deliveries to different users and/or to various portions of a single users on-site system. Any scheduling shall consider the operating constraints of the affected users.

(c) The Administrator may temporarily terminate recycled water service at any time recycled water produced by the Inland Empire Utilities Agency reclamation plant does not meet the requirements of the regulatory agencies. Recycled water service would, in such case, be restored when the recycled water meets the governing requirements.

(d) At a minimum, the Recycled Water Use Agreement shall include the following:

(1) Names and addresses of owner the property and user of the recycled water.

(2) A statement that no changes in the proposed system will be undertaken without amending the Agreement.

(3) A statement that the applicant recognizes potential penalties for violation of this Chapter and any regulatory agencies.

(4) A copy of the DHS approved Engineering Report.

(5) Specific quantity of recycled water to be used, including estimated average annual use in acre-feet, and the maximum gallons per minutes (GPM) needed at the point of connection (POC) as shown on the plans.

(6) Approved uses.

(7) A statement that the Agreement shall be cancelled or amended if:

(i) A change of recycled water use occurs.

(ii) A change in the piping system has been implemented without prior approval.

(iii) A violation of these rules and regulations occurs and results in a system turn-off.

Sec. 6-8.715. Rates, fees, charges and deposits.

(a) All rates and fees regarding recycled water service and their administrative costs shall be established by the City Council and incorporated into Title 6, Chapter 8B of the _____ Municipal Code. Any changes in fee and rate schedules shall be automatically adopted into this Chapter.

(b) Applicants for recycled water service shall pay their fair share for the construction of facilities needed to deliver recycled water to the applicant's property. All fees and estimated construction costs shall be paid prior to construction; however, the City may reimburse the applicant for a portion of the cost of such facilities as described in Subsection (c) of this Section.

(c) Under certain circumstances, the City may contribute to the cost of designing and/or constructing the facilities needed to deliver recycled water to an applicant's property. Subject to the availability of funds, the City may:

(1) Reimburse an applicant for costs incurred to install oversized facilities in the public right-of-way.

(2) Elect to participate in or construct pipelines, reservoirs, pumping stations or other facilities, as it determines necessary, and/or as funds are available.

Sec. 6-8.716. Size, location, and installation of service line. Recycled water service lines shall be extended by the property owner/developer to a curb line or property line of the customer's property, abutting on a public street, highway, road or City easement in which recycled water mains are installed. The size and location and/or type of recycled water service lines, service connections, meters, backflow protection devices, and any/all other appurtenances are subject to review and approval by the City:

Sec. 6-8.717. Service connection limitations. Recycled water service shall be subject to the following conditions:

(a) A recycled water service connection and its corresponding meter shall not be used to supply adjoining property of a different owner, or to supply property of the same owner across a road, street or other public right-of-way. When a property provided with a recycled water connection and corresponding meter is subdivided, such connection and meter shall be considered as serving the lot or

parcel of land on which the meter is located. Additional recycled water mains and/or recycled water service lines will be required for all subdivided areas in accordance with this Chapter.

(b) Private irrigation systems for homeowner's associations and other developments where landscaping around homes and in common areas are served with one meter, shall not be allowed to cross public roads, easements, or other public rights-of-way without City approval.

(c) All recycled water used on any property where a meter is installed must pass through the meter. Customers shall be held responsible and charged for all recycled water passing through their meters.

Sec. 6-8.718. Service pressure. Whenever possible, the City will operate the recycled water system at a slightly lower pressure than the potable water system. This will cause potable water to flow in the recycled water system in the event of a cross-connection.

Sec. 6-8.719. Relocation of recycled water service lines. Should a recycled water service line installed according to the directions of the owner or user be of the wrong size, or installed at a wrong location or depth, the cost of relocation or removal shall be paid for by the user.

Sec. 6-8.720. Protective measures. The following provisions are intended to protect the City's potable water supplies against actual, undiscovered, unauthorized, or potential cross-connections to the user's recycled water system. These provisions are in addition to, not in lieu of, the controls and requirements of other regulatory agencies. These provisions are in accordance with Title 17 (Public Health) of the California Code of Regulations.

(a) Approved backflow prevention devices on the City's potable water services to the property as required in these provisions, shall be provided, installed, tested, and maintained according to Section 6-8.722. These devices shall be located on the property served immediately downstream of the meter. All devices shall be readily accessible for testing and maintenance and no device shall be submerged at any time.

(b) When a request for recycled water service is initiated, the applicant must provide sufficient information, including plumbing and building plans, to enable the Administrator and other regulatory agencies to determine the level of backflow protection required. The proper backflow protection, as determined by the Administrator and other regulatory agencies, shall then be installed and tested according to Section 6-8.722 before recycled water service is provided.

(c) Each time there is a change of tenant on any commercial or industrial premise, the owner or user shall notify the Administrator immediately. The Administrator will then reassess the level of protection required. In addition, any alterations to existing on-site facilities that may affect required protection level must be reported immediately to the Administrator.

(d) At their discretion, representatives of any health agency having jurisdiction, and the Administrator, may inspect any property provided recycled water service by the City. The inspection shall serve to determine if any actual or potential cross-connections exist. The owner or user shall provide full cooperation in facilitating the inspection.

(e) Where protection is required, an approved backflow protection device for potable water supplies shall be provided as follows:

(1) Each City water service connection that supplies potable water to a premises having an auxiliary water supply (including recycled water) that is not accepted as a potable source by the Administrator, and/or is not approved for potable use by the DHS, shall be protected against backflow from the premises into the City potable water system.

(2) Each City water service connection supplying potable or recycled water to a premises on which any substance is handled in such a fashion as to permit entry into the City water systems (potable or recycled) from the premises shall be protected against backflow. This shall include, but not limited to, the handling of fertilizers, process waters, waters originating from any of the City water systems that have been subject to deterioration in quality, and agricultural use.

(3) Approved backflow devices shall be installed where premises have intricate plumbing and piping arrangements or where not all portions of the premises are readily accessible for inspection.

(4) Appropriate backflow protection may be required at premises where there has been a history of cross-connections being re-established.

(f) Other Measures

(1) Water meters used for recycled water service shall be tagged or color-coded purple, color pantone 512 or 522, or otherwise distinguished as such per AWWA standards. These meters shall not be interchanged or used for potable water service after repairs and/or meter testing have been performed.

(2) Periodic inspection by the City of the recycled water facilities will determine if all identifying items are still clearly discernable. If not, they shall be replaced, repaired or refurbished as needed, by the user. These items include:

(i) Warning tags

(ii) Painted surfaces

(iii) Warning tape

(iv) Identification tape

(v) Covers, caps, signs

(vi) Other items that indicate recycled water is being used.

(3) To determine the existence of any cross-connections or backflow conditions into the potable water system, periodic testing by DHS approved methods will be performed by the Administrator and/or other regulatory agencies.

(4) In the event of contamination or pollution of a City potable water system due to a cross-connection or other failure, the DHS, the Administrator, and the IEUA shall be promptly notified by telephone so that appropriate and immediate measures may be taken to correct the problem.

(5) The State and County health departments, the Administrator, and the IEUA shall be kept informed by written document of the identity of the person responsible for the user's recycled water system on all premises concerned with these rules and regulations. At each authorized use area, an 'On-site' Recycled Water Supervisor shall be designated. This supervisor shall be responsible for:

(i) The installation and use of all components of the on-site recycled water system(s).

(ii) Prevention of cross-connections.

(iii) Change in use of recycled water.

(g) When the recycled water uses or conditions, as determined by the Administrator or other regulatory agency, represent a clear and immediate hazard to the City potable and/or recycled water supply that cannot be immediately removed or corrected, the Administrator shall terminate recycled water use. Conditions or uses that create a basis for termination include, but are not limited to, refusal to install, test or repair a required backflow prevention device.

Sec. 6-8.721. Types of protection. The level of protection required shall be related to the degree of potential hazard that exists on the premises served, and will be determined by the Administrator.

Sec. 6-8.722. Testing and maintenance of backflow prevention devices. The user is responsible for testing all backflow prevention devices and maintaining these devices in a satisfactory operating condition. Testing shall be done at least once a year by a San Bernardino County certified backflow prevention tester. More frequent testing may be required if successive inspections indicate repeated failures. The backflow prevention devices shall be repaired, overhauled and/or replaced whenever they are found to be defective. These devices shall also be tested immediately after they are installed, relocated or repaired. All inspections, tests and repairs shall be performed at the user's expense. The user shall maintain records of all such tests, repairs and overhauls. These records shall be submitted to the Administrator, annually, and made available to the DHS, on request.

Sec. 6-8.723. Facilities design.

(a) The design of off-site facilities, including the preparation of plans and construction specifications shall be under the responsibility of an engineer registered in the State of California. The design of customer (on-site) facilities that will use recycled water, and preparations of plans and construction specifications, shall be stamped and signed by a State of California Registered Landscape Architect or Civil Engineer, unless otherwise approved by the Administrator.

(b) Before the Administrator grants final acceptance of any system using recycled water, as-built drawings of the system shall be provided. The installed system shall be tested in accordance with the City Standard Specifications to ensure that the system is in full compliance with these rules and regulations.

(c) All off-site and on-site recycled water facilities shall be designed and constructed according to the requirements, conditions, and standards as adopted in the City Standard Specifications to ensure that this system is in full compliance with this Chapter. Recycled water systems, both on-site and off-site, shall be separate and independent of any potable water systems.

(d) Where the premises contain dual or multiple water systems, the exposed portions of pipelines shall be identified at sufficient intervals.

(e) Areas irrigated with recycled water must be kept completely separated from domestic water wells and reservoirs. Recycled water shall not be applied or allowed to migrate to within fifty (50) feet of any well used for domestic supply. No impoundment of recycled water shall be located within hundred (100) feet of any domestic water well, unless it can be demonstrated that special circumstances justify lesser distances to be acceptable.

(f) Adequate means of notification should be provided to inform the public, employees and others that recycled water is being used. Conspicuous signs with appropriate wording that can be clearly read should be placed at adequate intervals around the authorized use area.

(1) Golf courses should print messages on score cards in a different color indicating recycled water is being used. Water hazards containing recycled water should be posted with appropriate signs.

(2) Languages in addition to English should be used on signs where appropriate.

(g) Off-site Facilities

(1) Any off-site recycled water distribution facilities required to serve existing or new developments of the property within the City, as determined by the Administrator, shall be provided by the applicant, owner, or customer at their expense, unless the Administrator determines it is a City benefit to construct these capital facilities.

(2) Plans and specifications for all recycled water distribution facilities shall be submitted to and approved by the Administrator, and other regulatory agencies, in advance of construction.

(3) The City will assume responsibility for providing recycled water service to the point of connection of such development on transfer, to the City, title to all off-site recycled water systems and any necessary easements. All easements shall be in a form acceptable to the Administrator, and not subject to outstanding obligations to relocate such facilities or any deeds of trust, except in instances where such is determined by the Administrator to be in the best interest of the City.

(4) The City and the property owner or developer may enter into a reimbursement agreement for the portions of a recycled water system that are required to be oversized with capacity to supply more recycled water than the property owner or developer requires. The determination to

enter into a reimbursement agreement, and the specific items that are the subject of reimbursement, will be made by the City.

(h) On-site facilities

(1) The user or the owner of the property shall be responsible for all costs associated with on-site recycled water facilities.

(2) When City Standards and Specifications require a higher quality material, equipment, design or construction method than that required by other governing codes, rules and regulations, the City Standards and Specifications shall take precedence.

(i) In areas where recycled water is not immediately available when the use area is ready for construction, and if the City has determined that recycled water will be supplied in the future, on-site facilities shall be designed to use recycled water. Provisions shall be made to allow for connection to the City off-site recycled water facilities, when available. In the interim, potable or other suitable water may be supplied to the on-site facilities through an "interim service connection."

(j) Conditions of interim service are:

(1) The City anticipates recycled water will be available to the site within 5 years of the time interim service is initiated.

(2) The user or the owner of the property must sign a Recycled Water Use Agreement.

(3) The user or the owner of the property must agree to perform or pay for all work necessary to remove the interim connection and make connections to the permanent recycled water system at the time the recycled water system is installed.

(4) An approved backflow prevention device is required on the interim service. The backflow prevention device shall be at the point of connection with the interim supply system and a part of the on-site recycled water facilities.

(5) Future recycled water users will pay for the following:

(i) Cost of constructing and abandoning the interim service and cost of constructing the recycled water service.

(ii) Applicable recycled water fees at the time service becomes available.

(iii) Applicable interim water rates for the type of water delivered through the interim service.

(6) When recycled water is available to the site, an inspection of the on-site facilities will be conducted by the Administrator to verify that the facilities are still in compliance with the Recycled Water Use Agreement. Recycled water service shall be provided on verification of compliance.

If the facilities are not in compliance, the Administrator shall notify the user to make any necessary corrections.

Sec. 6-8.724. Construction.

(a) Construction of all new recycled water facilities will follow City Standards and Specifications and the American Water Works Association Construction Guidelines for Recycled Water Facilities.

(b) Where it is planned that an existing non-recycled water system shall be converted to a recycled water facility, the facilities to be converted to recycled water shall be investigated in detail at the user's expense, to determine the measures required to bring the system into full compliance with this Chapter. No existing potable water facilities shall be connected to or incorporated into the recycled water system without City and DHS approvals.

(c) If, due to on-site failure of the recycled water system, the Administrator determines that it is necessary to convert on-site facilities from a recycled water supply to a potable water supply, it shall be the responsibility of the user to pay all costs for such conversion. Conversion costs may include, but not be limited to, the following:

(1) Isolation of the recycled water supply. Service shall be removed and plugged at the City main or abandoned in a manner approved by the Administrator.

(2) Installation of approved backflow prevention devices, as determined by the Administrator, on all potable, and/or other water meter connections.

(3) Removal of any/all special recycled water quick couplers. The user shall be responsible for replacement with quick couplers approved for potable water systems.

(4) Notification to all on-site personnel involved.

(5) Removal of all warning labels/signs.

(6) Installation of any/all potable water facilities and payment of any associated capacity fees, as established in Title 6, Chapter 8B, of the Municipal Code.

(7) System flushing, disinfecting, decontamination, and water quality analyses, as required by the City and/or other regulatory agencies.

Sec. 6-8.725. Emergency connection of the recycled water system to the potable water system. If the Administrator determines an emergency exists where all or parts of the recycled water system are unable to provide recycled water, the Administrator may approve an emergency temporary connection to the potable water system. Before such emergency temporary connection is made, the portion without recycled water shall be isolated by an air gap separation from the remainder of the recycled water system. This isolation shall occur at either individual services or on the off-site system, as determined by the Administrator. An approved backflow prevention device shall be installed on the potable water lines in

accordance with this Chapter. The emergency temporary connection shall be removed before connection to the recycled water system is re-established. Re-establishment of recycled water service must be inspected and approved by the Administrator prior to resuming delivery of recycled water.

Sec. 6-8.726. Off-site facilities. The City and/or the Inland Empire Utilities Agency shall be responsible for the operation, maintenance and surveillance of all off-site recycled water systems. This includes but is not limited to recycled water pipelines, valves, connections, storage facilities, and other related equipment and property up to and including the meter. Only City and/or the Inland Empire Utilities Agency personnel and their representatives shall operate, adjust, change, alter, move or relocate any portion of their respective off-site recycled water facilities.

Sec. 6-8.727. On-site facilities.

(a) General

(1) The operation, surveillance, repair, and maintenance of all customer recycled water facilities are the responsibility of the user and his designated "On-site" Recycled Water Supervisor.

(2) The Administrator shall have the right to enter the user's premises to monitor and inspect all on-site recycled water facilities. Where necessary, keys and/or lock combinations shall be issued to the Administrator to provide such access during hours of recycled water system operation.

(b) The user shall have the following responsibilities pertaining to operation of on-site facilities:

(1) Ensure that all operations personnel are trained and familiarized with the use of recycled water.

(2) Furnish their operations personnel with maintenance instructions, irrigation schedules, controller charts, and as-built drawings to ensure proper operation in accordance with the on-site facilities design and these rules and regulations.

(3) Prepare and submit to the Administrator one reproducible set of as-built drawings.

(4) Notify the Administrator of all updates or proposed changes, modifications, or additions to the on-site facilities and operations for review and approval prior to construction or implementation. All updates and proposed changes shall comply with this Chapter, the Recycled Water Use Agreement and any other applicable rules and regulations.

(5) Ensure that the operation and maintenance of all recycled water facilities remain in accordance with this Chapter, the Recycled Water Use Agreement and any other applicable rules and regulations.

(6) Operate and control the system in order to prevent direct human consumption of recycled water and to control and limit runoff. The user or the owner of the property shall

be responsible for any and all subsequent uses of the recycled water. Operation and control measures to be utilized in this regard shall include where appropriate, but not limited to:

(i) Minimizing discharge onto areas not under control of the user so as to minimize public contact. Full circle sprinklers shall not be used adjacent to sidewalks, roadways, and property lines in order to confine the discharge to the use area.

(ii) Operating the on-site recycled water facilities during periods of minimal human use of the service area, and allowing a maximum dry-out time before the irrigated area will be used by the public.

(iii) Providing adequate first aid kits on the premises, and promptly treating all cuts and abrasions to prevent infection. If infection is likely, a physician should be consulted.

(iv) Taking any other precautionary measures to minimize direct contact with recycled water. User's employees, residents, and the public should not be subjected to recycled water sprays.

(v) Applying recycled water at a rate that does not exceed the infiltration rate of the soil. Where varying soil types are present, the design and operation of the recycled water facilities shall be compatible with the lowest infiltration rate of the soils present.

(vi) Reporting to the Administrator any/all failures in the recycled water system that cause an unauthorized discharge of recycled water.

(vii) Protecting all drinking fountains located within the approved use area, by location and/or a structure from contact with recycled water to the maximum extent possible. Windblown spray, direct application through irrigation or other approved uses are considered sources of recycled water. Protection shall be by design, construction practice, or system operation.

(viii) Protecting facilities that may be used by the public, including but not limited to, eating surfaces and playground equipment located within the approved use areas, by seating and/or structure from contact with recycled water to the maximum extent possible. Windblown spray, direct contact by irrigation application, or other approved uses are considered sources of recycled water. Protection shall be by design, construction practice, or system operation.

(c) The user shall enforce the following prohibitions:

(1) Cross-connections, as defined by the California Code of Regulations, Title 17, resulting from the use of recycled water or from the physical presence of a recycled water service, whether by design, construction practice, or system operation, are prohibited.

(2) Discharge of recycled water for any purposes, in areas other than those specifically approved in the Recycled Water Use Agreement, and without the prior approval of the Administrator, is prohibited.

(3) Use or installation of permanent hose bibs on any customer water system that presently operates or is designed to operate with recycled water is prohibited.

(4) Conditions that directly or indirectly cause recycled water to pond either within or outside of the approved use area, whether by design, construction practice, or system operation are prohibited, unless designed specifically for ponding and approved by Administrator.

(5) Conditions that directly or indirectly cause runoff of recycled water onto areas outside of approved use areas, whether by design, construction practice, or system operation, are prohibited.

(6) Use of recycled water for any purposes other than those specifically approved in the Recycled Water Use Agreement, and without the prior approval of the Administrator, is prohibited.

(7) Conditions that directly or indirectly permit windblown spray to pass outside of the approved use area, whether by design, construction practice, or system operation, are prohibited.

Sec. 6-8.728. Monitoring and inspection. The Administrator will monitor and inspect the entire recycled distribution facility, including both off-site and on-site facilities. The Administrator will conduct monitoring programs, maintain records as deemed necessary, inspect on-site facilities for compliance with these rules and regulations, and provide reports as requested by DHS. For these purposes, the Administrator will have the right to enter the user's premises during hours of recycled water system operation to inspect on-site recycled water facilities and approved use areas, to verify that the user's irrigation practices conform with this Chapter and the Recycled Water Use Agreement.

Sec. 6-8.729. Maintenance responsibility.

(a) The user or owner is responsible for maintaining all on-site facilities that are under the ownership of parties other than the City.

(b) No person shall place, dispose, deposit or permit the placement, disposal, deposit of oil, toxic, hazardous or contaminated liquid or waste, trash, soil, building materials or any other substances, objects, or obstructions in, on, or around meter boxes or other City facilities. No person shall allow or permit meter boxes or other City facilities from becoming obstructed or obscured by trees, shrubs, plants or in any other manner so as to impede their use or access or make their location difficult to determine. If such substances, objects, or obstructions are not cleaned and removed or are permitted to obscure or impede use or access to such facilities, the City may accomplish the cleaning and removal at the user's expense. The Administrator will provide reasonable notice to the user before assessing the charge.

SECTION 2: The Mayor shall sign this Chapter and the City Clerk shall cause the same to be published within fifteen (15) days after its passage, at least once, in the Inland Valley Daily Bulletin, a newspaper of general circulation, published and circulated in the City

APPROVED AND ADOPTED this XX day of XX, 2016, by the following vote:

AYES:

NOES: None

ABSENT: None

Appendix B.
Cross-Connection Inspection and Testing Procedures

Appendix B

CITY
CROSS-CONNECTION INSPECTION AND TESTING PROCEDURES FOR PRE-CONVERSION OF POTABLE WATER PROCESS SYSTEMS TO RECYCLED WATER

PRE-CONVERSION CROSS-CONNECTION CONTROL TEST

Before conversion of a User's existing process system(s) to recycled water, and prior to operation of the process system(s), an initial cross-connection test and inspection will be performed. The cross-connection test will be performed utilizing potable water to pressurize both the potable water systems and the proposed recycled water system(s). The potable water used for testing purposes shall be supplied by way of an existing connection.

Both the proposed recycled water system conversion piping and the potable water system will be independently pressure tested and operated per the guidelines established by the DOHS, AWWA, and the Uniform Plumbing Code (UPC), "Appendix J".

CROSS-CONNECTION CONTROL TEST

City and User Supervisor shall conduct cross-connection control tests no less than once every four years. Prior to the cross-connection control test, the City's Cross-Connection Control Specialist and the User Supervisor shall conduct a comprehensive cross-connection control survey of the entire premises. The on-site survey shall be performed in years where the cross-connection control test is not performed. The survey shall include, but not be limited to, the following:

1. Check locations of the meters for the recycled and potable water systems to determine if there is any indication of changes and/or modifications.

2. Check the backflow prevention assemblies at the service connections for any visible defects.

3. Check all recycled water system control valves inside the facilities to ensure that all valve seals are in place and undisturbed. Check all control valve door signs.

4. The City shall prepare a written report on the results of the on-site cross-connection survey and submit it to DHS. The City shall maintain records of all surveys and cross-connection control tests for at least three years.

Appendix C.
Reuse Site Supervisor Reference Guide

Appendix C

CITY
REUSE SITE SUPERVISOR REFERENCE GUIDE

C-1. INTRODUCTION TO RECYCLED WATER

Water reclamation is the treatment and management of wastewater to produce water of suitable quality for non-potable beneficial uses. To produce recycled water, wastewater is treated at a reclamation plant that duplicates nature's own cleansing process, only at a much faster rate. The result is a high quality water that is safe to use for irrigation of landscaping and crops, playgrounds, golf courses, parks, cemeteries, freeway embankments and medians, and much more. Reclamation offers great potential for future additional and supplemental water supplies within San Bernardino County where traditional water supply sources are limited and demand continues to rapidly increase.

The Treatment Process

There are several process that wastewater must go through before it becomes recycled water. The major treatment processes are as follows:

Preliminary Treatment

A series of pretreatment processes designed to separate out coarse, non-treatable material from raw wastewater.

Primary Treatment

This process is designed to remove much of the solid matter discarded by wastewater through the physical processes of sedimentation and flotation. Untreated wastewater flows into a quiescent basin referred to as a primary sedimentation tank or primary clarifier where the material that is more dense than water settles out by gravity and the material that is less dense than water floats to the surface and skimmed off. Approximately 40-60% of the suspended solids and 20-50% of the BOD (biochemical oxygen demand) are removed from the waste stream. The product water from the primary treatment is known as primary effluent. Remaining suspended solids and some dissolved solids in primary effluent are treated biochemically in a subsequent process for physical separation and removal.

Secondary Treatment

The primary effluent contains finely dispersed organic solids that will not settle easily by gravity so a more sophisticated treatment technique is employed. Secondary treatment is accomplished through any one of a family of unique biological systems designed to remove BOD, suspended solids and some dissolved solids through a biological conversion of these materials to a settable form. The biomass is separated from the product water (secondary effluent) in a secondary clarifier. Secondary treatment systems typically remove 80% to 95% of suspended solids and BOD.

Tertiary Treatment

This is the polishing process where chemical coagulants are added to secondary effluent and the water is filtered through fine sand or other granular material to remove any residual particulate matter. The water is then chlorinated for disinfection to meet full Title 22 Health and Safety standards.

Uses of Recycled Water

Landscape irrigation will be the single largest use of recycled water within San Bernardino County. Additionally, recycled water will also be used for some industrial processing, cooling towers, soil compaction and dust suppression at construction sites, in recreational lakes, ponds and ornamental fountains, crop irrigation, and flushing toilets and urinals in some commercial buildings and offices. In fact, recycled water can be used for most non-potable needs.

Is it Safe?

Recycled water is safe to use! Potential health risks associated with the use of recycled water have been well documented nationwide as water reclamation projects are implemented and carefully monitored by responsible local health authorities and water quality control agencies. Tertiary recycled water is a highly treated, filtered and disinfected product according to the Department of Health Services criteria. These standards for recycled water are among the most stringent in the world. Referred to as "Title 22", these standards are incorporated in Title 22, Chapter 3, Division 4 of the California Code of Regulations, with stipulations applying to various types of reuse, and levels of required treatment. No health related problems have been traced to any of the water reclamation projects currently operating California.

How Does it Get to My Site?

A recycled water distribution system is separate from a potable water system and the sewer system. Each purveyor is responsible for constructing and maintaining the main transmission lines between the water reclamation plant and the end-use site. Similar to the potable system, the purveyor is responsible for delivering the recycled water to the customers' meter. From the meter on, all on-site facilities will be the responsibility of the users.

How is Using Recycled Water Different?

Recycled water facilities on the site will be separate from all potable systems. The recycled water customer will be required to post signs, mark meters and sprinkler heads, and ensure there are no cross-connections between the potable and recycled water systems. There will be an annual inspection by the water purveyor and Department of Health Services to ensure all regulations are adhered to.

When using recycled water, some water management practices may have to be changed slightly. Nutrients in recycled water, such as nitrogen and phosphorus, provide a fertilizer benefit. However, recycled water has a higher level of salts, so that leaching or other practices may be necessary depending on your specific soil characteristics.

C-2. CUSTOMER GUIDE OF PRACTICAL DO'S AND DON'TS FOR USE OF RECYCLED WATER

DO'S:

1. Take preventative measures to insure no cross-connections can occur.

2. Maintain and submit as-built drawings of any and all changes or additions to your recycled water system.

3. When performing repairs or modifications to the recycled water system, use only materials approved for recycled water use.

4. If your system has quick couplers, be sure that the user supervisor assumes sole responsibility of the quick connects for these couplers and the use of these connectors is closely monitored.

5. Closely monitor the recycled water system operation and be alert to and minimize overspray, run-off, and ponding. If this occurs, make the necessary corrections and notify the appropriate agencies, if required.

6. Keep systems functioning properly. Repair any and all damage to the recycled water system immediately. Report breaks or spills directly to your recycled water purveyor.

7. Educate all workers of the correct uses and restrictions of recycled water.

8. Be aware of the types of vegetation within your site boundaries and their responses to irrigation with recycled water. You may have to alter your water management practices based o soil and water characteristics.

9. Keep all records and references complete, up-to-date and accessible.

10. Keep others informed of all activities involving the recycled water system.

DON'TS:

1. Do not drink recycled water.

2. Recycled water should not be used to wash hands or other parts of the body.

3. Equipment (i.e. tanks valves, hoses, pipes, and pumps) that has been in contact with recycled water should not be used in conjunction with any potable water system unless adequately disinfected.

4. Do not attempt to modify or change the recycled water system without authorization from the recycled water supervisor.

5. Do not remove or tamper with recycled water warning signs.

C-3. STATE OF CALIFORNIA, DEPARTMENT OF HEALTH GUIDELINES FOR USE OF RECYCLED WATER FOR IRRIGATION AND IMPOUNDMENTS

A. General

1. Recycled water shall meet the Regional Water Quality Control Board Requirements and the requirements specified in the Wastewater Reclamation Criteria, established by the State of California Department of Health for health protection.

2. The discharge should be confined to the area designated and approved for disposal and reuse.

3. Maximum attainable separation of recycled water lines and domestic water lines should be practiced. Domestic and recycled water transmission and distribution mains should conform to separation and construction criteria of the local purveyor.

   a. The use area facilities must comply with the "Regulations Relating to Cross-Connections," Title 17, Chapter V, Section 7583-769P, inclusive, California Code of Regulations.

   b. Plans and specification of the existing and proposed recycled water system and domestic water system shall be submitted to State and/or local health agencies for review and approval prior to service.

4. All recycled water valves and outlets should be appropriately tagged to inform the public and employees that the water is not suitable for drinking.

5. All piping, valves, and outlets should be color-coded or otherwise marked to differentiate recycled water from domestic or other water.

6. Recycled water valves outlets, should be of a type or installed in such a manner that only authorized personnel have access.

7. Adequate means of notification should be provided to inform the public that recycled water is being used at the site. Such notification should include the posting of conspicuous signs with proper wording of sufficient size to be clearly read.

8. Adequate measures should be taken to minimize the breeding of flies, mosquitoes and other vectors of public health significance where water (recycled or domestic) is used.

B. Spray and Surface Irrigation of Crops

1. Irrigation should occur in a manner that minimizes ponding and runoff.

2. Irrigation should be done so as to minimize contact by the public with water spray.

a. Precautions should be taken to insure that recycled water will not be sprayed on walkways, passing vehicles, buildings, domestic water facilities, or areas not under control of the user.

b. Windblown spray from the irrigation area should not drift to areas off the designated site.

3. Irrigated areas must be kept completely separated from domestic water wells and reservoirs.

4. Adequate time should be provided between the last irrigation and harvesting to allow the crops and soil to dry.

5. Animals, especially milking animals, should not be allowed to graze on land irrigated with recycled water until it is thoroughly dry.

6. Adequate measures must be taken to prevent any direct contact between the edible portion of the crops and the recycled water.

C. Landscape Irrigation

1. Irrigation should occur in a manner that minimizes ponding and runoff.

2. At golf courses, notices should be printed on score cards stating that recycled water is used, and all water hazards containing recycled water should be posted with conspicuous signs.

3. Tank trucks used for carrying or spraying recycled water should be appropriately identified to indicate such.

4. Irrigation should be done so as to minimize contact by the public with water spray. Precautions should be taken to insure that recycled water will not be sprayed on sidewalks, passing vehicles, buildings, picnic tables, domestic water facilities, or areas not under control of the user.

a. Irrigation should be practiced during periods when the grounds will have maximum opportunity to dry before use by the public unless provisions are made to exclude the public from areas during and after spraying with recycled water.

b. Windblown spray from the irrigation area should not drift to areas off the designated site.

c. Drinking water fountains should be protected from direct or windblown recycled water spray.

5. Irrigated areas must be kept completely separated from domestic water wells and reservoir.

D. Impoundment

1. At restricted and non-restricted recreational impoundment and landscape impoundment all recycled water values and outlets should be appropriately tagged to inform the public that the water is not suitable for drinking.

2. Adequate measures should be taken to prevent body contact activities, such as wading or swimming, at restricted recreational impoundment containing recycled water.

3. Impoundment containing recycled water must be kept completely separated from domestic water wells and reservoirs.

4. Recreational impoundment should be operated and maintained under the supervision of qualified personnel.

(Condensed, edited and reproduced from California State Department of Health Services)

C-4. DUTIES AND RESPONSIBILITIES OF THE RECYCLED WATER USE SITE SUPERVISOR

All recycled water purveyors require that the user designate a Recycled Water Site Supervisor. This person shall be responsible for the safe and efficient use of recycled water by all involved personnel at the user's site. The purveyor must approve of the person appointed for this position. This person shall be available to the purveyor with regards to the operation and maintenance of the user's recycled water system. The user is responsible for notifying the purveyor immediately of any change in this position. The site supervisor must:

1. Be knowledgeable of what recycled water is and how it is produced;

2. Be knowledgeable of best management practices, specific equipment and principles relating to the intended use of recycled water;

3. Be responsible for keeping the equipment and facilities property maintained;

4. Be the 24-hour contact person responsible for the safe and efficient use of recycled water at the use site;

5. Educate all maintenance personnel on a continuous basis on the presence and use of recycled water;

6. Be responsible for maintaining up-to-date appropriate records of all on-site recycled and potable water systems. Requirements are use-site specific and are intended to document major changes made to on-site plumbing;

7. Be responsible for keeping the water agency informed of all failures, emergencies, and proposed changes that occur involving the recycled or potable water systems, and have current copy of recycled water use agreement available and readily accessible;

8. Be familiar with the purveyor's cross-connection control testing requirements;

9. Be knowledgeable of the recycled water purveyor's Rules and Regulations for recycled water service.

C-5. CROSS CONNECTION CONTROL AND BACKFLOW PREVENTION DEVICES

A cross-connection is any unprotected actual or potential connection between a public or a user's water system and any other source or system through which it is possible to introduce into any part of the potable system any substance other than the potable water with which the system is supplied. Cross-connections can lead to backflow, which is the flow of liquid or gas opposite the intended direction.

Backflow has the following two causes:

1. Backsiphonage occurs when there is reduced or negative pressure (vacuum) in the supply piping. An example is siphoning gas out of a car or ice tea through a straw. Another example is a fire truck pumping water out of a fire hydrant. The hydrant is connected to the potable water main. Pumping will reduce the pressure in the main and any connection to the main through the domestic on site water system such as a hose in a swimming pool will cause a backsiphonage of the swimming pool water into the water main.

2. Backpressure occurs when equipment such as pumps or boilers create pressure higher than the pressure in the system to which it is connected. This cause the system pressure to be "overridden," resulting in reversed flows.

The probability that backflow may occur may not seem great; however, the following is quoted from the June 1989 EPA cross connection control manual, "Actual cross-connection may appear in many subtle forms and in unsuspected places. Reversal of pressure in the water may be freakish and unpredictable. The probability of contamination of drinking water through a cross-connection occurring within a single plumbing system may seem remote; but, considering the multitude of similar systems, the probability is great."

Since cross-connections can occur at any point in the distribution system, a breaking point of responsibility has been established. The user is responsible for maintaining water quality downstream of the meter. The purveyor (potable and/or recycled) has responsibility for maintaining water quality upstream of the meter.

The main concern present when recycled water or any other non-potable water is used on sites served with potable water is a cross-connection. Contamination of the drinking water supply can be prevented by careful plumbing practices and using appropriate backflow prevention devices. A backflow prevention assembly is a mechanical device which prevents water from flowing in a reverse direction. These required devices are plumbed directly into the potable water supply pipe.

Devices or methods for backflow protection are listed as follows:

Atmospheric Vacuum Breaker	(AVB)
Pressure Vacuum Breaker	(PVB)
Double Check Valve	(DC)
Reduced Pressure Principle Device	(RPPD)
Air Gap	(AG)

The most effective protection, an air gap (AG) is a physical break between a supply pipe and a receiving vessel. These are commonly used when supplying an impoundment with

potable water. An air gap separation must be at least twice the diameter of the supply line, measured vertically above the top rim of the receiving vessel.

Reduced Pressure Principle Device (RPPD) or Double Check Valve (DC) devices are sometimes required on the recycled water supply if on-site conditions could deteriorate the recycled water quality. Your local purveyor and the San Bernardino County Department of Public Health, Division of Environmental Health Services (DEHS) maintain a list of devices approved for these uses.

SYSTEM IDENTIFICATION

Avoiding a cross-connection between the potable and recycled water systems is extremely important. The recycled water system must be clearly distinguishable from the potable water system. Recycled piping, outlets, and valves are color coded purple to differentiate the recycled water system from the potable system. However, on retrofits, many underground components will not be identified differently, therefore, more detailed testing may be required to make determinations of system identification.

Under no circumstances should purple pipe or fixtures be used in the potable system, nor should potable pipe or fixtures be used in the recycled system. This point cannot be overstressed. A situation may arise where it is more convenient to use "just a little piece" of purple pipe to fix a break in the potable system. Do not do this. The integrity of both the recycled and potable systems will become suspect and cause your water purveyor to require you to physically expose enough piping to confidently identify each system.

CROSS-CONNECTION TESTS

Your local water agency, in conjunction with the local health department, will conduct periodic cross-connection tests to insure there are no connections between the potable water and recycled water systems. The site supervisor will take part in these tests. An initial cross-connection test is usually performed as part of the final inspection process. The interval between subsequent cross-connection tests depends on the complexity of the recycled water system and if contamination or uncertainty problems persist. This is decided on a case-by-case basis at the discretion of the County DEHS. In most cases, an annual or once every four-year cross-connection control shut down test is sufficient. If the test is once every four years, an annual walk through inspection is required. However, cross-connection tests will be performed where needed.

The protocol for these tests is based on the California DHS, Office of Drinking Water, November 1991 publication entitled Guidelines Regarding Backflow Protection for Users of Recycled Water. Specific instructions on how to conduct a cross-connection control shut down test can also be found in the latest edition of the Uniform Plumbing Code (UPC).

The test is accomplished by turning off the recycled water service at the meter and draining the recycled system. After a period of time, depending on the size of the system, the recycled system is checked for repressurization. System repressurization indicates a cross-connection to the potable water system. If there is no repressurization, then the recycled system is recharged with water and the potable system is turned off at the service meter and the potable system is drained. Again, depending on the size of the system, a period of time, not shorter than four hours is allowed to observe if the potable system becomes repressurized. This was accomplished by opening all water taps in the potable system to

determine of any water flows through the taps. All hot water heaters and any other devices that may repressurize the potable system must be shut down. This requires entry into all establishments on the site to ensure complete system shut down and to gain access to all potable water taps. If there is water flow through any of the taps, then a cross-connection with the recycled system is indicated.

The current testing method uses pressure recorders. The advantage of the pressure recorder is that it is usually not necessary to enter the buildings and recorder gives a permanent record of the test.

If a test reveals a cross-connection, both the recycled and potable water systems must be immediately shut down at the POC. The purveyor, County DEHS, and DHS, Office of Drinking Water must be promptly notified.

TESTING AND MAINTENANCE OF BACKFLOW PREVENTION DEVICES

Title 17 of the California Code of Regulations requires that all backflow prevention devices be tested annually to verify that they are working property. Records of these tests and all repairs must be kept and made available to the health department and the local water district. The user is responsible for conducting tests and performing all needed repairs. Title 17 contains the following requirements for backflow prevention assembly testing and maintenance:

1. The water purveyor shall ensure that adequate maintenance and periodic testing are provided by the water user to ensure proper operation. The water purveyor will notify the water user when testing of the backflow preventers is needed. The notice will contain the date by which the test must be completed.

2. Backflow preventers must be tested at least annually or more frequently if determined to be necessary by the water purveyor or health agency.

3. Backflow preventers must be tested by certified persons who have demonstrated their competency in testing these devices to the water purveyor or health agency. Records must be maintained and submitted to the water purveyor annually.

4. Backflow preventers must be tested immediately after they are installed, relocated, or repaired and not placed in service unless they are functioning as required.

Appendix D

EMERGENCY RESPONSE PLAN FOR CROSS-CONNECTIONS OF POTABLE WATER AND RECYCLED WATER SYSTEMS

In the event that a cross-connection is detected or suspected during a cross-connection control inspection or test, or at any other time a backflow incident occurs, the following procedures shall be implemented immediately.

1. Both recycled and potable water supplies must be shutdown immediately.

2. The City must be immediately advised.

3. Water samples from the drinking water supply shall be collected and submitted for bacteriological analysis.

4. The actual or suspected cross-connection shall be investigated and eliminated.

5. A cross-connection control test, following the procedures outlined in the "Pre-Conversion Cross-Connection Control Test" in Appendix B shall be performed.

6. The potable water plumbing system shall be disinfected thoroughly utilizing a highly concentrated chlorine solution. The chlorine solution shall have a minimum residual chlorine concentration of 50 mg/L, and shall be maintained throughout the plumbing system for 24-hours.

7. The potable piping system shall be thoroughly flushed after the 24-hour holding period, and additional drinking water analysis performed.

8. Reported "Negative" finding for bacteria, and approval from the DHS shall be required prior to re-activation of both recycled and potable water systems.

Appendix D.
Emergency Response Plan for PW/RW Cross-Connections

Appendix D

EMERGENCY RESPONSE PLAN FOR CROSS-CONNECTIONS OF POTABLE WATER AND RECYCLED WATER SYSTEMS

In the event that a cross-connection is detected or suspected during a cross-connection control inspection or test, or at any other time a backflow incident occurs, the following procedures shall be implemented immediately.

1. Both recycled and potable water supplies must be shutdown immediately.

2. The City must be immediately advised.

3. Water samples from the drinking water supply shall be collected and submitted for bacteriological analysis.

4. The actual or suspected cross-connection shall be investigated and eliminated.

5. A cross-connection control test, following the procedures outlined in the "Pre-conversion Cross-Connection Control Test" in Appendix B shall be performed.

6. The potable water plumbing system shall be disinfected thoroughly utilizing a highly concentrated chlorine solution. The chlorine solution shall have a minimum residual chlorine concentration of 50 mg/L, and shall be maintained throughout the plumbing system for 24-hours.

7. The potable piping system shall be thoroughly flushed after the 24-hour holding period, and additional drinking water analysis performed.

8. Reported "Negative" finding for bacteria, and approval from the DOHS shall be required prior to re-activation of both recycled and potable water systems.

APPENDIX K:

GENERAL PROGRAM REQUIREMENTS AND PERMITTING FOR RECYCLED WATER TRUCKING

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

6075 Kimball Avenue
Chino, CA 91708
(909) 993-1600

Recycled Water Trucking Permit

This Use Permit must be available for inspection at all times. The recycled water hauler must carry a copy in the tanker truck at all times.

address

phone number

EFFECTIVE DATE OF PERMIT_____ EXPIRATION DATE _____

COMPANY INFORMATION

NAME OF COMPANY _____ CONTACT: _____

PHONE: _____ EMAIL:_____

ADDRESS _____ CITY: _____ ZIP: _____

RECYCLED WATER HAULERS INFORMATION

1. NAME OF HAULER: _____PHONE: _____EMAIL:_____

   CELL #: _____ ADDRESS: _____ CITY: _____ ZIP: _____

2. NAME OF HAULER: _____PHONE: _____EMAIL:_____

   CELL #: _____ ADDRESS: _____ CITY: _____ ZIP: _____

3. NAME OF HAULER: _____PHONE: _____EMAIL:_____

   CELL #: _____ ADDRESS: _____ CITY: _____ ZIP: _____

A Water Reuse Release Form must be filled out for each construction hydrant meter and on each water pickup at the WWTP, and retained at the site and on the hauler's vehicle. The hauler shall adhere to the attached Guidelines for Worker Protection.

RECYCLED WATER USE INFORMATION

ESTIMATED VOLUME OF RECYCLED WATER HAULED : _____ GALLONS PER DAY

METHOD OF WATER COLLECTION: { } FILL STATION AT RECYCLED WATER TREATMENT PLANT { } RECYCLED WATER FIRE HYDRANT

TRUCK TYPE: { } TANK TRUCK { } WATER TRUCK { } WATER BUFFALO TRAILER { } OTHER:_____

USE OF RECYCLED WATER: { } COMPACTION { } DUST CONTROL { } IRRIGATION { } SEWER FLUSHING

{ } STREET CLEANING { } APPLY TO RESIDENTIAL/COMMERICAL LANDSCAPING { } OTHER:_____

SIGNAGE REQUIRED: { } TRUCK { } PROJECT SITE **COMMENTS:** _____

CERTIFICATION

I HEREBY CERTIFY UNDER PENALTY OF PERJURY THAT THE INFORMATION PROVIDED IN THIS APPLICATION AND IN ANY ATTACHMENT IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE. I ALSO CERTIFY THAT I HAVE READ AND AGREE TO ABIDE BY ALL APPLICABLE RULES AND REGULATIONS OF THE DIVISION OF DRINKING WATER. MAKING UNAUTHORIZED CONNECTIONS IS PROHIBITED AND PENALIZEABLE. **PURPLE METER TO PURPLE HYDRANT ONLY.** USER CONFORMANCE TO PERMIT IS A CONDITION OF USE AND ABILITY TO RENEW.

Regional Contracting Agency

Signature | Print Name | Title | Date

Company Representative

Signature | Print Name | Title | Date

Recycled Water Hauler

Signature | Print Name | Title | Date

TERMS AND CONDITIONS FOR COMMERCIAL RECYCLED WATER USERS
(State of California Division of Drinking Water Guidelines for Tertiary Treated Recycled Water)

A. Prohibitions:

1. **No cross connections shall be made between drinking water systems and recycled water systems/equipment.**
2. Recycled water shall not be applied to irrigation areas during periods when soils are saturated.
3. Recycled water shall not be allowed to escape from designated use area(s) as surface flow that would either pond and/or enter waters of the state.
4. Irrigation or impoundment of recycled water within a minimum of 50 feet of any water well is prohibited
5. Recycled water shall not enter a dwelling or food handling facility, and shall not contact any drinking water fountains, unless specifically protected with a shielding device.
6. Recycled water shall not be discharged to the street gutter or storm drain system. If you have leftover recycled water and want to dispose of it, either discharge it to a landscaped area or to the sanitary sewer via an onsite cleanout.
7. Recycled water shall not be used as a domestic or animal water supply.
8. Recycled water shall be used only for California Code of Regulations Title 22 approved uses for tertiary-treated recycled water, which includes dust control, soil compaction, landscape irrigation, vegetable garden irrigation, and hard surface washing (paths, walls, windows, etc.).
9. **Recycled water hydrant meters must NOT be connected to potable water fire hydrants. Violators are subject to fines up to $1,000.**
10. Hauler's vehicles used for transportation and distribution of recycled water must have water tight valves and fittings, must not leak, and tanks must be cleaned of contaminants prior to use. A truck or tank that has contained material from a septic tank or cesspool shall not be used to convey recycled water.
11. Recycled water shall not be put into existing piping connected to underground irrigation, drinking water supply, or a storage tank facility.
12. No residential delivery is allowed when using a recycled water hydrant construction meter.
13. It is prohibited to transport and pump recycled water into residential and commercial end user's buried irrigation systems.
14. It is not permitted to deliver and transfer recycled water into residential and commercial end user's onsite storage tanks.

B. User's Responsibilities

1. Enforce and implement all prohibitions listed above.
2. If a cross connection is discovered, contact IEUA/Regional Contracting Agency immediately and have the cross connection removed immediately.
3. Use of recycled water will be discontinued if the prohibitions and requirements of this permit are not met. Use of recycled water may resume once all of the conditions which caused the violations have been corrected.
4. Company and/or Hauler is responsible for all associated costs incurred by the Member Agency to ensure conformance of these requirements and protection of public health.
5. Tank trucks, storage containers and equipment used for recycled water shall receive disinfection prior to use with potable water.
6. User is responsible for purchasing and installing recycled water signs and magnets on transport vehicles and at use site if accessible to the public. Signs are available for purchase at the District office.
7. ☐ **Check here if applying recycled water directly onto residential and commercial landscaping.**

Company/Hauler shall:

a. Restrict delivery of recycled water only to end users within IEUA's service area.

b. Submit a list, on a monthly basis, of new and existing end users receiving recycled water through your service. The list should include end user's name, address, city, zip code, phone number, email address, and quantity applied to their site during reporting period.

c. End users are required to submit a Residential Fill Station Use Agreement form, receive training, and obtain wallet ID cards from IEUA retail contracting agencies during open enrollment periods, which can be found at www.ieua.org/www.cvwdwater.org

d. Verify end users have obtained a IEUA/MA Residential Fill Station Wallet ID Card prior to applying recycled water onto end user's landscaping.

C. The MA shall:

1. Have the right and responsibility to suspend or terminate recycled water service in the event that the above conditions are not being adhered to.
2. Have the right to enter hauler's end user's property to perform periodic inspections to ensure compliance with recycled water user requirements.
3. Have the right to perform cross-connection control inspections and/or shut-down test as determined to be necessary by the MA Engineer or assigned representative.
4. Have the right to notify the drinking water supplier of recycled water deliveries within their service area. The District may share the hauler's list of end users with the local drinking water supplier. The drinking water supplier may inspect haulers' property to conduct inspection and impose additional requirements to protect the drinking water supply and public health.

D. Health and Safety Guidelines

1. Public contact with recycled water shall be avoided, to the extent practical, under the normal use at the recycled water site.
2. In all areas where recycled water is used that are accessible to the public, warning signs shall be installed at adequate intervals around the use area as required by the MA.
3. Recycled water shall not be applied where it could contact drinking water facilities, storm drains, or food handling facilities.
4. Adequate measures shall be taken to prevent ponding, and to prevent runoff of recycled water from the authorized recycled water use area.
5. Hauler's vehicles that convey recycled water shall be clearly labeled in a prominent location with language stating in English "Recycled Water Do Not Drink".
6. After contact with recycled water, wash hands with soap and potable water prior to eating or smoking.

I HAVE READ AND UNDERSTOOD THESE GUIDELINES.

Company Representative:

_____	_____	_____
Print Name	Signature	Date

Recycled Water Hauler:

_____	_____	_____
Print Name	Signature	Date

Recycled Water Program
Recycled Water Truck -
Recycled Water Usage Form - Page 1

PRODUCER/DISTRIBUTOR

FACILITY MA

ADDRESS Address

PHONE

COMPANY/HAULER'S AGENT

CO. NAME: _____

ADDRESS: _____

PHONE: _____

DATE	VOLUME COLLECTED	USE AREA	TRUCK LIC. #	HAULER'S SIGNATURE

COPIES OF THIS FORM SHALL BE KEPT AT PRODUCING FACILITY AND IN TRANSPORT VEHICLE, AND SUBMITTED MONTHLY TO THE REGIONAL CONTRACTING AGENCY TO KEEP THE PERMIT VALID. COPIES OF THIS FORM (2 PAGES) SHALL BE SUBMITTED BY THE 10TH DAY OF THE FOLLOWING MONTH.

Recycled Water Program
Recycled Water Truck -
Recycled Water Usage Form - Page 2

Site Contact Name:		
Address (No/Street/City/ZIP):		
Phone	Email	Delivery Start Date / Quantity Applied per day
Site Contact Name:		
Address (No/Street/City/ZIP):		
Phone	Email	Delivery Start Date / Quantity Applied per day
Site Contact Name:		
Address (No/Street/City/ZIP):		
Phone	Email	Delivery Start Date / Quantity Applied per day
Site Contact Name:		
Address (No/Street/City/ZIP):		
Phone	Email	Delivery Start Date / Quantity Applied per day
Site Contact Name:		
Address (No/Street/City/ZIP):		
Phone	Email	Delivery Start Date / Quantity Applied per day

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Recycled Water Fill Station
User Application and Agreement

Member Agency address and website

Applicant Information

_____ Name

_____ Account Number

_____ Address

_____ Cell Phone

_____ Address 2

_____ Home/Work Phone

_____ City, State, ZIP

_____ Email Address

Use of Fill Station and Recycled Water End Use

_____
License Plate Numbers of Vehicles Used to Collect Recycled Water

_____
Size/Type of Recycled Water Collection Container (check all that apply):

☐ Landscape Irrigation
☐ Surface Washing/Outdoor Furniture
☐ Surface Washing/Hard Surfaces (e.g., Walls, Paths)
☐ Vehicle Washing
☐ Other: _____

Recycled Water Facts, Rules, and Regulations

Please initial at the line to the left of each section and/or statement to acknowledge that you understand and agree to the corresponding fact, rule, or regulation. MA will not consider any application on which all lines have not been initialed by the applicant.

_____ Initial

1. *What is tertiary-treated recycled water and is it safe?*
Recycled water is wastewater that has been processed through primary, secondary, and tertiary treatment, and disinfection with ultraviolet light. It must meet strict standards of the State Water Resources Control Board Division of Drinking Water (DDW).

_____

2. *What can recycled water be used for?*
Based on DDW Title 22 requirements, tertiary-treated recycled water can be used to:
   - Water your trees, gardens, vegetables, and lawns; and
   - Wash your car, outdoor furniture and hard surfaces (paths, walls, windows, etc.)

_____

3. *What is recycled water NOT suitable for?*
   - Drinking
   - Cooking or use in the kitchen
   - Bathing or showering
   - Use in a pressurized washer
   - Filling swimming pools or spas
   - Children's water toys
   - Plumbing to a domestic plumbing system

_____

4. *Why is recycled water not safe to drink? What happens if I drink it?*
Tertiary-treated recycled water is not approved for drinking. If you accidentally drink recycled water, there is no need to panic. Should you experience any adverse symptoms or feel unwell, consult your doctor.

_____ 5. *Can I water my plants with recycled water?*
Yes, all plants can be watered with recycled water. This includes edible plants such as fruit trees, vegetables, and herbs. Just remember to wash all fruits, vegetables, and herbs with potable water prior to consumption. Recycled water tends to have a higher salt content than drinking water. We advise you to direct the recycled water to the roots of the plants and not the foliage. This will protect them from potential leaf burn.

_____ 6. *Do water use restrictions (conservation) apply to recycled water?*
No. Water use restrictions do not apply to recycled water. However, recycled water is a valuable resource and should not be wasted.

_____ 7. *Who develops the health standards for recycled water?*
Recycled water is strictly monitored to ensure it meets water quality standards set by the DDW and the U.S. Environmental Protection Agency.

_____ 8. *How much will recycled water cost me?*
The recycled water provided to customers at MA's fill station is provided to customers free of charge.

_____ 9. *How much recycled water can I pick up at a time?*
Minimum size per container is 1 gallon and maximum per container is 300 gallons. There is no limit to the number of containers that may be filled per visit. Keep in mind the size of your vehicle when selecting transport containers. Water weighs 8.345 pounds per gallon, and two 55-gallon drums of recycled water will weigh a total of 917.95 pounds. Ensure your vehicle can handle the amount of recycled water you collect and transport. CVWD is not liable for any damages to you or your vehicle(s) due to your participation in the residential recycled water fill station program. No commercial vehicles or trailers longer than 15 feet will be permitted to enter the fill station.

10. *What are the rules and regulations for residential use of recycled water?*

_____ a) Fill out this application/agreement in its entirety and provide signature.

_____ b) Attach MA recycled water notice stickers to collection and storage containers to ensure awareness that recycled water is contained inside and the water is not suitable for human consumption.

_____ c) Recycled water must not be pumped into the plumbed landscape irrigation system that is interconnected with the customer's potable water supply.

_____ d) Recycled water shall not be discharged to the street gutter or storm drain system. If you have leftover recycled water and want to dispose of it, either discharge it to a landscaped area or to the sanitary sewer system via an onsite cleanout.

_____ e) After working with recycled water, remember to apply hand sanitizer or wash hands with soap and potable water, especially before eating or smoking.

_____ f) Do not drink recycled water or use it for food preparation.

_____ g) Take precautions to avoid contact with food while using recycled water.

_____ h) No one shall play with recycled water.

_____ i) Recycled water shall be used and/or applied promptly. No storage of recycled water is permitted onsite at a customer's property.

_____ j) MA may, at its sole discretion, conduct site visits to your property for the purposes of ensuring proper use of recycled water. By signing this Application and Agreement Form, you acknowledge that, upon notification from MA, you agree to provide MA access to your property at any time deemed fit by MA to conduct a site visit.

11. *What are the procedures to obtain recycled water?*

_____ a) Carefully review this application/agreement, fill out all fields, and provide signature.

_____ b) Review the "Residential Recycled Water Fill Station Program" slideshow, available via www.cvwdwater.com or in hard copy form at the fill station during regular business hours.

_____ c) Bring (1) completed application/agreement, (2) a copy/printout of your MA billing statement, and (3) valid government-issued photo identification with an address matching the billing statement to the recycled water fill station at _____ in MA City, CA. **MA will not complete the registration process for any applicant that is unable to produce each of the three documents described above at the time the application form is submitted to MA.** The attendant at the fill station will review the proper use of recycled water and procedures for collection, issue you a fill station user card, and answer any questions you may have.

_____ d) You will be provided with recycled water notice stickers that must be placed on all containers that will be used to transport recycled water.

_____ e) After review of the application and training materials and installation of stickers, you will be able to pick up recycled water during regular fill station hours, available at www.cvwdwater.com. Children and pets must remain in your vehicle while at the fill station.

_____ f) You will be required to show the attendant the fill station user card and your identification upon each visit. The fill station user card is non-transferable; do not share your card with others. All users must receive training to ensure they are informed of the use requirements.

_____ g) You will be required to enter your name, date, service address, and amount collected on the recycled water fill station log at the time of pickup.

Certification and Signature

_____ By initialing to the left, I understand all the conditions of this agreement and agree to comply with these conditions and to conform to MAs requirements for recycled water use at my residential property. Failure to comply with the conditions of this agreement may lead MA to revoke permission for me to use recycled water at my residential property.

_____ I hereby certify under penalty of perjury that the information provided in this permit application and in any attachment is true and accurate to the best of my knowledge. I also certify that I have read the applicable rules and regulations of the Regional Water Quality Control Board Order 97-0003 or 2001-2003, MA's Recycled Water Truck Program Guidelines, and the Residential Recycled Water Fill Station Program PowerPoint presentation, and agree to abide by them.

_____ I hereby agree to defend, indemnify, and hold harmless MA and its directors, officers, agents, employees and assigns, from and against any and all loss, liability, expense, claims, suits, and damages, including attorneys' fees and expert witness fees, arising out of or in any way relating to my participation in the residential recycled water use program. I further agree that if I violate this agreement and attempt to bring a claim or suit against MA, that I will be held responsible for attorney's and expert witness fees and any costs incurred by MA in connection therewith.

_____ I hereby waive and release MA from any and all liability associated with my use, application, collection, storage, transportation, delivery, disposal and any related use of recycled water, including any and all loss, liability, expense, claims, suits, and damages arising out of any vehicles I use on MAs facilities and any vehicles I use to transport the recycled water. I assume the risk of any injuries to myself and others resulting from my participation in the residential recycled water use program. I further certify that I have automobile liability insurance coverage for any vehicle used in connection with my participation in the residential recycled water use program.

_____

Signature & Date

_____

Print Name

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

6075 Kimball Avenue
Chino, CA 91708
(909) 993-1600

13220 Central Avenue
Chino, CA 91710
(909) 334-3250

Recycled Water Trucking Permit

This Use Permit must be available for inspection at all times. The recycled water hauler must carry a copy in the tanker truck at all times.

EFFECTIVE DATE OF PERMIT_____ EXPIRATION DATE _____

COMPANY INFORMATION

NAME OF COMPANY _____ CONTACT: _____

PHONE: _____ EMAIL:_____

ADDRESS _____ CITY: _____ ZIP: _____

RECYCLED WATER HAULERS INFORMATION

1. NAME OF HAULER: _____PHONE: _____EMAIL:_____

   CELL #: _____ ADDRESS: _____ CITY: _____ ZIP: _____

2. NAME OF HAULER: _____PHONE: _____EMAIL:_____

   CELL #: _____ ADDRESS: _____ CITY: _____ ZIP: _____

3. NAME OF HAULER: _____PHONE: _____EMAIL:_____

   CELL #: _____ ADDRESS: _____ CITY: _____ ZIP: _____

A Water Reuse Release Form must be filled out for each construction hydrant meter and on each water pickup at the WWTP, and retained at the site and on the hauler's vehicle. The hauler shall adhere to the attached Guidelines for Worker Protection.

RECYCLED WATER USE INFORMATION

ESTIMATED VOLUME OF RECYCLED WATER HAULED : _____ GALLONS PER DAY

METHOD OF WATER COLLECTION: { } FILL STATION AT RECYCLED WATER TREATMENT PLANT { } RECYCLED WATER FIRE HYDRANT

TRUCK TYPE: { } TANK TRUCK { } WATER TRUCK { } WATER BUFFALO TRAILER { } OTHER:_____

USE OF RECYCLED WATER: { } COMPACTION { } DUST CONTROL { } IRRIGATION { } SEWER FLUSHING

{ } STREET CLEANING { } APPLY TO RESIDENTIAL/COMMERICAL LANDSCAPING { } OTHER:_____

SIGNAGE REQUIRED: { } TRUCK { } PROJECT SITE **COMMENTS:** _____

CERTIFICATION

I HEREBY CERTIFY UNDER PENALTY OF PERJURY THAT THE INFORMATION PROVIDED IN THIS APPLICATION AND IN ANY ATTACHMENT IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE. I ALSO CERTIFY THAT I HAVE READ AND AGREE TO ABIDE BY ALL APPLICABLE RULES AND REGULATIONS OF THE DIVISION OF DRINKING WATER. MAKING UNAUTHORIZED CONNECTIONS IS PROHIBITED AND PENALIZEABLE. **PURPLE METER TO PURPLE HYDRANT ONLY.** USER CONFORMANCE TO PERMIT IS A CONDITION OF USE AND ABILITY TO RENEW.

Regional Contracting Agency

Signature | Print Name | Title | Date

Company Representative

Signature | Print Name | Title | Date

Recycled Water Hauler

Signature | Print Name | Title | Date

TERMS AND CONDITIONS FOR COMMERCIAL RECYCLED WATER USERS
(State of California Division of Drinking Water Guidelines for Tertiary Treated Recycled Water)

A. Prohibitions:

1. **No cross connections shall be made between drinking water systems and recycled water systems/equipment.**
2. Recycled water shall not be applied to irrigation areas during periods when soils are saturated.
3. Recycled water shall not be allowed to escape from designated use area(s) as surface flow that would either pond and/or enter waters of the state.
4. Irrigation or impoundment of recycled water within a minimum of 50 feet of any water well is prohibited
5. Recycled water shall not enter a dwelling or food handling facility, and shall not contact any drinking water fountains, unless specifically protected with a shielding device.
6. Recycled water shall not be discharged to the street gutter or storm drain system. If you have leftover recycled water and want to dispose of it, either discharge it to a landscaped area or to the sanitary sewer via an onsite cleanout.
7. Recycled water shall not be used as a domestic or animal water supply.
8. Recycled water shall be used only for California Code of Regulations Title 22 approved uses for tertiary-treated recycled water, which includes dust control, soil compaction, landscape irrigation, vegetable garden irrigation, and hard surface washing (paths, walls, windows, etc.).
9. **Recycled water hydrant meters must NOT be connected to potable water fire hydrants. Violators are subject to fines up to $1,000.**
10. Hauler's vehicles used for transportation and distribution of recycled water must have water tight valves and fittings, must not leak, and tanks must be cleaned of contaminants prior to use. A truck or tank that has contained material from a septic tank or cesspool shall not be used to convey recycled water.
11. Recycled water shall not be put into existing piping connected to underground irrigation, drinking water supply, or a storage tank facility.
12. No residential delivery is allowed when using a recycled water hydrant construction meter.
13. It is prohibited to transport and pump recycled water into residential and commercial end user's buried irrigation systems.
14. It is not permitted to deliver and transfer recycled water into residential and commercial end user's onsite storage tanks.

B. User's Responsibilities

1. Enforce and implement all prohibitions listed above.
2. If a cross connection is discovered, contact IEUA/Regional Contracting Agency immediately and have the cross connection removed immediately.
3. Use of recycled water will be discontinued if the prohibitions and requirements of this permit are not met. Use of recycled water may resume once all of the conditions which caused the violations have been corrected.
4. Company and/or Hauler is responsible for all associated costs incurred by the City to ensure conformance of these requirements and protection of public health.
5. Tank trucks, storage containers and equipment used for recycled water shall receive disinfection prior to use with potable water.
6. User is responsible for purchasing and installing recycled water signs and magnets on transport vehicles and at use site if accessible to the public. Signs are available for purchase at the City office.
7. ☐ **Check here if applying recycled water directly onto residential and commercial landscaping.**

   Company/Hauler shall:

   a. Restrict delivery of recycled water only to end users within IEUA's service area.

   b. Submit a list, on a monthly basis, of new and existing end users receiving recycled water through your service. The list should include end user's name, address, city, zip code, phone number, email address, and quantity applied to their site during reporting period.

   c. End users are required to submit a Residential Fill Station Use Agreement form, receive training, and obtain wallet ID cards from IEUA retail contracting agencies during open enrollment periods, which can be found at www.ieua.org or www.cityofchino.org

   d. Verify end users have obtained a IEUA/City of Chino Residential Fill Station Wallet ID Card prior to applying recycled water onto end user's landscaping.

C. <u>The City shall:</u>

1. Have the right and responsibility to suspend or terminate recycled water service in the event that the above conditions are not being adhered to.
2. Have the right to enter hauler's end user's property to perform periodic inspections to ensure compliance with recycled water user requirements.
3. Have the right to perform cross-connection control inspections and/or shut-down test as determined to be necessary by the City Engineer or assigned representative.
4. Have the right to notify the drinking water supplier of recycled water deliveries within their service area. The City may share the hauler's list of end users with the local drinking water supplier. The drinking water supplier may inspect haulers' property to conduct inspection and impose additional requirements to protect the drinking water supply and public health.

D. <u>Health and Safety Guidelines</u>

1. Public contact with recycled water shall be avoided, to the extent practical, under the normal use at the recycled water site.
2. In all areas where recycled water is used that are accessible to the public, warning signs shall be installed at adequate intervals around the use area as required by the City.
3. Recycled water shall not be applied where it could contact drinking water facilities, storm drains, or food handling facilities.
4. Adequate measures shall be taken to prevent ponding, and to prevent runoff of recycled water from the authorized recycled water use area.
5. Hauler's vehicles that convey recycled water shall be clearly labeled in a prominent location with language stating in English "Recycled Water Do Not Drink".
6. After contact with recycled water, wash hands with soap and potable water prior to eating or smoking.

I HAVE READ AND UNDERSTOOD THESE GUIDELINES.

Company Representative:

_____	_____	_____
Print Name	Signature	Date

Recycled Water Hauler:

_____	_____	_____
Print Name	Signature	Date

Recycled Water Program
Recycled Water Truck -
Recycled Water Usage Form - Page 1

PRODUCER/DISTRIBUTOR

FACILITY City of Chino

ADDRESS 13220 Central Avenue, Chino, CA 91710

PHONE 909) 334-3250

COMPANY/HAULER'S AGENT

CO. NAME: _____

ADDRESS: _____

PHONE: _____

DATE	VOLUME COLLECTED	USE AREA	TRUCK LIC. #	HAULER'S SIGNATURE

COPIES OF THIS FORM SHALL BE KEPT AT PRODUCING FACILITY AND IN TRANSPORT VEHICLE, AND SUBMITTED MONTHLY TO THE REGIONAL CONTRACTING AGENCY TO KEEP THE PERMIT VALID. COPIES OF THIS FORM (2 PAGES) SHALL BE SUBMITTED BY THE 10TH DAY OF THE FOLLOWING MONTH.

Recycled Water Program
Recycled Water Truck -
Recycled Water Usage Form - Page 2

Site Contact Name:		
Address (No/Street/City/ZIP):		
Phone	Email	Delivery Start Date / Quantity Applied per day
Site Contact Name:		
Address (No/Street/City/ZIP):		
Phone	Email	Delivery Start Date / Quantity Applied per day
Site Contact Name:		
Address (No/Street/City/ZIP):		
Phone	Email	Delivery Start Date / Quantity Applied per day
Site Contact Name:		
Address (No/Street/City/ZIP):		
Phone	Email	Delivery Start Date / Quantity Applied per day
Site Contact Name:		
Address (No/Street/City/ZIP):		
Phone	Email	Delivery Start Date / Quantity Applied per day

Recycled Water Fill Station
User Application and Agreement

City of Chino, 13220 Central Avenue Chino, CA 91710
http://www.cityofchino.org/home

Applicant Information

_____ Name

_____ Account Number

_____ Address

_____ Cell Phone

_____ Address 2

_____ Home/Work Phone

_____ City, State, ZIP

_____ Email Address

Use of Fill Station and Recycled Water End Use

_____
License Plate Numbers of Vehicles Used to Collect Recycled Water

_____
Size/Type of Recycled Water Collection Container (check all that apply):

☐ Landscape Irrigation
☐ Surface Washing/Outdoor Furniture
☐ Surface Washing/Hard Surfaces (e.g., Walls, Paths)
☐ Vehicle Washing
☐ Other: _____

Recycled Water Facts, Rules, and Regulations

Please initial at the line to the left of each section and/or statement to acknowledge that you understand and agree to the corresponding fact, rule, or regulation. The City of Chino (the City) will not consider any application on which all lines have not been initialed by the applicant.

_____ Initial

1. *What is tertiary-treated recycled water and is it safe?*
Recycled water is wastewater that has been processed through primary, secondary, and tertiary treatment, and disinfection with ultraviolet light. It must meet strict standards of the State Water Resources Control Board Division of Drinking Water (DDW).

_____

2. *What can recycled water be used for?*
Based on DDW Title 22 requirements, tertiary-treated recycled water can be used to:
   - Water your trees, gardens, vegetables, and lawns; and
   - Wash your car, outdoor furniture and hard surfaces (paths, walls, windows, etc.)

_____

3. *What is recycled water NOT suitable for?*
   - Drinking
   - Cooking or use in the kitchen
   - Bathing or showering
   - Use in a pressurized washer
   - Filling swimming pools or spas
   - Children's water toys
   - Plumbing to a domestic plumbing system

_____

4. *Why is recycled water not safe to drink? What happens if I drink it?*
Tertiary-treated recycled water is not approved for drinking. If you accidentally drink recycled water, there is no need to panic. Should you experience any adverse symptoms or feel unwell, consult your doctor.

_____ 5. *Can I water my plants with recycled water?*
Yes, all plants can be watered with recycled water. This includes edible plants such as fruit trees, vegetables, and herbs. Just remember to wash all fruits, vegetables, and herbs with potable water prior to consumption. Recycled water tends to have a higher salt content than drinking water. We advise you to direct the recycled water to the roots of the plants and not the foliage. This will protect them from potential leaf burn.

_____ 6. *Do water use restrictions (conservation) apply to recycled water?*
No. Water use restrictions do not apply to recycled water. However, recycled water is a valuable resource and should not be wasted.

_____ 7. *Who develops the health standards for recycled water?*
Recycled water is strictly monitored to ensure it meets water quality standards set by the DDW and the U.S. Environmental Protection Agency.

_____ 8. *How much will recycled water cost me?*
The recycled water provided to customers at the City's fill station is provided to customers free of charge.

_____ 9. *How much recycled water can I pick up at a time?*
Minimum size per container is 1 gallon and maximum per container is 300 gallons. There is no limit to the number of containers that may be filled per visit. Keep in mind the size of your vehicle when selecting transport containers. Water weighs 8.345 pounds per gallon, and two 55-gallon drums of recycled water will weigh a total of 917.95 pounds. Ensure your vehicle can handle the amount of recycled water you collect and transport. The Cityis not liable for any damages to you or your vehicle(s) due to your participation in the residential recycled water fill station program. No commercial vehicles or trailers longer than 15 feet will be permitted to enter the fill station.

10. *What are the rules and regulations for residential use of recycled water?*

_____ a) Fill out this application/agreement in its entirety and provide signature.

_____ b) Attach City of Chino recycled water notice stickers to collection and storage containers to ensure awareness that recycled water is contained inside and the water is not suitable for human consumption.

_____ c) Recycled water must not be pumped into the plumbed landscape irrigation system that is interconnected with the customer's potable water supply.

_____ d) Recycled water shall not be discharged to the street gutter or storm drain system. If you have leftover recycled water and want to dispose of it, either discharge it to a landscaped area or to the sanitary sewer system via an onsite cleanout.

_____ e) After working with recycled water, remember to apply hand sanitizer or wash hands with soap and potable water, especially before eating or smoking.

_____ f) Do not drink recycled water or use it for food preparation.

_____ g) Take precautions to avoid contact with food while using recycled water.

_____ h) No one shall play with recycled water.

_____ i) Recycled water shall be used and/or applied promptly. No storage of recycled water is permitted onsite at a customer's property.

_____ j) The City may, at its sole discretion, conduct site visits to your property for the purposes of ensuring proper use of recycled water. By signing this Application and Agreement Form, you acknowledge that, upon notification from the City, you agree to provide the City access to your property at any time deemed fit by the City to conduct a site visit.

11. *What are the procedures to obtain recycled water?*

_____ a) Carefully review this application/agreement, fill out all fields, and provide signature.

_____ b) Review the "Residential Recycled Water Fill Station Program" slideshow, available via http://www.cityofchino.org/home or in hard copy form at the fill station during regular business hours.

_____ c) Bring (1) completed application/agreement, (2) a copy/printout of your billing statement, and (3) valid government-issued photo identification with an address matching the billing statement to the recycled water fill station at _ 13220 Central Avenue Chino, CA 91710__ in the City of Chino, CA. **The City will not complete the registration process for any applicant that is unable to produce each of the three documents described above at the time the application form is submitted.** The attendant at the fill station will review the proper use of recycled water and procedures for collection, issue you a fill station user card, and answer any questions you may have.

_____ d) You will be provided with recycled water notice stickers that must be placed on all containers that will be used to transport recycled water.

_____ e) After review of the application and training materials and installation of stickers, you will be able to pick up recycled water during regular fill station hours, available at http://www.cityofchino.org/home. Children and pets must remain in your vehicle while at the fill station.

_____ f) You will be required to show the attendant the fill station user card and your identification upon each visit. The fill station user card is non-transferable; do not share your card with others. All users must receive training to ensure they are informed of the use requirements.

_____ g) You will be required to enter your name, date, service address, and amount collected on the recycled water fill station log at the time of pickup.

Certification and Signature

_____ By initialing to the left, I understand all the conditions of this agreement and agree to comply with these conditions and to conform to the City's requirements for recycled water use at my residential property. Failure to comply with the conditions of this agreement may lead the City to revoke permission for me to use recycled water at my residential property.

_____ I hereby certify under penalty of perjury that the information provided in this permit application and in any attachment is true and accurate to the best of my knowledge. I also certify that I have read the applicable rules and regulations of the Regional Water Quality Control Board Order 97-0003 or 2001-2003, the City's Recycled Water Truck Program Guidelines, and the Residential Recycled Water Fill Station Program PowerPoint presentation, and agree to abide by them.

_____ I hereby agree to defend, indemnify, and hold harmless the City and its directors, officers, agents, employees and assigns, from and against any and all loss, liability, expense, claims, suits, and damages, including attorneys' fees and expert witness fees, arising out of or in any way relating to my participation in the residential recycled water use program. I further agree that if I violate this agreement and attempt to bring a claim or suit against the City, that I will be held responsible for attorney's and expert witness fees and any costs incurred by the City in connection therewith.

_____ I hereby waive and release the CIty from any and all liability associated with my use, application, collection, storage, transportation, delivery, disposal and any related use of recycled water, including any and all loss, liability, expense, claims, suits, and damages arising out of any vehicles I use on the City's facilities and any vehicles I use to transport the recycled water. I assume the risk of any injuries to myself and others resulting from my participation in the residential recycled water use program. I further certify that I have automobile liability insurance coverage for any vehicle used in connection with my participation in the residential recycled water use program.

_____

Signature & Date

_____

Print Name

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

6075 Kimball Avenue
Chino, CA 91708
(909) 993-1600

CITY OF CHINO HILLS

14000 City Center Drive
Chino Hills, CA 91709
www.chinohills.org
(909) 364-2600

Recycled Water Trucking Permit

This Use Permit must be available for inspection at all times. The recycled water hauler must carry a copy in the tanker truck at all times.

EFFECTIVE DATE OF PERMIT_____ EXPIRATION DATE _____

COMPANY INFORMATION

NAME OF COMPANY _____ CONTACT: _____

PHONE: _____ EMAIL:_____

ADDRESS _____ CITY: _____ ZIP: _____

RECYCLED WATER HAULERS INFORMATION

1. NAME OF HAULER: _____PHONE: _____EMAIL:_____

   CELL #: _____ ADDRESS: _____ CITY: _____ ZIP: _____

2. NAME OF HAULER: _____PHONE: _____EMAIL:_____

   CELL #: _____ ADDRESS: _____ CITY: _____ ZIP: _____

3. NAME OF HAULER: _____PHONE: _____EMAIL:_____

   CELL #: _____ ADDRESS: _____ CITY: _____ ZIP: _____

A Water Reuse Release Form must be filled out for each construction hydrant meter and on each water pickup at the WWTP, and retained at the site and on the hauler's vehicle. The hauler shall adhere to the attached Guidelines for Worker Protection.

RECYCLED WATER USE INFORMATION

ESTIMATED VOLUME OF RECYCLED WATER HAULED : _____ GALLONS PER DAY

METHOD OF WATER COLLECTION: { } FILL STATION AT RECYCLED WATER TREATMENT PLANT { } RECYCLED WATER FIRE HYDRANT

TRUCK TYPE: { } TANK TRUCK { } WATER TRUCK { } WATER BUFFALO TRAILER { } OTHER:_____

USE OF RECYCLED WATER: { } COMPACTION { } DUST CONTROL { } IRRIGATION { } SEWER FLUSHING

{ } STREET CLEANING { } APPLY TO RESIDENTIAL/COMMERICAL LANDSCAPING { } OTHER:_____

SIGNAGE REQUIRED: { } TRUCK { } PROJECT SITE **COMMENTS:** _____

CERTIFICATION

I HEREBY CERTIFY UNDER PENALTY OF PERJURY THAT THE INFORMATION PROVIDED IN THIS APPLICATION AND IN ANY ATTACHMENT IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE. I ALSO CERTIFY THAT I HAVE READ AND AGREE TO ABIDE BY ALL APPLICABLE RULES AND REGULATIONS OF THE DIVISION OF DRINKING WATER. MAKING UNAUTHORIZED CONNECTIONS IS PROHIBITED AND PENALIZEABLE. **PURPLE METER TO PURPLE HYDRANT ONLY.** USER CONFORMANCE TO PERMIT IS A CONDITION OF USE AND ABILITY TO RENEW.

Regional Contracting Agency

Signature | Print Name | Title | Date

Company Representative

Signature | Print Name | Title | Date

Recycled Water Hauler

Signature | Print Name | Title | Date

TERMS AND CONDITIONS FOR COMMERCIAL RECYCLED WATER USERS
(State of California Division of Drinking Water Guidelines for Tertiary Treated Recycled Water)

A. Prohibitions:

1. **No cross connections shall be made between drinking water systems and recycled water systems/equipment.**
2. Recycled water shall not be applied to irrigation areas during periods when soils are saturated.
3. Recycled water shall not be allowed to escape from designated use area(s) as surface flow that would either pond and/or enter waters of the state.
4. Irrigation or impoundment of recycled water within a minimum of 50 feet of any water well is prohibited
5. Recycled water shall not enter a dwelling or food handling facility, and shall not contact any drinking water fountains, unless specifically protected with a shielding device.
6. Recycled water shall not be discharged to the street gutter or storm drain system. If you have leftover recycled water and want to dispose of it, either discharge it to a landscaped area or to the sanitary sewer via an onsite cleanout.
7. Recycled water shall not be used as a domestic or animal water supply.
8. Recycled water shall be used only for California Code of Regulations Title 22 approved uses for tertiary-treated recycled water, which includes dust control, soil compaction, landscape irrigation, vegetable garden irrigation, and hard surface washing (paths, walls, windows, etc.).
9. **Recycled water hydrant meters must NOT be connected to potable water fire hydrants. Violators are subject to fines up to $1,000.**
10. Hauler's vehicles used for transportation and distribution of recycled water must have water tight valves and fittings, must not leak, and tanks must be cleaned of contaminants prior to use. A truck or tank that has contained material from a septic tank or cesspool shall not be used to convey recycled water.
11. Recycled water shall not be put into existing piping connected to underground irrigation, drinking water supply, or a storage tank facility.
12. No residential delivery is allowed when using a recycled water hydrant construction meter.
13. It is prohibited to transport and pump recycled water into residential and commercial end user's buried irrigation systems.
14. It is not permitted to deliver and transfer recycled water into residential and commercial end user's onsite storage tanks.

B. User's Responsibilities

1. Enforce and implement all prohibitions listed above.
2. If a cross connection is discovered, contact IEUA/Regional Contracting Agency immediately and have the cross connection removed immediately.
3. Use of recycled water will be discontinued if the prohibitions and requirements of this permit are not met. Use of recycled water may resume once all of the conditions which caused the violations have been corrected.
4. Company and/or Hauler is responsible for all associated costs incurred by the City to ensure conformance of these requirements and protection of public health.
5. Tank trucks, storage containers and equipment used for recycled water shall receive disinfection prior to use with potable water.
6. User is responsible for purchasing and installing recycled water signs and magnets on transport vehicles and at use site if accessible to the public. Signs are available for purchase at the City office.
7. ☐ **Check here if applying recycled water directly onto residential and commercial landscaping.**

   Company/Hauler shall:

   a. Restrict delivery of recycled water only to end users within IEUA's service area.

   b. Submit a list, on a monthly basis, of new and existing end users receiving recycled water through your service. The list should include end user's name, address, city, zip code, phone number, email address, and quantity applied to their site during reporting period.

   c. End users are required to submit a Residential Fill Station Use Agreement form, receive training, and obtain wallet ID cards from IEUA retail contracting agencies during open enrollment periods, which can be found at www.ieua.org or www.chinohills.org

   d. Verify end users have obtained a IEUA/City of Chino Hills Residential Fill Station Wallet ID Card prior to applying recycled water onto end user's landscaping.

C. <u>The City shall:</u>

1. Have the right and responsibility to suspend or terminate recycled water service in the event that the above conditions are not being adhered to.
2. Have the right to enter hauler's end user's property to perform periodic inspections to ensure compliance with recycled water user requirements.
3. Have the right to perform cross-connection control inspections and/or shut-down test as determined to be necessary by the City Engineer or assigned representative.
4. Have the right to notify the drinking water supplier of recycled water deliveries within their service area. The City may share the hauler's list of end users with the local drinking water supplier. The drinking water supplier may inspect haulers' property to conduct inspection and impose additional requirements to protect the drinking water supply and public health.

D. <u>Health and Safety Guidelines</u>

1. Public contact with recycled water shall be avoided, to the extent practical, under the normal use at the recycled water site.
2. In all areas where recycled water is used that are accessible to the public, warning signs shall be installed at adequate intervals around the use area as required by the City.
3. Recycled water shall not be applied where it could contact drinking water facilities, storm drains, or food handling facilities.
4. Adequate measures shall be taken to prevent ponding, and to prevent runoff of recycled water from the authorized recycled water use area.
5. Hauler's vehicles that convey recycled water shall be clearly labeled in a prominent location with language stating in English "Recycled Water Do Not Drink".
6. After contact with recycled water, wash hands with soap and potable water prior to eating or smoking.

I HAVE READ AND UNDERSTOOD THESE GUIDELINES.

Company Representative:

_____	_____	_____
Print Name	Signature	Date

Recycled Water Hauler:

_____	_____	_____
Print Name	Signature	Date

Recycled Water Program
Recycled Water Truck -
Recycled Water Usage Form - Page 1

PRODUCER/DISTRIBUTOR

FACILITY City of Chino Hills

ADDRESS 14000 City Center Drive,
Chino Hills, CA 91709

PHONE (909) 364-2600

COMPANY/HAULER'S AGENT

CO. NAME: _____

ADDRESS: _____

_____

PHONE: _____

DATE	VOLUME COLLECTED	USE AREA	TRUCK LIC. #	HAULER'S SIGNATURE

COPIES OF THIS FORM SHALL BE KEPT AT PRODUCING FACILITY AND IN TRANSPORT VEHICLE, AND SUBMITTED MONTHLY TO THE REGIONAL CONTRACTING AGENCY TO KEEP THE PERMIT VALID. COPIES OF THIS FORM (2 PAGES) SHALL BE SUBMITTED BY THE 10TH DAY OF THE FOLLOWING MONTH.

Recycled Water Program

Recycled Water Truck -

Recycled Water Usage Form - Page 2

Site Contact Name:		
Address (No/Street/City/ZIP):		
Phone	Email	Delivery Start Date / Quantity Applied per day
Site Contact Name:		
Address (No/Street/City/ZIP):		
Phone	Email	Delivery Start Date / Quantity Applied per day
Site Contact Name:		
Address (No/Street/City/ZIP):		
Phone	Email	Delivery Start Date / Quantity Applied per day
Site Contact Name:		
Address (No/Street/City/ZIP):		
Phone	Email	Delivery Start Date / Quantity Applied per day
Site Contact Name:		
Address (No/Street/City/ZIP):		
Phone	Email	Delivery Start Date / Quantity Applied per day

Recycled Water Fill Station
User Application and Agreement

City of Chino Hills, 14000 City Center Drive, Chino Hills, CA 91709
www.chinohills.org

Applicant Information

_____ Name	_____ Account Number
_____ Address	_____ Cell Phone
_____ Address 2	_____ Home/Work Phone
_____ City, State, ZIP	_____ Email Address

Use of Fill Station and Recycled Water End Use

_____
License Plate Numbers of Vehicles Used to Collect Recycled Water

_____
Size/Type of Recycled Water Collection Container (check all that apply):

☐ Landscape Irrigation
☐ Surface Washing/Outdoor Furniture
☐ Surface Washing/Hard Surfaces (e.g., Walls, Paths)
☐ Vehicle Washing
☐ Other: _____

Recycled Water Facts, Rules, and Regulations

Please initial at the line to the left of each section and/or statement to acknowledge that you understand and agree to the corresponding fact, rule, or regulation. The City of Chino Hills (the City) will not consider any application on which all lines have not been initialed by the applicant.

_____ Initial

1. *What is tertiary-treated recycled water and is it safe?*
Recycled water is wastewater that has been processed through primary, secondary, and tertiary treatment, and disinfection with ultraviolet light. It must meet strict standards of the State Water Resources Control Board Division of Drinking Water (DDW).

_____

2. *What can recycled water be used for?*
Based on DDW Title 22 requirements, tertiary-treated recycled water can be used to:
   - Water your trees, gardens, vegetables, and lawns; and
   - Wash your car, outdoor furniture and hard surfaces (paths, walls, windows, etc.)

_____

3. *What is recycled water NOT suitable for?*
   - Drinking
   - Cooking or use in the kitchen
   - Bathing or showering
   - Use in a pressurized washer
   - Filling swimming pools or spas
   - Children's water toys
   - Plumbing to a domestic plumbing system

_____

4. *Why is recycled water not safe to drink? What happens if I drink it?*
Tertiary-treated recycled water is not approved for drinking. If you accidentally drink recycled water, there is no need to panic. Should you experience any adverse symptoms or feel unwell, consult your doctor.

_____ 5. *Can I water my plants with recycled water?*
Yes, all plants can be watered with recycled water. This includes edible plants such as fruit trees, vegetables, and herbs. Just remember to wash all fruits, vegetables, and herbs with potable water prior to consumption. Recycled water tends to have a higher salt content than drinking water. We advise you to direct the recycled water to the roots of the plants and not the foliage. This will protect them from potential leaf burn.

_____ 6. *Do water use restrictions (conservation) apply to recycled water?*
No. Water use restrictions do not apply to recycled water. However, recycled water is a valuable resource and should not be wasted.

_____ 7. *Who develops the health standards for recycled water?*
Recycled water is strictly monitored to ensure it meets water quality standards set by the DDW and the U.S. Environmental Protection Agency.

_____ 8. *How much will recycled water cost me?*
The recycled water provided to customers at the City's fill station is provided to customers free of charge.

_____ 9. *How much recycled water can I pick up at a time?*
Minimum size per container is 1 gallon and maximum per container is 300 gallons. There is no limit to the number of containers that may be filled per visit. Keep in mind the size of your vehicle when selecting transport containers. Water weighs 8.345 pounds per gallon, and two 55-gallon drums of recycled water will weigh a total of 917.95 pounds. Ensure your vehicle can handle the amount of recycled water you collect and transport. The City is not liable for any damages to you or your vehicle(s) due to your participation in the residential recycled water fill station program. No commercial vehicles or trailers longer than 15 feet will be permitted to enter the fill station.

10. *What are the rules and regulations for residential use of recycled water?*

_____ a) Fill out this application/agreement in its entirety and provide signature.

_____ b) Attach City of Chino Hills recycled water notice stickers to collection and storage containers to ensure awareness that recycled water is contained inside and the water is not suitable for human consumption.

_____ c) Recycled water must not be pumped into the plumbed landscape irrigation system that is interconnected with the customer's potable water supply.

_____ d) Recycled water shall not be discharged to the street gutter or storm drain system. If you have leftover recycled water and want to dispose of it, either discharge it to a landscaped area or to the sanitary sewer system via an onsite cleanout.

_____ e) After working with recycled water, remember to apply hand sanitizer or wash hands with soap and potable water, especially before eating or smoking.

_____ f) Do not drink recycled water or use it for food preparation.

_____ g) Take precautions to avoid contact with food while using recycled water.

_____ h) No one shall play with recycled water.

_____ i) Recycled water shall be used and/or applied promptly. No storage of recycled water is permitted onsite at a customer's property.

_____ j) The City may, at its sole discretion, conduct site visits to your property for the purposes of ensuring proper use of recycled water. By signing this Application and Agreement Form, you acknowledge that, upon notification from the City, you agree to provide the City access to your property at any time deemed fit by the City to conduct a site visit.

11. *What are the procedures to obtain recycled water?*

_____ a) Carefully review this application/agreement, fill out all fields, and provide signature.

_____ b) Review the "Residential Recycled Water Fill Station Program" slideshow, available via www.chinohills.org or in hard copy form at the fill station during regular business hours.

_____ c) Bring (1) completed application/agreement, (2) a copy/printout of your billing statement, and (3) valid government-issued photo identification with an address matching the billing statement to the recycled water fill station at _ 14000 City Center Drive, Chino Hills, CA 91709__ in the City of Chino Hills, CA. **The City will not complete the registration process for any applicant that is unable to produce each of the three documents described above at the time the application form is submitted.** The attendant at the fill station will review the proper use of recycled water and procedures for collection, issue you a fill station user card, and answer any questions you may have.

_____ d) You will be provided with recycled water notice stickers that must be placed on all containers that will be used to transport recycled water.

_____ e) After review of the application and training materials and installation of stickers, you will be able to pick up recycled water during regular fill station hours, available at http://www.chinohills.org/home. Children and pets must remain in your vehicle while at the fill station.

_____ f) You will be required to show the attendant the fill station user card and your identification upon each visit. The fill station user card is non-transferable; do not share your card with others. All users must receive training to ensure they are informed of the use requirements.

_____ g) You will be required to enter your name, date, service address, and amount collected on the recycled water fill station log at the time of pickup.

Certification and Signature

_____ By initialing to the left, I understand all the conditions of this agreement and agree to comply with these conditions and to conform to the City's requirements for recycled water use at my residential property. Failure to comply with the conditions of this agreement may lead the City to revoke permission for me to use recycled water at my residential property.

_____ I hereby certify under penalty of perjury that the information provided in this permit application and in any attachment is true and accurate to the best of my knowledge. I also certify that I have read the applicable rules and regulations of the Regional Water Quality Control Board Order 97-0003 or 2001-2003, the City's Recycled Water Truck Program Guidelines, and the Residential Recycled Water Fill Station Program PowerPoint presentation, and agree to abide by them.

_____ I hereby agree to defend, indemnify, and hold harmless the City and its directors, officers, agents, employees and assigns, from and against any and all loss, liability, expense, claims, suits, and damages, including attorneys' fees and expert witness fees, arising out of or in any way relating to my participation in the residential recycled water use program. I further agree that if I violate this agreement and attempt to bring a claim or suit against the City, that I will be held responsible for attorney's and expert witness fees and any costs incurred by the City in connection therewith.

_____ I hereby waive and release the CIty from any and all liability associated with my use, application, collection, storage, transportation, delivery, disposal and any related use of recycled water, including any and all loss, liability, expense, claims, suits, and damages arising out of any vehicles I use on the City's facilities and any vehicles I use to transport the recycled water. I assume the risk of any injuries to myself and others resulting from my participation in the residential recycled water use program. I further certify that I have automobile liability insurance coverage for any vehicle used in connection with my participation in the residential recycled water use program.

_____

Signature & Date

_____

Print Name

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT
6075 Kimball Avenue
Chino, CA 91708
(909) 993-1600

CITY OF ONTARIO
303 East B Street
Ontario, CA 91764
www.ontarioca.gov
(909) 395-2000

Recycled Water Trucking Permit

This Use Permit must be available for inspection at all times. The recycled water hauler must carry a copy in the tanker truck at all times.

EFFECTIVE DATE OF PERMIT_____ EXPIRATION DATE _____

COMPANY INFORMATION

NAME OF COMPANY _____ CONTACT: _____

PHONE: _____ EMAIL:_____

ADDRESS _____ CITY: _____ ZIP: _____

RECYCLED WATER HAULERS INFORMATION

1. NAME OF HAULER: _____PHONE: _____EMAIL:_____

   CELL #: _____ ADDRESS: _____ CITY: _____ ZIP: _____

2. NAME OF HAULER: _____PHONE: _____EMAIL:_____

   CELL #: _____ ADDRESS: _____ CITY: _____ ZIP: _____

3. NAME OF HAULER: _____PHONE: _____EMAIL:_____

   CELL #: _____ ADDRESS: _____ CITY: _____ ZIP: _____

A Water Reuse Release Form must be filled out for each construction hydrant meter and on each water pickup at the WWTP, and retained at the site and on the hauler's vehicle. The hauler shall adhere to the attached Guidelines for Worker Protection.

RECYCLED WATER USE INFORMATION

ESTIMATED VOLUME OF RECYCLED WATER HAULED : _____ GALLONS PER DAY

METHOD OF WATER COLLECTION: { } FILL STATION AT RECYCLED WATER TREATMENT PLANT { } RECYCLED WATER FIRE HYDRANT

TRUCK TYPE: { } TANK TRUCK { } WATER TRUCK { } WATER BUFFALO TRAILER { } OTHER:_____

USE OF RECYCLED WATER: { } COMPACTION { } DUST CONTROL { } IRRIGATION { } SEWER FLUSHING

{ } STREET CLEANING { } APPLY TO RESIDENTIAL/COMMERICAL LANDSCAPING { } OTHER:_____

SIGNAGE REQUIRED: { } TRUCK { } PROJECT SITE **COMMENTS:** _____

CERTIFICATION

I HEREBY CERTIFY UNDER PENALTY OF PERJURY THAT THE INFORMATION PROVIDED IN THIS APPLICATION AND IN ANY ATTACHMENT IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE. I ALSO CERTIFY THAT I HAVE READ AND AGREE TO ABIDE BY ALL APPLICABLE RULES AND REGULATIONS OF THE DIVISION OF DRINKING WATER. MAKING UNAUTHORIZED CONNECTIONS IS PROHIBITED AND PENALIZEABLE. **PURPLE METER TO PURPLE HYDRANT ONLY.** USER CONFORMANCE TO PERMIT IS A CONDITION OF USE AND ABILITY TO RENEW.

Regional Contracting Agency

Signature | Print Name | Title | Date

Company Representative

Signature | Print Name | Title | Date

Recycled Water Hauler

Signature | Print Name | Title | Date

TERMS AND CONDITIONS FOR COMMERCIAL RECYCLED WATER USERS
(State of California Division of Drinking Water Guidelines for Tertiary Treated Recycled Water)

A. Prohibitions:

1. **No cross connections shall be made between drinking water systems and recycled water systems/equipment.**
2. Recycled water shall not be applied to irrigation areas during periods when soils are saturated.
3. Recycled water shall not be allowed to escape from designated use area(s) as surface flow that would either pond and/or enter waters of the state.
4. Irrigation or impoundment of recycled water within a minimum of 50 feet of any water well is prohibited
5. Recycled water shall not enter a dwelling or food handling facility, and shall not contact any drinking water fountains, unless specifically protected with a shielding device.
6. Recycled water shall not be discharged to the street gutter or storm drain system. If you have leftover recycled water and want to dispose of it, either discharge it to a landscaped area or to the sanitary sewer via an onsite cleanout.
7. Recycled water shall not be used as a domestic or animal water supply.
8. Recycled water shall be used only for California Code of Regulations Title 22 approved uses for tertiary-treated recycled water, which includes dust control, soil compaction, landscape irrigation, vegetable garden irrigation, and hard surface washing (paths, walls, windows, etc.).
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10. Hauler's vehicles used for transportation and distribution of recycled water must have water tight valves and fittings, must not leak, and tanks must be cleaned of contaminants prior to use. A truck or tank that has contained material from a septic tank or cesspool shall not be used to convey recycled water.
11. Recycled water shall not be put into existing piping connected to underground irrigation, drinking water supply, or a storage tank facility.
12. No residential delivery is allowed when using a recycled water hydrant construction meter.
13. It is prohibited to transport and pump recycled water into residential and commercial end user's buried irrigation systems.
14. It is not permitted to deliver and transfer recycled water into residential and commercial end user's onsite storage tanks.

B. User's Responsibilities

1. Enforce and implement all prohibitions listed above.
2. If a cross connection is discovered, contact IEUA/Regional Contracting Agency immediately and have the cross connection removed immediately.
3. Use of recycled water will be discontinued if the prohibitions and requirements of this permit are not met. Use of recycled water may resume once all of the conditions which caused the violations have been corrected.
4. Company and/or Hauler is responsible for all associated costs incurred by the City to ensure conformance of these requirements and protection of public health.
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6. User is responsible for purchasing and installing recycled water signs and magnets on transport vehicles and at use site if accessible to the public. Signs are available for purchase at the District office.
7. ☐ **Check here if applying recycled water directly onto residential and commercial landscaping.**

Company/Hauler shall:

a. Restrict delivery of recycled water only to end users within IEUA's service area.

b. Submit a list, on a monthly basis, of new and existing end users receiving recycled water through your service. The list should include end user's name, address, city, zip code, phone number, email address, and quantity applied to their site during reporting period.

c. End users are required to submit a Residential Fill Station Use Agreement form, receive training, and obtain wallet ID cards from IEUA retail contracting agencies during open enrollment periods, which can be found at www.ieua.org or www.chinohills.org

d. Verify end users have obtained a IEUA/City of Chino Hills Residential Fill Station Wallet ID Card prior to applying recycled water onto end user's landscaping.

C. <u>The City shall:</u>

1. Have the right and responsibility to suspend or terminate recycled water service in the event that the above conditions are not being adhered to.
2. Have the right to enter hauler's end user's property to perform periodic inspections to ensure compliance with recycled water user requirements.
3. Have the right to perform cross-connection control inspections and/or shut-down test as determined to be necessary by the City Engineer or assigned representative.
4. Have the right to notify the drinking water supplier of recycled water deliveries within their service area. The City may share the hauler's list of end users with the local drinking water supplier. The drinking water supplier may inspect haulers' property to conduct inspection and impose additional requirements to protect the drinking water supply and public health.

D. <u>Health and Safety Guidelines</u>

1. Public contact with recycled water shall be avoided, to the extent practical, under the normal use at the recycled water site.
2. In all areas where recycled water is used that are accessible to the public, warning signs shall be installed at adequate intervals around the use area as required by the City.
3. Recycled water shall not be applied where it could contact drinking water facilities, storm drains, or food handling facilities.
4. Adequate measures shall be taken to prevent ponding, and to prevent runoff of recycled water from the authorized recycled water use area.
5. Hauler's vehicles that convey recycled water shall be clearly labeled in a prominent location with language stating in English "Recycled Water Do Not Drink".
6. After contact with recycled water, wash hands with soap and potable water prior to eating or smoking.

I HAVE READ AND UNDERSTOOD THESE GUIDELINES.

Company Representative:

_____	_____	_____
Print Name	Signature	Date

Recycled Water Hauler:

_____	_____	_____
Print Name	Signature	Date

Recycled Water Program
Recycled Water Truck -
Recycled Water Usage Form - Page 1

PRODUCER/DISTRIBUTOR

FACILITY City of Chino Hills

ADDRESS 14000 City Center Drive,
Chino Hills, CA 91709

PHONE (909) 364-2600

COMPANY/HAULER'S AGENT

CO. NAME: _____

ADDRESS: _____

_____

PHONE: _____

DATE	VOLUME COLLECTED	USE AREA	TRUCK LIC. #	HAULER'S SIGNATURE

COPIES OF THIS FORM SHALL BE KEPT AT PRODUCING FACILITY AND IN TRANSPORT VEHICLE, AND SUBMITTED MONTHLY TO THE REGIONAL CONTRACTING AGENCY TO KEEP THE PERMIT VALID. COPIES OF THIS FORM (2 PAGES) SHALL BE SUBMITTED BY THE 10TH DAY OF THE FOLLOWING MONTH.

Recycled Water Program
Recycled Water Truck -
Recycled Water Usage Form - Page 2

Site Contact Name:		
Address (No/Street/City/ZIP):		
Phone	Email	Delivery Start Date / Quantity Applied per day
Site Contact Name:		
Address (No/Street/City/ZIP):		
Phone	Email	Delivery Start Date / Quantity Applied per day
Site Contact Name:		
Address (No/Street/City/ZIP):		
Phone	Email	Delivery Start Date / Quantity Applied per day
Site Contact Name:		
Address (No/Street/City/ZIP):		
Phone	Email	Delivery Start Date / Quantity Applied per day
Site Contact Name:		
Address (No/Street/City/ZIP):		
Phone	Email	Delivery Start Date / Quantity Applied per day

Recycled Water Fill Station
User Application and Agreement

City of Ontario,303 East B Street, Ontario, CA 91764
www.ontarioca.gov

Applicant Information

_____ Name	_____ Account Number
_____ Address	_____ Cell Phone
_____ Address 2	_____ Home/Work Phone
_____ City, State, ZIP	_____ Email Address

Use of Fill Station and Recycled Water End Use

_____
License Plate Numbers of Vehicles Used to Collect Recycled Water

_____
Size/Type of Recycled Water Collection Container (check all that apply):

☐ Landscape Irrigation
☐ Surface Washing/Outdoor Furniture
☐ Surface Washing/Hard Surfaces (e.g., Walls, Paths)
☐ Vehicle Washing
☐ Other: _____

Recycled Water Facts, Rules, and Regulations

Please initial at the line to the left of each section and/or statement to acknowledge that you understand and agree to the corresponding fact, rule, or regulation. The City of Ontario (the City) will not consider any application on which all lines have not been initialed by the applicant.

_____ Initial

1. *What is tertiary-treated recycled water and is it safe?*
Recycled water is wastewater that has been processed through primary, secondary, and tertiary treatment, and disinfection with ultraviolet light. It must meet strict standards of the State Water Resources Control Board Division of Drinking Water (DDW).

_____

2. *What can recycled water be used for?*
Based on DDW Title 22 requirements, tertiary-treated recycled water can be used to:
   - Water your trees, gardens, vegetables, and lawns; and
   - Wash your car, outdoor furniture and hard surfaces (paths, walls, windows, etc.)

_____

3. *What is recycled water NOT suitable for?*
   - Drinking
   - Cooking or use in the kitchen
   - Bathing or showering
   - Use in a pressurized washer
   - Filling swimming pools or spas
   - Children's water toys
   - Plumbing to a domestic plumbing system

_____

4. *Why is recycled water not safe to drink? What happens if I drink it?*
Tertiary-treated recycled water is not approved for drinking. If you accidentally drink recycled water, there is no need to panic. Should you experience any adverse symptoms or feel unwell, consult your doctor.

_____ 5. *Can I water my plants with recycled water?*
Yes, all plants can be watered with recycled water. This includes edible plants such as fruit trees, vegetables, and herbs. Just remember to wash all fruits, vegetables, and herbs with potable water prior to consumption. Recycled water tends to have a higher salt content than drinking water. We advise you to direct the recycled water to the roots of the plants and not the foliage. This will protect them from potential leaf burn.

_____ 6. *Do water use restrictions (conservation) apply to recycled water?*
No. Water use restrictions do not apply to recycled water. However, recycled water is a valuable resource and should not be wasted.

_____ 7. *Who develops the health standards for recycled water?*
Recycled water is strictly monitored to ensure it meets water quality standards set by the DDW and the U.S. Environmental Protection Agency.

_____ 8. *How much will recycled water cost me?*
The recycled water provided to customers at the City's fill station is provided to customers free of charge.

_____ 9. *How much recycled water can I pick up at a time?*
Minimum size per container is 1 gallon and maximum per container is 300 gallons. There is no limit to the number of containers that may be filled per visit. Keep in mind the size of your vehicle when selecting transport containers. Water weighs 8.345 pounds per gallon, and two 55-gallon drums of recycled water will weigh a total of 917.95 pounds. Ensure your vehicle can handle the amount of recycled water you collect and transport. The City is not liable for any damages to you or your vehicle(s) due to your participation in the residential recycled water fill station program. No commercial vehicles or trailers longer than 15 feet will be permitted to enter the fill station.

10. *What are the rules and regulations for residential use of recycled water?*

_____ a) Fill out this application/agreement in its entirety and provide signature.

_____ b) Attach City of Ontario ecycled water notice stickers to collection and storage containers to ensure awareness that recycled water is contained inside and the water is not suitable for human consumption.

_____ c) Recycled water must not be pumped into the plumbed landscape irrigation system that is interconnected with the customer's potable water supply.

_____ d) Recycled water shall not be discharged to the street gutter or storm drain system. If you have leftover recycled water and want to dispose of it, either discharge it to a landscaped area or to the sanitary sewer system via an onsite cleanout.

_____ e) After working with recycled water, remember to apply hand sanitizer or wash hands with soap and potable water, especially before eating or smoking.

_____ f) Do not drink recycled water or use it for food preparation.

_____ g) Take precautions to avoid contact with food while using recycled water.

_____ h) No one shall play with recycled water.

_____ i) Recycled water shall be used and/or applied promptly. No storage of recycled water is permitted onsite at a customer's property.

_____ j) The City may, at its sole discretion, conduct site visits to your property for the purposes of ensuring proper use of recycled water. By signing this Application and Agreement Form, you acknowledge that, upon notification from the City, you agree to provide the City access to your property at any time deemed fit by the City to conduct a site visit.

11. *What are the procedures to obtain recycled water?*

_____ a) Carefully review this application/agreement, fill out all fields, and provide signature.

_____ b) Review the "Residential Recycled Water Fill Station Program" slideshow, available via ci.upland.ca.us or in hard copy form at the fill station during regular business hours.

_____ c) Bring (1) completed application/agreement, (2) a copy/printout of your billing statement, and (3) valid government-issued photo identification with an address matching the billing statement to the recycled water fill station at _ 303 East B Street__ in the City of Ontario CA. **The City will not complete the registration process for any applicant that is unable to produce each of the three documents described above at the time the application form is submitted.** The attendant at the fill station will review the proper use of recycled water and procedures for collection, issue you a fill station user card, and answer any questions you may have.

_____ d) You will be provided with recycled water notice stickers that must be placed on all containers that will be used to transport recycled water.

_____ e) After review of the application and training materials and installation of stickers, you will be able to pick up recycled water during regular fill station hours, available at http://www.ontarioca.gov Children and pets must remain in your vehicle while at the fill station.

_____ f) You will be required to show the attendant the fill station user card and your identification upon each visit. The fill station user card is non-transferable; do not share your card with others. All users must receive training to ensure they are informed of the use requirements.

_____ g) You will be required to enter your name, date, service address, and amount collected on the recycled water fill station log at the time of pickup.

Certification and Signature

_____ By initialing to the left, I understand all the conditions of this agreement and agree to comply with these conditions and to conform to the City's requirements for recycled water use at my residential property. Failure to comply with the conditions of this agreement may lead the City to revoke permission for me to use recycled water at my residential property.

_____ I hereby certify under penalty of perjury that the information provided in this permit application and in any attachment is true and accurate to the best of my knowledge. I also certify that I have read the applicable rules and regulations of the Regional Water Quality Control Board Order 97-0003 or 2001-2003, the City's Recycled Water Truck Program Guidelines, and the Residential Recycled Water Fill Station Program PowerPoint presentation, and agree to abide by them.

_____ I hereby agree to defend, indemnify, and hold harmless the City and its directors, officers, agents, employees and assigns, from and against any and all loss, liability, expense, claims, suits, and damages, including attorneys' fees and expert witness fees, arising out of or in any way relating to my participation in the residential recycled water use program. I further agree that if I violate this agreement and attempt to bring a claim or suit against the City, that I will be held responsible for attorney's and expert witness fees and any costs incurred by the City in connection therewith.

_____ I hereby waive and release the CIty from any and all liability associated with my use, application, collection, storage, transportation, delivery, disposal and any related use of recycled water, including any and all loss, liability, expense, claims, suits, and damages arising out of any vehicles I use on the City's facilities and any vehicles I use to transport the recycled water. I assume the risk of any injuries to myself and others resulting from my participation in the residential recycled water use program. I further certify that I have automobile liability insurance coverage for any vehicle used in connection with my participation in the residential recycled water use program.

_____

Signature & Date

_____

Print Name

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT
6075 Kimball Avenue
Chino, CA 91708
(909) 993-1600

460 N. Euclid Avenue
Upland, CA 91768
ci.upland.ca.us
(909) 931-4100

Recycled Water Trucking Permit

This Use Permit must be available for inspection at all times. The recycled water hauler must carry a copy in the tanker truck at all times.

EFFECTIVE DATE OF PERMIT_____ EXPIRATION DATE _____

COMPANY INFORMATION

NAME OF COMPANY _____ CONTACT: _____

PHONE: _____ EMAIL:_____

ADDRESS _____ CITY: _____ ZIP: _____

RECYCLED WATER HAULERS INFORMATION

1. NAME OF HAULER: _____PHONE: _____EMAIL:_____
   CELL #: _____ ADDRESS: _____ CITY: _____ ZIP: _____
2. NAME OF HAULER: _____PHONE: _____EMAIL:_____
   CELL #: _____ ADDRESS: _____ CITY: _____ ZIP: _____
3. NAME OF HAULER: _____PHONE: _____EMAIL:_____
   CELL #: _____ ADDRESS: _____ CITY: _____ ZIP: _____

A Water Reuse Release Form must be filled out for each construction hydrant meter and on each water pickup at the WWTP, and retained at the site and on the hauler's vehicle. The hauler shall adhere to the attached Guidelines for Worker Protection.

RECYCLED WATER USE INFORMATION

ESTIMATED VOLUME OF RECYCLED WATER HAULED : _____ GALLONS PER DAY

METHOD OF WATER COLLECTION: { } FILL STATION AT RECYCLED WATER TREATMENT PLANT { } RECYCLED WATER FIRE HYDRANT

TRUCK TYPE: { } TANK TRUCK { } WATER TRUCK { } WATER BUFFALO TRAILER { } OTHER:_____

USE OF RECYCLED WATER: { } COMPACTION { } DUST CONTROL { } IRRIGATION { } SEWER FLUSHING

{ } STREET CLEANING { } APPLY TO RESIDENTIAL/COMMERICAL LANDSCAPING { } OTHER:_____

SIGNAGE REQUIRED: { } TRUCK { } PROJECT SITE **COMMENTS:** _____

CERTIFICATION

I HEREBY CERTIFY UNDER PENALTY OF PERJURY THAT THE INFORMATION PROVIDED IN THIS APPLICATION AND IN ANY ATTACHMENT IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE. I ALSO CERTIFY THAT I HAVE READ AND AGREE TO ABIDE BY ALL APPLICABLE RULES AND REGULATIONS OF THE DIVISION OF DRINKING WATER. MAKING UNAUTHORIZED CONNECTIONS IS PROHIBITED AND PENALIZEABLE. **PURPLE METER TO PURPLE HYDRANT ONLY.** USER CONFORMANCE TO PERMIT IS A CONDITION OF USE AND ABILITY TO RENEW.

Regional Contracting Agency

Signature | Print Name | Title | Date

Company Representative

Signature | Print Name | Title | Date

Recycled Water Hauler

Signature | Print Name | Title | Date

TERMS AND CONDITIONS FOR COMMERCIAL RECYCLED WATER USERS
(State of California Division of Drinking Water Guidelines for Tertiary Treated Recycled Water)

A. Prohibitions:

1. **No cross connections shall be made between drinking water systems and recycled water systems/equipment.**
2. Recycled water shall not be applied to irrigation areas during periods when soils are saturated.
3. Recycled water shall not be allowed to escape from designated use area(s) as surface flow that would either pond and/or enter waters of the state.
4. Irrigation or impoundment of recycled water within a minimum of 50 feet of any water well is prohibited
5. Recycled water shall not enter a dwelling or food handling facility, and shall not contact any drinking water fountains, unless specifically protected with a shielding device.
6. Recycled water shall not be discharged to the street gutter or storm drain system. If you have leftover recycled water and want to dispose of it, either discharge it to a landscaped area or to the sanitary sewer via an onsite cleanout.
7. Recycled water shall not be used as a domestic or animal water supply.
8. Recycled water shall be used only for California Code of Regulations Title 22 approved uses for tertiary-treated recycled water, which includes dust control, soil compaction, landscape irrigation, vegetable garden irrigation, and hard surface washing (paths, walls, windows, etc.).
9. **Recycled water hydrant meters must NOT be connected to potable water fire hydrants. Violators are subject to fines up to $1,000.**
10. Hauler's vehicles used for transportation and distribution of recycled water must have water tight valves and fittings, must not leak, and tanks must be cleaned of contaminants prior to use. A truck or tank that has contained material from a septic tank or cesspool shall not be used to convey recycled water.
11. Recycled water shall not be put into existing piping connected to underground irrigation, drinking water supply, or a storage tank facility.
12. No residential delivery is allowed when using a recycled water hydrant construction meter.
13. It is prohibited to transport and pump recycled water into residential and commercial end user's buried irrigation systems.
14. It is not permitted to deliver and transfer recycled water into residential and commercial end user's onsite storage tanks.

B. User's Responsibilities

1. Enforce and implement all prohibitions listed above.
2. If a cross connection is discovered, contact IEUA/Regional Contracting Agency immediately and have the cross connection removed immediately.
3. Use of recycled water will be discontinued if the prohibitions and requirements of this permit are not met. Use of recycled water may resume once all of the conditions which caused the violations have been corrected.
4. Company and/or Hauler is responsible for all associated costs incurred by the City to ensure conformance of these requirements and protection of public health.
5. Tank trucks, storage containers and equipment used for recycled water shall receive disinfection prior to use with potable water.
6. User is responsible for purchasing and installing recycled water signs and magnets on transport vehicles and at use site if accessible to the public. Signs are available for purchase at the City office.
7. ☐ **Check here if applying recycled water directly onto residential and commercial landscaping.**

Company/Hauler shall:

a. Restrict delivery of recycled water only to end users within IEUA's service area.

b. Submit a list, on a monthly basis, of new and existing end users receiving recycled water through your service. The list should include end user's name, address, city, zip code, phone number, email address, and quantity applied to their site during reporting period.

c. End users are required to submit a Residential Fill Station Use Agreement form, receive training, and obtain wallet ID cards from IEUA retail contracting agencies during open enrollment periods, which can be found at www.ieua.org or www.ontarioca.gov

d. Verify end users have obtained a IEUA/City of Upland Residential Fill Station Wallet ID Card prior to applying recycled water onto end user's landscaping.

C. <u>The City shall:</u>

1. Have the right and responsibility to suspend or terminate recycled water service in the event that the above conditions are not being adhered to.
2. Have the right to enter hauler's end user's property to perform periodic inspections to ensure compliance with recycled water user requirements.
3. Have the right to perform cross-connection control inspections and/or shut-down test as determined to be necessary by the City Engineer or assigned representative.
4. Have the right to notify the drinking water supplier of recycled water deliveries within their service area. The City may share the hauler's list of end users with the local drinking water supplier. The drinking water supplier may inspect haulers' property to conduct inspection and impose additional requirements to protect the drinking water supply and public health.

D. <u>Health and Safety Guidelines</u>

1. Public contact with recycled water shall be avoided, to the extent practical, under the normal use at the recycled water site.
2. In all areas where recycled water is used that are accessible to the public, warning signs shall be installed at adequate intervals around the use area as required by the City.
3. Recycled water shall not be applied where it could contact drinking water facilities, storm drains, or food handling facilities.
4. Adequate measures shall be taken to prevent ponding, and to prevent runoff of recycled water from the authorized recycled water use area.
5. Hauler's vehicles that convey recycled water shall be clearly labeled in a prominent location with language stating in English "Recycled Water Do Not Drink".
6. After contact with recycled water, wash hands with soap and potable water prior to eating or smoking.

I HAVE READ AND UNDERSTOOD THESE GUIDELINES.

Company Representative:

_____	_____	_____
Print Name	Signature	Date

Recycled Water Hauler:

_____	_____	_____
Print Name	Signature	Date

Recycled Water Program
Recycled Water Truck -
Recycled Water Usage Form - Page 1

PRODUCER/DISTRIBUTOR

FACILITY City of Upland

ADDRESS 460 N. Euclid Ave
Upland, CA 91769

PHONE (909) 931-4100

COMPANY/HAULER'S AGENT

CO. NAME: _____

ADDRESS: _____

_____

PHONE: _____

DATE	VOLUME COLLECTED	USE AREA	TRUCK LIC. #	HAULER'S SIGNATURE

COPIES OF THIS FORM SHALL BE KEPT AT PRODUCING FACILITY AND IN TRANSPORT VEHICLE, AND SUBMITTED MONTHLY TO THE REGIONAL CONTRACTING AGENCY TO KEEP THE PERMIT VALID. COPIES OF THIS FORM (2 PAGES) SHALL BE SUBMITTED BY THE 10TH DAY OF THE FOLLOWING MONTH.

Recycled Water Program
Recycled Water Truck -
Recycled Water Usage Form - Page 2

Site Contact Name:		
Address (No/Street/City/ZIP):		
Phone	Email	Delivery Start Date / Quantity Applied per day
Site Contact Name:		
Address (No/Street/City/ZIP):		
Phone	Email	Delivery Start Date / Quantity Applied per day
Site Contact Name:		
Address (No/Street/City/ZIP):		
Phone	Email	Delivery Start Date / Quantity Applied per day
Site Contact Name:		
Address (No/Street/City/ZIP):		
Phone	Email	Delivery Start Date / Quantity Applied per day
Site Contact Name:		
Address (No/Street/City/ZIP):		
Phone	Email	Delivery Start Date / Quantity Applied per day

APPENDIX L:

CROSS-CONNECTION TESTING PROCEDURES

Cross-Connection Testing Procedures

Domestic System Shutdown

1. The domestic water to the use site will be shut off at the domestic water meter. The domestic water system shall be drained (to negligible system pressure); the drain valve closed and the system shall remain depressurized for a period of 2 hours.

2. At the end of the 2-hour shutdown period, all of the domestic water fixtures shall be tested throughout the entire site for cross-connections by operating each fixture and checking for flow.

3. The inlet to the domestic water system shall then be checked to determine if there is backpressure or backflow by operating the drain valve. If there is no flow detected at the drain valve or in any of the fixtures, the domestic water connection shall be pressurized. (The existence of flow would indicate a cross-connection.)

Recycled Water System Shutdown

1. The irrigation water to the use site will be shut off at the irrigation water meter. The irrigation water system shall be drained (to negligible system pressure); the drain valve closed and the system shall remain depressurized for a period of 2 hours.

2. At the end of the 2-hour shut-down period, all of the irrigation water fixtures shall be tested throughout the entire use sited for cross-connections by operating each fixture and checking for flow.

3. The inlet to the irrigation water system shall then be checked to determine if there is backpressure or backflow by operating the drain valve. If there is no flow detected at the drain valve or in any of the fixtures, the irrigation water connection shall be pressurized. (The existence of flow would indicate a cross-connection.)

Response to Confirmed Cross-Connection

In the event that a cross-connection is discovered, the following procedures must be performed immediately:

1. The domestic water supply to the use site shall be shut down. Notify the DOHS by telephone, followed by a written notification within 24 hours. This written notice shall provide an explanation of the nature of the cross-

connection, the date and time discovered, and the steps taken by the City of Chino Hills to mitigate the cross-connection.

2. Locate and disconnect the cross-connection.

3. Disinfect the domestic water system with 50 mg/l of chlorine for 24 hours.

4. After the 24-hour period, the domestic water system must be flushed and bacteriological testing performed per AWWA C651-99. If the test results are acceptable, recharge the domestic water system.

5. Re-test the use site in accordance with Section A above.

Obtain final approval from the DOHS and responsible building authority and reactivate the domestic water service.

APPENDIX M:

TITLE 22 REPORTS FOR

RP-1,

CCWRF,

RP-4, AND

RP-5

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Inland Empire Utilities Agency
Regional Plant No. 1
Title 22 Engineering Report

January 2010

DDB ENGINEERING, INC.
25 Mauchly, Suite 323
Irvine, CA 92618
(949) 727-4008

Inland Empire Utilities Agency
Regional Plant No. 1
Title 22 Engineering Report

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Section 1
Introduction

The purpose of this engineering report is to evaluate the design and reliability features of Regional Plant No. 1 operated by Inland Empire Utilities Agency (IEUA) and demonstrate its compliance with water recycling criteria set forth in Title 22 of the California Code of Regulations. This section describes the background of the facility and the objective of this document.

1.1 Background

IEUA owns and operates Regional Plant No. 1 (RP-1) located immediately south of Highway 60 and west of Archibald Avenue in San Bernardino County. Located at 2450 East Philadelphia Street in the City of Ontario, RP-1 serving the cities of Ontario, Rancho Cucamonga, Upland, Fontana, Montclair, Chino, and adjacent unincorporated communities. RP-1 was originally constructed in 1948, and has undergone many expansions and improvements through the years to serve the needs of these communities.

RP-1 operates under a consolidated permit with three other IEUA plants, including Regional Plant No. 4 (RP-4), Regional Plant No. 5 (RP-5) and Carbon Canyon Water Recycling Facility (CCWRF), issued by the Regional Water Quality Control Board, Santa Ana Region (RWQCB) as National Pollutant Discharge Elimination System (NPDES) Permit No. CA8000409 and Order No. R8-2009-0021 (RWQCB, 2009a). A copy of the permit is included in Appendix A. According to the permit, RP-1 is designed to treat an annual average flow of 44 million gallons per day (mgd).

1.2 Objective

The objective of this report is to demonstrate RP-1 compliance with California Code of Regulations Title 22, Division 4, Chapter 3, entitled Water Recycling Criteria (California, 2001). Section 60323, Article 7 of these criteria requires submittal of an engineering report to the RWQCB and California Department of Public Health (CDPH).

IEUA submitted a Title 22 Engineering Report for RP-1 to the CDPH and the RWQCB in 1996 (Black & Veatch, 1996) that formed the basis for its current waste discharge permit. The RWQCB notified IEUA in a letter dated October 14, 2003 (RWQCB, 2003) of deficiencies at RP-1 that needed to be addressed in order to fully comply with Title 22 regulations. Following a meeting with the RWQCB and CDPH, IEUA responded to the RWQCB in a letter dated October 31, 2003 (IEUA, 2003b), outlining its Action Plan for modifying the RP-1 facilities.

The IEUA Action Plan described capital improvements that have been constructed and fully comply with Title 22 Water Recycling Criteria.

Improvements at RP-1 included a new chlorine contact tank, recycled water pump station and piping modifications (i.e. independent recycled water pipeline to internal and external uses), effluent distribution pipeline to Ely Basin, and tertiary filter piping modifications; these new facilities were completed in 2004. IEUA submitted a Title 22 Engineering Report (DDB Engineering, Inc, 2004) for RP-1 to the CDPH and RWQCB in 2004 that described these improvements. Since then, a new joint use sewer that allows primary treated flows from RP-1 to be bypassed to RP-5 for treatment, thereby alleviating the load on RP-1. The RP-1/RP-5 bypass line was completed in 2006.

This engineering report updates the previous engineering report and documents how RP-1 complies with Title 22 Water Recycling Criteria.

Section 2
Regulatory Requirements

Wastewater treatment, disposal, and reuse are regulated by local, State, and Federal requirements primarily to protect public health, safety, and general welfare. In California, water recycling has received support from the U. S. Environmental Protection Agency (EPA), State Water Resources Control Board (SWRCB), and CDPH as a means of effluent reuse and disposal. This section describes the types of reuse and regulatory requirements that pertain to the RP-1 facility.

2.1 Types of Reuse

IEUA discharges effluent from RP-1 to two points: Prado Park Lake (Discharge Point 001) and Cucamonga Creek (Discharge Point 002), both of which flow into the Santa Ana River. Discharge Point 001 is tributary to Chino Creek, and Discharge Point 002 has a beneficial use designation of REC-1 (water contact recreation). A portion of the effluent is reclaimed for golf course and park irrigation, fire suppression, dust control, groundwater recharge, in-plant needs, and other uses. Further description of recycled water uses is given in Section 8.

2.2 Water Recycling Criteria

Water recycling criteria are specified in the California Code of Regulations, Title 22, Division 4, Chapter 3. Water recycling requirements are established by CDPH. Enforcement of these criteria is the role of the SWRCB and its nine Regional Water Quality Control Boards. RP-1 is under the jurisdiction of Regional Board No. 8, the Santa Ana Region RWQCB.

Commonly referred to as Title 22 Criteria, the treatment and effluent quality requirements are dependent upon the proposed type of water reuse. In addition to these requirements, Title 22 specifies reliability criteria to ensure protection of public health.

Effluent from RP-1 must comply with the highest categories of reuse, spray irrigation and non-restricted recreational and landscape impoundments and groundwater recharge. Under Title 22, wastewater is required to be oxidized, filtered, and disinfected, or treated by a sequence of unit processes assuring an equivalent degree of treatment and reliability. The need for coagulation and/or chemical addition as a filtration aid is dependent upon turbidity of the filter influent and effluent. Recycled water produced for groundwater recharge by surface spreading must be of a quality that fully protects public health and is considered by CDPH on an individual case basis. Title 22 specifies that recycled water for the highest level of reuse shall be disinfected tertiary effluent.

Permissible coliform bacteria levels are used as an indicator of effluent quality. For the majority of the types of reuse, which are those for spray irrigation, non-restricted recreational and landscape impoundments and groundwater recharge, the median number of coliform organisms must not exceed a most probable number (MPN) of 2.2 per 100 milliliter (mL) sample of effluent for the last 7 days for which bacteriological analyses have been completed. In addition, the median number of coliform organisms must not exceed 23 MPN per 100 mL sample of effluent in more than one sample within any 30-day period. No sample may exceed an MPN of 240 total coliform bacteria per 100 mL. If a chlorination disinfection process is used, such as that at RP-1, Title 22 specifies that a contact time (CT) value of at least 450 milligram-minutes per liter with a modal contact time of at least 90 minutes (based on peak dry weather design flow) be provided.

With regard to filtration, the Title 22 Water Recycling Criteria specify a maximum filtration rate and effluent turbidity requirements. For dual media (anthracite/sand) gravity filters like those at RP-1, the maximum filtration rate is limited to 5 gallons per minute per square foot of surface area. Under Title 22, the turbidity of the filtered wastewater may not exceed any of the following: (1) an average of 2 Nephelometric Turbidity Units (NTU) within a 24-hour period; (2) 5 NTU more than 5 percent of the time within a 24-hour period; and (3) 10 NTU at any time. RWQCB Order R8-2009-0021 (RWQCB, 2009a) specifies that the discharge shall be considered adequately filtered if the turbidity meets requirements specified in Title 22, as summarized above. Coagulant is added upstream as needed to meet Title 22 requirements.

IEUA began recharging the Chino Groundwater Basin using recycled water from RP-1 and RP-4 as part of its Chino Basin Recycled Water Groundwater Recharge Project. More recently, IEUA began recharging more recycled water from RP-1 and RP-4 with the Phase II Chino Basin Recycled Water Groundwater Recharge Project. The RWQCB issued the original permit for the Phase I Recharge Project in 2005 (RWQCB, 2005). When Phase II was approved by CDPH in April 2007 (CDPH, 2007), the RWQCB issued a new permit covering both Phase I and Phase II Recharge Projects under the same Order No. R8-2007-0039 (RWQCB, 2007) so that the regulatory requirements would be identical for both phases.

In August 2008, CDPH issued updated “Proposed Draft Groundwater Recharge Criteria” (CDPH, 2008), which presently serve as guidelines for groundwater recharge projects. In October 2009, RWQCB adopted Order No. R8-2009-0057 (RWQCB, 2009b). The amendment provided provisions to incorporate groundwater underflow as a source of diluent water for the overall calculated monthly running average recharge flow, as well as increase the averaging period from a 60-month period to a 120-month period to address the water supply shortage of imported water from State Water Project needed as diluent water in

the groundwater recharge basins; this amendment did not change any of the water quality standards defined in Order No. R8-2007-39 (RWQCB, 2007).

Recycled water used for groundwater recharge of domestic water supply aquifers by surface spreading shall be at all times of a quality that fully protects public health, as required by Title 22. RP-1 presently discharges recycled water to the Chino Basin Recycled Water Groundwater Recharge Program in compliance with RWQCB Order No. R8-2007-0039 (RWQCB, 2007). Title 22 specifies that CDPH make recommendations to the RWQCB for proposed groundwater recharge projects on an individual case basis where the use of recycled water may involve a potential risk to public health.

In addition to treatment and effluent quality, Title 22 sets forth general reliability requirements. The facilities must be designed for flexibility so that a high degree of treatment can be achieved under varying conditions. Components of a flexible design include multiple or standby treatment units or pieces of equipment. In addition, alarms are required to alert plant operators of power supply failure or failure of any treatment plant unit processes. In the event of a power supply failure, Title 22 requires the plant to provide either a standby power source or automatically actuated short-term or long-term storage or disposal provisions.

In order to assure that wastewater recycling facilities comply with the regulations, Title 22 requires that an engineering report describing the proposed reclamation system and the means for the system complying with listed requirements be prepared and submitted to the RWQCB and CDPH for approval. The engineering report must be amended or submitted in the event that there are significant modifications to an existing project.

2.3 Receiving Water Discharge Requirements

Product water that is not used for recycled water from RP-1 is discharged to either Prado Park Lake or to Cucamonga Creek Flood Control Channel. The IEUA consolidated NPDES permit requires that discharges to the receiving waters be disinfected tertiary effluent suitable for non-restricted recreational impoundments as required under Title 22, except when the receiving water provides a dilution rate of 20:1 or greater. When at least 20:1 dilution of the wastewater effluent can be provided by the natural flow of the creek at the point of discharge, the discharge may be disinfected secondary effluent. The discharge shall be considered adequately disinfected if the median number of coliform organisms does not exceed 23 MPN per 100 mL.

Section 3
Wastewater Flow and Quality

This section describes wastewater flow and quality characteristics, as well as treated effluent quality limitations for RP-1.

3.1 Wastewater Flow Characteristics

Influent and effluent flows are monitored continuously at RP-1. Table 3-1 summarizes the 2008-2009 flow data.

Table 3-1
Average Influent and Effluent Flows[1]

	Minimum Month (mgd)	Average Month (mgd)	Maximum Month (mgd)
Influent Flow	28.7	32.6	34.1
Effluent Flow	28.3	32.2	34.5

1. Source: IEUA, 2008-2009.
2. Minimum monthly average raw influent flow and minimum monthly average effluent flow occurred in August 2009.
3. Maximum monthly average raw influent flow and maximum monthly average effluent flow occurred in April 2009 and May 2009, respectively.

3.2 Influent Quality Characteristics

The chemical composition of raw wastewater influent to RP-1 based on 2008 data is summarized in Table 3-2.

Table 3-2
Typical Influent Wastewater Characteristics

Constituent	Units	Minimum	Average	Maximum
Specific Conductance	μmhos/cm	775	908	1,150
pH	pH units	6.4	7.2	8.0
Biochemical Oxygen Demand (BOD)	mg/L	144	296	610
Total Suspended Solids (TSS)	mg/L	56	387	1,220
Total Organic Carbon (TOC)	mg/L	91	170	286
Ammonia-Nitrogen	mg/L	18.4	33.7	85.2
Total Kjeldahl Nitrogen (TKN)	mg/L	29.2	43.6	70.7
Total Inorganic Nitrogen	mg/L	25.7	34.5	44.2

Table 3-2
Typical Influent Wastewater Characteristics

Constituent	Units	Minimum	Average	Maximum
(TIN)				
Boron	mg/L	0.2	0.3	0.3
Chloride	mg/L	57	84	164
Cyanide	mg/L	<2	<2	3
Fluoride	mg/L	0.3	0.3	0.4
Sulfate	mg/L	28	42	82
Total Dissolved Solids (TDS)	mg/L	406	469	570
Total Hardness	mg/L	156	175	188
Arsenic	µg/L	<10	<10	<10
Cadmium	µg/L	<10	<10	<10
Total Chromium	µg/L	<10	<10	<10
Copper	µg/L	40	68	100
Lead	µg/L	<20	<20	<20
Mercury	µg/L	<0.5	<0.5	<0.5
Nickel	µg/L	<10	<10	<10
Selenium	µg/L	<20	<20	<20
Silver	µg/L	<10	<10	<10
Zinc	µg/L	90	188	270
Bis (2-ethylhexyl) phthalate	µg/L	<10	18	28

Source: IEUA, 2008a.

3.3 Source Control

IEUA maintains a comprehensive industrial pretreatment and source control program approved by the RWQCB to control waste discharges from point sources into the wastewater collection system. The focus of this source control program is to prevent adverse effects on the treatment facilities and the environment. Because of the Chino Basin Recycled Water Groundwater Recharge Program, the scope and purpose of this source control program will be expanded to include not only contaminants that may be detrimental to the facilities, but also contaminants specified by the CDPH that may be harmful to human health and drinking water supplies. In accordance with the groundwater recharge permit RWQCB Order No. R8-2007-0039 (RWQCB, 2007), IEUA will review its current source control program to mitigate future impacts on the groundwater recharge program. The program review will determine whether additional constituents should be included in the industry permitting process and if additional pretreatment requirements are necessary particularly for industries that discharge wastewater to RP-1 and RP-4 collections systems. Through a comprehensive monitoring program, IEUA will ensure that the recycled water produced at RP-1 and RP-4 for recharge into the Chino Basin is not

contaminated with toxic chemicals of industrial origin that are of concern to CDPH and the RWQCB in drinking water sources.

As required in 40 CFR 403.5(c)(1), IEUA has developed uniform local limits for the significant industrial users (SIUs) within the IEUA service area. SIUs are composed of industrial users subject to Federal categorical limits or discharging more than 25,000 gallons per day. IEUA also permits other non-domestic users that may pose a significant threat to the IEUA plant operations, biosolids, worker safety, and recycled water and groundwater recharge quality. Local limits are primarily developed for toxic constituents such as heavy metals. However, pollutants such as total dissolved solids (TDS), phthalates, and other compounds of concern generated by commercial and residential sources may have a local limit if deemed necessary.

IEUA is actively running a water softener removal rebate program. This project is part of the Agency's Salinity Reduction Program that is addressing the impacts of automatic water softeners on IEUA's recycled water. Removing self-regenerating water softeners helps to lower the salinity in the recycled water and will increase the benefits for use in the Groundwater Recharge Program. In accordance with the NPDES Permit Amendment Order No.R8-2010-0008, the RWQCB adopted the Water Softener Bill (Water Code Section 13148), AB1366, on October 11, 2009, authorizing the agency to control salinity inputs from residential self-regenerating water softeners by ordinance or resolution.

IEUA also operates a "No Drugs Down the Drain" program. This is a public outreach program to alert residents living in the IEUA service area about the problems associated with flushing unused, unwanted, and expired medications down the toilet or drain and to provide them with other safe, and proper disposal choices. This program encourages residents to put their unused drugs in a sturdy, securely sealed container in the trash.

IEUA owns and operates a non-reclaimable wastewater (NRW) collection and conveyance system that provides disposal for industrial wastewater and brines. The NRW discharges either into the Orange County Sanitation District's wastewater treatment facilities or to the County Sanitation Districts of Los Angeles County wastewater treatment facilities for treatment and disposal. The industrial pretreatment program and the NRW system provide source control and salinity management for the IEUA water recycling facilities.

IEUA plans to further mitigate wastewater constituent impacts on the groundwater recharge program by maximizing the use of the NRW system. Requirements pertaining to IEUA's industrial pretreatment and source control program are specified in RWQCB Order No. R8-2009-0021 (RWQCB, 2009a).

The permit (RWQCB, 2009a) incorporates source control requirements that CDPH recommended for groundwater recharge and effluent from RP-1 and RP-4 and is used for the Chino Basin Recycled Water Groundwater Recharge

Program, which is regulated under RWQCB Order No. R8-2007-0039 (RWQCB, 2007). The permit requires IEUA to operate the wastewater collection system under a comprehensive industrial pretreatment and pollutant control program for the control of discharge of toxic wastes from point sources. If CDPH identifies any contaminants that may pose a risk of contamination to a drinking water supply, the permit specifies that CDPH may designate those contaminants for inclusion into the pretreatment and source control program requirements for IEUA to minimize the possibility that the influent wastewater to RP-1 and RP-4 will be contaminated with such toxic chemicals. The source control program shall include:

- An assessment of the fate of the specified contaminant compounds through the wastewater and recycled water treatment systems.
- A source investigation and monitoring program focused on the specified contaminants.
- An outreach program to industrial, commercial and residential communities within the sewage collection agency's service area to manage and minimize the discharge of compounds of concern at the source.
- A proactive program for maintaining an inventory of compounds discharged into the wastewater collection system so that new compounds of concern can be evaluated rapidly.

3.4 Effluent Quality Limits

Consolidated effluent discharge limits are established for RP-1, RP-4, RP-5, and CCWRF under RWQCB Order No. R8-2009-0021, NPDES No. CA8000409, which became effective on July 21, 2009. The RWQCB issues discharge limits based on the beneficial uses and water quality objectives established in the "Santa Ana River Basin Water Quality Control Plan" (RWQCB, 2008), commonly referred to as the "Basin Plan", and recommendations from other regulatory agencies, such as CDPH. RP-1 and RP-4 are both tertiary treatment plants that produce recycled water for reuse in the IEUA service area. A portion of the treated effluent from RP-4 is piped to RP-1, where it commingles with RP-1 treated effluent and is dechlorinated, prior to being discharged at RP-1's Cucamonga Creek Flood Control Channel, Reach 1, through Discharge Point 002. Reach 1 is a concrete-lined flood control channel which discharges to Mill Creek and thence to Chino Creek, which is tributary to Santa Ana River, Reach 3. Specific effluent quality requirements are discussed below.

3.4.1 Biochemical Oxygen Demand and Suspended Solids Limits

Table 3-3 lists biochemical oxygen demand (BOD) and total suspended solids (TSS) limits from the consolidated discharge permit. These values are achievable with tertiary treatment and are intended to ensure that only adequately oxidized wastewater is discharged.

Table 3-3
Effluent BOD and TSS Limitations[1]

Constituent	Average Weekly Concentration (mg/L)	Average Monthly Concentration (mg/L)
For Discharges Without 20:1 Dilution		
BOD	30	20
TSS	30	20
For Discharges With 20:1 Dilution		
BOD	45	30
TSS	45	30

1. Source: RWQCB, 2009a.

3.4.2 Ammonia-Nitrogen and Chlorine Residual Limits

Table 3-4 lists the ammonia-nitrogen and total chlorine residual concentration limits for protection of receiving waters.

Compliance determinations for total chlorine residual are based on 99 percent compliance with the following conditions:

- The total time during which the total chlorine residual values are above 0.1 mg/L (instantaneous maximum value) shall not exceed 7 hours and 26 minutes in any calendar month;
- No individual excursion from 0.1 mg/L value shall exceed 5 minutes; and
- No individual excursion shall exceed 5.0 mg/L.

Table 3-4
Effluent Ammonia-Nitrogen and Chlorine Residual Limitations[1]

Constituent	Instantaneous Maximum (mg/L)	Average Monthly (mg/L)
Ammonia-Nitrogen	---	4.5
Total Chlorine Residual [2] – For Discharges Without 20:1 Dilution	0.1	---
Total Chlorine Residual [2] – For Discharges With 20:1 Dilution	2.1	---

1. Source: RWQCB, 2009a.
2. See discussion above for compliance determination.

3.4.3 Total Dissolved Solids and Total Inorganic Nitrogen Limits

Restrictions are imposed for effluent Total Dissolved Solids (TDS) and Total Inorganic Nitrogen (TIN). These limits are summarized in Table 3-5.

The permit recognizes that effluent TDS is based on the TDS of the water supply sources utilized in the IEUA service area. The RWQCB will not initiate enforcement action for TDS limit violations if the violation is due to the TDS of the water supply sources utilized in the IEUA service area and that all reasonable steps have been taken to ensure that the best TDS quality supplies are obtained and utilized in the service area. Furthermore, the RWQCB will not initiate enforcement action for violations of the TDS limits if the cause is solely due to chemical additions in the treatment processes needed to meet the waste discharge requirements, provided that IEUA has taken steps to optimize chemical additions to minimize TDS increases.

TIN is the sum of nitrate, nitrite, and ammonia, measured as nitrogen. The TIN limits in Order No. R8-2009-0021, NPDES No. CA8000409, (RWQCB, 2009a) are based on the RWQCB's revised wasteload allocation for TIN in Publicly Owned Treatment Works discharges to the Santa Ana River and its tributaries and to groundwater in the Upper Santa Ana River Basin. The permit (RWQCB, 2009a) allows IEUA to meet the limitation on an agency-wide basis using flow weighted averages of the discharges from all four plants, (RP-1, RP-4, RP-5, and CCWRF).

Table 3-5
Effluent TDS and TIN Limitations[1]

Constituent	12-Month Average (mg/L)
TDS	550[2]
TIN	8

1. Source: RWQCB, 2009a.
2. The 12-month average limit for TDS cannot exceed the 12-month average TDS in the water supply by more than 250 mg/L. Compliance is based on the lower of the two limits, either 550 mg/L or 250 mg/L above the weighted averages of the water supplies in the RP-1, RP-4, RP-5, and CCWRF service areas.

3.4.4 Mineral/Inorganic Effluent Limitations

The RWQCB imposes restrictions on effluent inorganics to meet surface water quality objectives established to protect beneficial uses designated in the RWQCB Water Quality Control Plan (Basin Plan). Typical regulated constituents include boron, chloride, fluoride, sodium, sulfate, and total hardness. Based on its review of historic effluent data, the RWQCB determined that discharges from RP-1 and RP-4 were unlikely to cause or contribute to violations of water quality objectives for these mineral constituents. Consequently, the permit contains no effluent limitations, although monitoring is still required for these mineral constituents.

3.4.5 Trace Constituent Effluent Limitations

The consolidated NPDES permit specifies maximum concentrations for trace constituents in the effluent as summarized in Table 3-6.

Table 3-6
Effluent Trace Constituent Limitations [1]

Constituent	Maximum Daily Concentration (µg/L)	Average Monthly Concentration (µg/L)
Cyanide, Free	8.5	4.2
Selenium	8.2	4.1
Bis(2-ethylhexyl)phthalate	11.9	5.9

1. Source: RWQCB, 2009a.

3.4.6 Effluent Limitations for TOC and Total Nitrogen

Effluent must comply with CDPH requirements for groundwater recharge. At present, groundwater recharge is allowed under Title 22 Water Recycling Criteria on a case-by-case basis. Based on the RWQCB Order No. R8-2007-0039 (RWQCB, 2007), recharge water that is percolated at spreading basins is required to comply with specified limits for Total Organic Carbon (TOC) and nitrogen compounds, including total nitrogen, ammonia-nitrogen, organic nitrogen, nitrite-nitrogen, and nitrate-nitrogen. The recharge water will be a blend of recycled water, local runoff/stormwater, and imported water. Recharge water quality will be dependent upon the performance of RP-1 and RP-4, dilution with non-wastewater sources, and soil aquifer treatment as the recharge water percolates.

Table 3-7
Effluent TOC and Total Nitrogen Limitations [1]

Constituent	Maximum Daily Concentration (mg/L)
TOC	16.0
Nitrogen Compounds[2]	5.0

1. Source: RWQCB, 2007.
2. The total nitrogen concentration limitation for the recycled water used for recharge prior to reaching the regional ground water table.

3.4.7 Other Effluent Limitations

Treatment requirements specified in consolidated NPDES permit are dependent upon the flow in the receiving waters and the amount of effluent dilution that will

be provided. Monitoring location R-002U is used to determine the dilution ratio in Cucamonga Creek.

If the flow in Cucamonga Creek is less than that required for a 20:1 (ratio of receiving water flow: wastewater flow) dilution at the point of discharge, the discharge must be tertiary effluent that has been adequately oxidized, coagulated, filtered, and disinfected. The discharge is considered adequately filtered if the turbidity does not exceed: (1) an average of 2 Nephlometric Turbidity Units (NTU) within a 24-hour period; (2) nor exceeds 5 NTU more than 5 percent of the time during any 24-hour period; and (3) 10 NTU at any time. The discharge is considered adequately disinfected if: (1) the median number of coliform organisms does not exceed 2.2 MPN per 100 mL: (2) the number of coliform organisms does not exceed 23 MPN per 100 mL in more than one sample within any 30-day period: and (3) the number of coliform organisms does not exceed an 240 MPN per 100 mL in any sample.

If the flow in Cucamonga Creek is more than that required for a 20:1 dilution at the point of discharge, the discharge must be secondary effluent that has been adequately oxidized and disinfected. The discharge is considered adequately disinfected if the median number of coliform organisms does not exceed 23 MPN per 100 mL over the last 7 days.

The use of recycled water for landscape irrigation or other similar uses shall comply with the limitation set forth in the consolidated permit. In order to comply with Title 22 requirements for spray irrigation and non-restricted recreational landscape impoundments, recycled water must be tertiary effluent that has been adequately disinfected, oxidized, coagulated (if needed for turbidity reduction), and filtered. The same BOD_5, TSS, turbidity and disinfection requirements apply for recycled water production as for surface water discharges with less than 20:1 dilution. Coagulation upstream of the filters is achieved by adding alum for turbidity removal to allow the RP-1 recycled water to be used for cooling tower purposes in compliance with Title 22 Criteria. The same TDS and TIN limitations also apply for recycled water production as for surface water discharges with less than 20:1 dilution. For disinfected tertiary recycled water, the median number of coliform organisms per 100 mL sample must not exceed 2.2 MPN per 100 mL for the last 7 days for which bacteriological analyses have been completed, and the number of coliform organisms per 100 mL sample must not exceed 23 MPN per 100 mL in more than one sample in any 30-day period. The number of coliform organisms must not exceed 240 MPN per 100 mL in any sample.

The consolidated NPDES permit includes other general effluent limitations that restrict toxicity, oil and grease, and pH for all discharges. Discharge of any substances in toxic concentrations is prohibited. Visible oil and grease in the effluent is not permissible, and the effluent pH must be within 6.5 and 8.5 units. Compliance determinations for pH require compliance with the following conditions:

- The total time during which the pH values are outside the required range of 6.5 to 8.5 units shall not exceed 7 hours and 26 minutes in any calendar month; and
- No individual excursion from the range of 6.5 to 8.5 pH units shall exceed 60 minutes.

Effluent toxicity is required to be monitored monthly. Monitoring of toxicity shall be accelerated as specified in the NPDES permit when the result of any single chronic toxicity test of the effluent exceeds 1.0 chronic toxicity units (TUc). An Initial Investigation Toxicity Reduction Evaluation (IITRE) shall be developed and followed when the result of the chronic toxicity tests exceeds a two month median value of 1.0 TUc for survival or reproduction endpoint, or 1.7 TUc for survival endpoint for any single test.

The use of recycled water for landscape irrigation or other similar uses shall comply with the limitations set forth in the consolidated permit. In order to comply with Title 22 requirements for spray irrigation and non-restricted recreational landscape impoundments, recycled water must be tertiary effluent that has been adequately disinfected, oxidized, coagulated (as needed for turbidity reduction), and filtered. The same BOD_5, TSS, turbidity and disinfection requirements apply for recycled water production as for surface water discharges with less than 20:1 dilution. The same TDS and TIN limitations also apply for recycled water production as for surface water discharges with less than 20:1 dilution. However, if those limitations are not met, more restrictive antidegradation limitations are included in the NPDES permit for recycled water overlying specific local groundwater management zones.

3.4.8 Effluent Quality Characteristics

IEUA submits monitoring reports to the RWQCB in accordance with the NPDES permit. Table 3-8 below summarizes recent recycled water quality data for some of the major regulated parameters. Complete monitoring and reporting records are available from IEUA or the RWQCB.

Table 3-8
Typical Recycled Water Quality[1, 2]

Constituent	Units	Minimum	Average	Maximum
Biochemical Oxygen Demand (BOD)	mg/L	<2	<2	2
Total Suspended Solids (TSS)	mg/L	<1	<1	1
Total Organic Carbon (TOC)	mg/L	3.8	7.4	23.6
Ammonia-Nitrogen	mg/L	<0.1	<0.1	0.1
Total Inorganic Nitrogen (TIN)	mg/L	0.2	6.8	12.2
Total Dissolved Solids (TDS)	mg/L	456	501	684
Specific Conductance	μmhos/cm	685	808	903
Turbidity	NTU	0.5	0.9	2.0

Table 3-8
Typical Recycled Water Quality[1, 2]

Constituent	Units	Minimum	Average	Maximum
pH	pH units	6.8	7.1	7.9
Coliform	MPN/100 mL	<2	<2	2
Chlorine Residual after dechlorination at Prado Lake	mg/L	0	0	0

1. Source: IEUA, 2008a.
2. Discharge Point 001 effluent.

Section 4
Plant Facilities

IEUA's RP-1 provides preliminary, primary, secondary, and tertiary treatment of wastewater that conforms to the highest level of California water recycling criteria. The facility is also equipped with solids handling equipment, such as: sludge thickening, digestion and solids dewatering. This section describes the facilities and presents the basis for compliance with the treatment, recycled water quality, and reliability requirements set forth in Title 22.

4.1 General Description of Facilities

RP-1 provides preliminary and primary treatment, flow equalization, secondary treatment, tertiary treatment, and solids handling facilities. The plant is designed to treat an annual average flow rate of 44 mgd. Figure 4-1 presents the process flow schematic for the RP-1 liquid stream, including preliminary treatment, primary treatment, flow equalization and secondary treatment. Figure 4-2 presents the process flow schematic for the tertiary liquid stream, and Figure 4-3 shows the site plan.

At RP-1, preliminary treatment consists of flow measurement and removal of coarse solids and grit from the influent raw wastewater flow stream. Primary treatment is a physical process that involves sedimentation to remove settleable material and scum from the surface of wastewater. Peak primary effluent flows are diverted to flow equalization basins to improve the efficiency of downstream treatment processes. Secondary treatment consists primarily of the nitrification/denitrification process including clarification. This biological treatment process uses both aerobic (oxic) and anoxic bacteria and other microorganisms to breakdown organic matter and to remove nitrogen found in the wastewater.

The tertiary processes offer additional treatment to meet Title 22 requirements specific to the final use of the recycled water. Tertiary treatment consists of flocculation/clarification (as-needed), filtration, and disinfection to produce high quality recycled water. Typically, the turbidity of the secondary effluent is sufficiently low to allow direct filtration without a separate flocculation/clarification step. If necessary, a portion of the secondary effluent stream can be combined with waste filter backwash and treated using the flocculation/clarification facilities prior to filtration. Filtered effluent is disinfected using sodium hypochlorite, following disinfection Title 22 compliant treated water is pumped to recycled water users. Excess effluent flows that exceed recycled water demands are dechlorinated prior to discharge.

Solids treatment at RP-1 consists of gravity and dissolved air flotation (DAF) thickening, anaerobic digestion, and dewatering. The majority of the stabilized

dewatered solids are trucked to the Inland Empire Regional Composting Facility (IERCF) in the City of Rancho Cucamonga for further treatment and composting.

The following sections describe the basis of design for each of the treatment processes in detail and demonstrate how Title 22 compliance is achieved for an annual average flow of 44 mgd. Capacities of each unit process are determined for operation as defined under the following conditions:

- Peak Capacity – total peak flow capacity with all units in service.
- Annual Average Capacity Without Redundancy – annual average capacity with all units in service.
- Title 22 Reliable Annual Average Capacity – annual average capacity conforming to the reliability requirements set forth in Title 22. Reliability may be provided by redundant, standby, or alternative equipment or processes. Typically, the Title 22 Reliable Annual Average Capacity for each treatment process is determined with the largest unit out of service. In other cases, alternative means of reliability is provided by storage or another treatment process. The specific means of establishing reliability is described for each treatment process.

Figure 4-1 RP-1 Process Flow Schematic (Preliminary, Primary and Secondary Treatment)

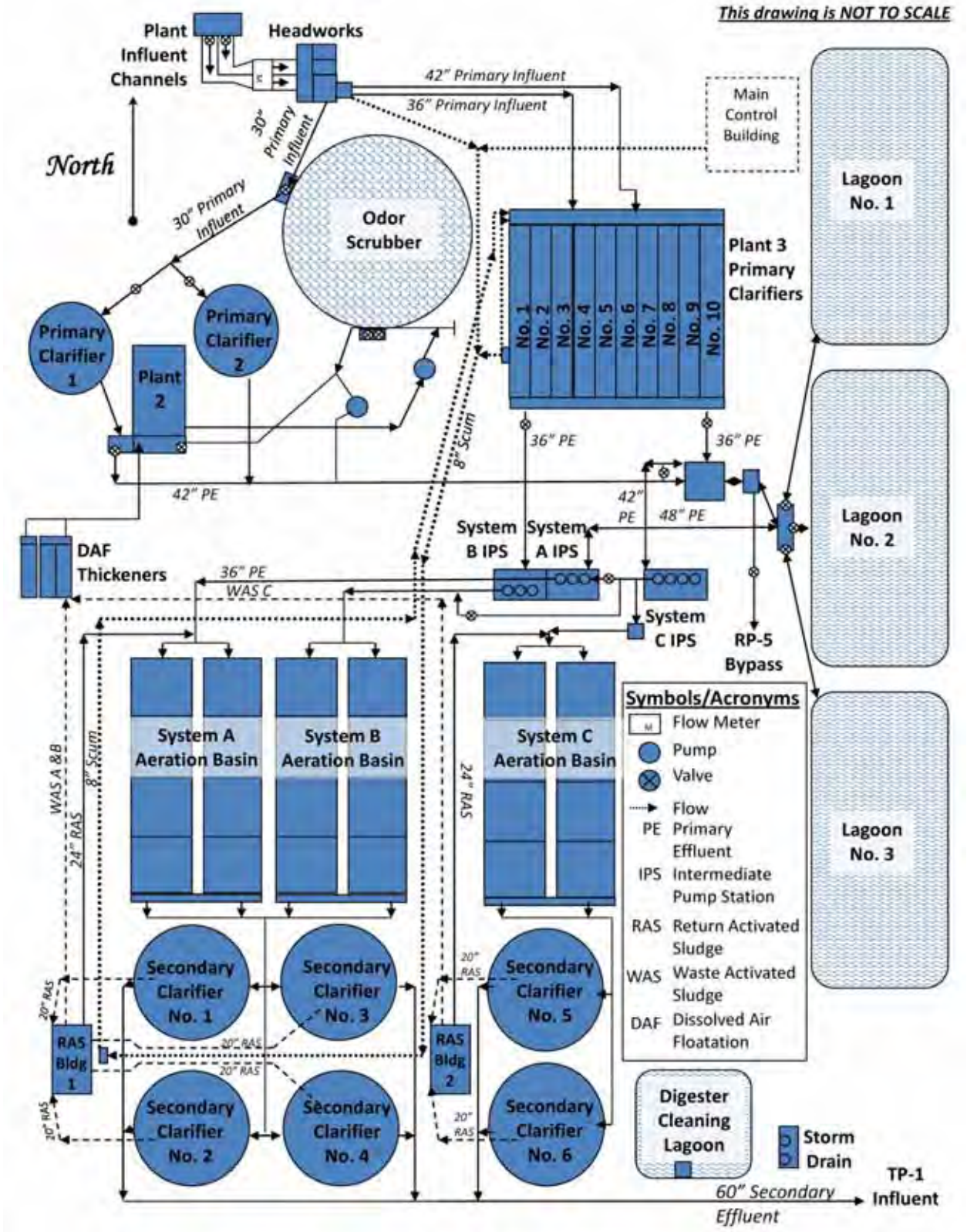


Figure 4-2 RP-1 Tertiary Treatment Process Flow Schematic

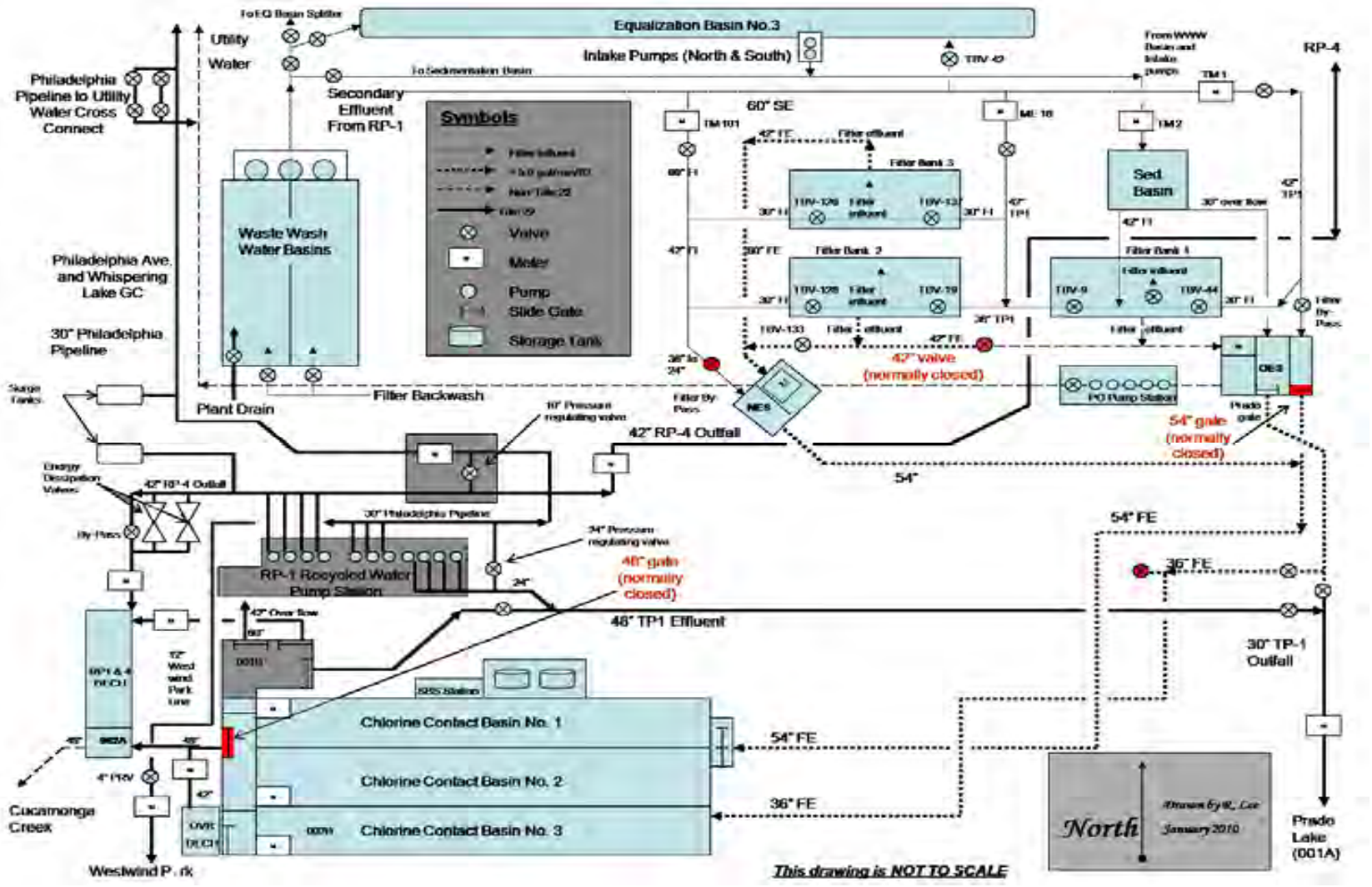
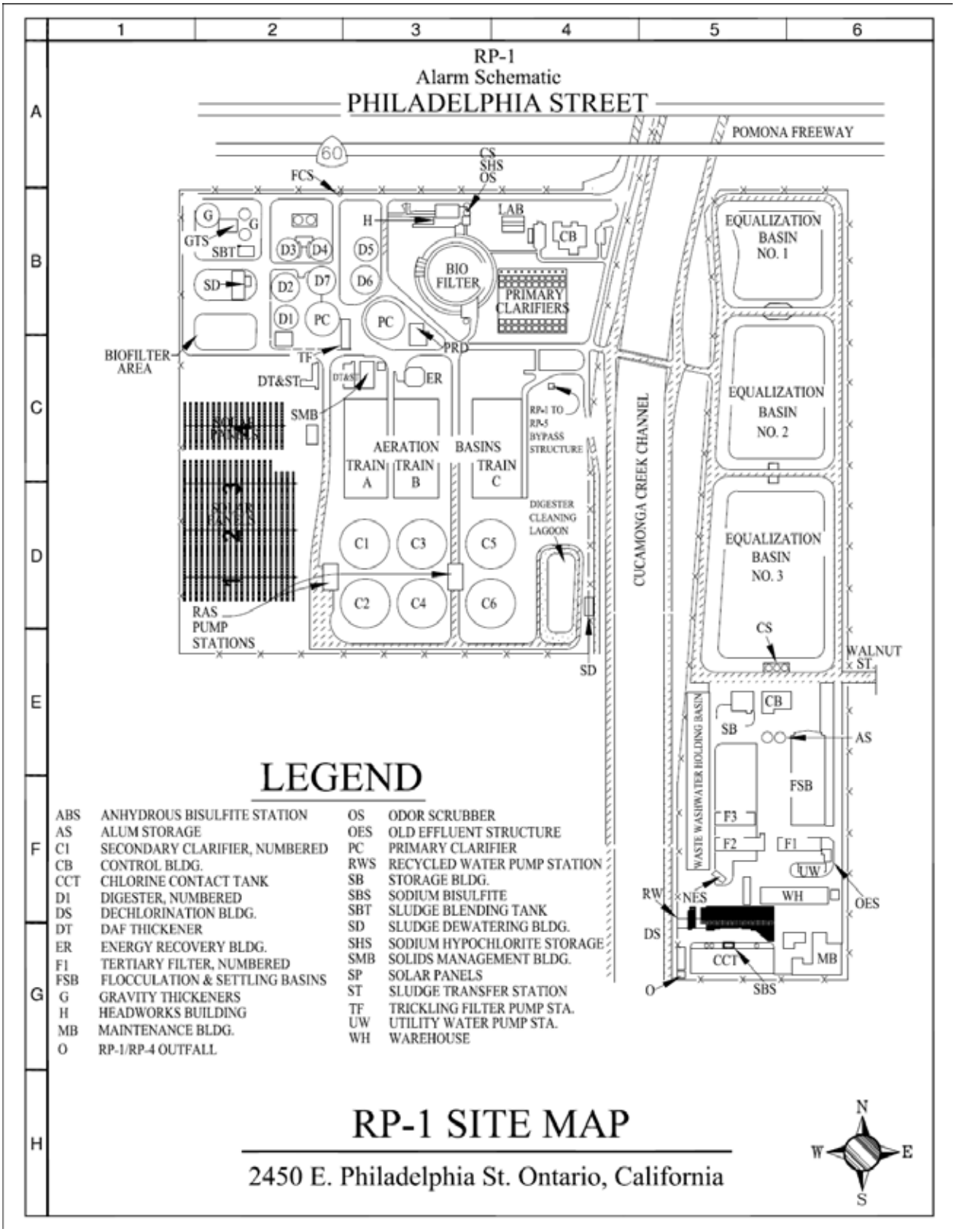


Figure 4-3 RP-1 Site Plan



4.2 Design Flow Rates

The annual average rated capacity of RP-1 is 44 mgd according to its current discharge permit (RWQCB, 2009a). RP-1 must also handle diurnal and seasonal variations in the flow rate.

Flow studies and data from various sources were analyzed and compared for this report. IEUA staff conducted an evaluation of flow peaking factors at RP-1 during 1992 and 1993 (IEUA, 1993). Peaking factors were determined for plant influent (raw wastewater), secondary influent, and tertiary influent flows and were used in the 1996 RP-1 Title 22 Engineering Report (Black & Veatch, 1996). In 2004 Carollo Engineers estimated flow peaking factors for the RP-1 recycled water facilities design (Carollo Engineers, 2004) and in 2002 the Regional Plant No. 5 (RP-5) design (Carollo Engineers, 2002). IEUA staff conducted an evaluation of 2002 to 2003 flow records and peaking factors at RP-1 for planning of the RP-1/RP5 Bypass Pipeline (IUEA, 2003a). 2002-2004 data was evaluated by IEUA staff during the preparation of the 2004 RP-1 Title 22 Report. As part of the development of this report, available flow data (IEUA, 2008-2009) from August 2008 to September 2009 were also analyzed. Table 4-1 summarizes and compares these flow peaking factors.

These studies found that seasonal flow fluctuations, with the exception of wet weather periods, are generally minimal, reflecting the nature of development in the tributary area. Diurnal peaks are experienced during normal dry weather conditions. At RP-1, flow equalization following primary treatment dampens the daily peaks experienced at the downstream secondary and tertiary treatment processes. Review of flow records showed that the maximum day peaking factor is about 1.18 through the tertiary treatment process.

During heavy rains over an extended period, the peak wet weather flow (PWWF) at the plant is higher. A comparison of raw influent PWWF peaking factors for RP-1 over the past decade yields values from approximately 2.22 to 2.76. In general, higher PWWF peaking factors are experienced during extended or exceptionally heavy wet weather events. The 2.76 peaking factor occurred over a three-hour period based on March 15, 2003 flow records. For this reason, it is believed that typical PWWF peaking factors at RP-1 are closer to 2.22 to 2.68. Based on this analysis and discussions with IEUA staff, a raw influent PWWF peaking factor of approximately 2.5 was selected for evaluation of RP-1 compliance with Title 22 Water Recycling Criteria.

Table 4-1
Comparison of Flow Peaking Factors

Parameter	Flow Peaking Factors [1]					
	1996 RP-1 Title 22 Report [2]	2001 RP-1 Recycled Water Predesign [3]	2002-2003 RP-1 Flow Analysis [4]	2002-2004 RP-1 Flow Data [5]	2008-2009 RP-1 Flow Data [6]	2004 RP-1 Title 22 Report
Raw Influent Flow						
AAF [7]	1.0	---	1.0	1.0	1.0	1.0
PDWF [8]	---	---	1.69	1.70	1.05	1.7
PWWF [9]	2.68	---	2.22	2.76	2.0	2.5
Secondary Influent Flow [10]						
AAF	1.0	---	---	---	---	1.0
PDWF	---	---	---	---	---	1.18
PWWF	1.36	---	---	---	---	1.36
Tertiary Influent Flow [11]						
AAF	1.0	1.0	---	---	---	1.0
PDWF	1.16	1.18	---	---	1.17	1.18
PWWF	1.26	---	---	---	1.29	1.26

1. Peaking factor = $\frac{\text{Peak Wet Weather Flow (mgd)}}{\text{Annual Average Flow (mgd)}}$ (or Peak Dry Weather Flow (mgd))
2. Black & Veatch, 1996 and IEUA, 1993.
3. Carollo Engineers, 2002.
4. IEUA, 2003a.
5. IEUA, 2002-2004.
6. IEUA, 2008-2009. Note that 2008-2009 was a drought year, and due to construction, there were also fluctuations in the flows. These numbers do not appear to be representative of typical conditions.
7. AAF = Annual Average Flow
8. PDWF = Peak Dry Weather Flow
9. PWWF = Peak Wet Weather Flow
10. Flow equalization follows primary treatment and reduces peaking factors for secondary and tertiary processes.
11. Tertiary peak flows are buffered by the secondary treatment.

In conclusion, Table 4-2 summarizes the flow rates and peaking factors for plant influent (raw wastewater), secondary influent, and tertiary influent flows used as the basis of this report.

Table 4-2
Summary of RP-1 Design Flow Rates and Peaking Factors for Title 22 Compliance

Parameter	Flow rate (mgd)	Peaking Factor[1]
Raw Influent Flow		
Annual Average Flow	44.0	1.0
Peak Dry Weather Flow	74.8	1.7
Peak Wet Weather Flow	110.0	2.5
Secondary Influent Flow[2]		
Annual Average Flow	44.0	1.0
Peak Dry Weather Flow	51.9	1.18
Peak Wet Weather Flow	59.8	1.36
Tertiary Influent Flow [2,3]		
Annual Average Flow	44.0	1.0
Peak Dry Weather Flow[4]	51.9	1.18
Peak Wet Weather Flow	55.4	1.26

1. Peaking factor = $\frac{\text{Peak Wet Weather Flow (mgd)}}{\text{Annual Average Flow (mgd)}}$ (or Peak Dry Weather Flow (mgd))
   See Table 4-1 and above discussion for peaking factor evaluation.
2. Flow equalization follows primary treatment and reduces peaking factors for secondary and tertiary processes.
3. Tertiary peak flows are buffered by the secondary treatment.
4. Peak dry weather flow applies to filtration, which may be bypassed under specific conditions as described in Section 4.9.

4.3 Design Wastewater Characteristics

The typical chemical composition of the influent wastewater to RP-1 is summarized in Table 4-3. These values are based on 2008 data. Wastewater characteristics reflect that solids from Regional Plant No. 4 are discharged to the collection system and treated at RP-1.

4.4 Preliminary Treatment

The preliminary treatment process at RP-1 consists of two Parshall flumes, four mechanical bar screens, two manual bar screens, a Pista grit chamber, and an aerated grit chamber. Tables 4-4, 4-5, and 4-6 present design criteria for the preliminary treatment facilities.

Table 4-3
Wastewater Characteristics

Parameter	Units	Value	Reference
Annual Average Raw Influent Quality			
BOD-5 day	mg/L	296	See note 2
TSS	mg/L	387	See note 2
TOC	mg/L	170	See note 2
Ammonia-nitrogen	mg/L	33.7	See note 2
TKN	mg/L	43.6	See note 2
TIN	mg/L	34.5	See note 2
pH	units	7.2	See note 2
Winter temperature	degrees C	22	See note 2
Summer temperature	degrees C	28	See note 2
TDS	mg/L	469	See note 2
Annual Average Raw Influent Loadings			
BOD-5 day	lbs/day	108,620	calculated[1]
TSS	lbs/day	142,014	calculated[1]
Peak Month Average Raw Influent Quality			
BOD	mg/L	610	See note 2
TSS	mg/L	1,220	See note 2
TOC	mg/L	286	See note 2
Ammonia-nitrogen	mg/L	85.2	See note 2
TKN	mg/L	70.7	See note 2
TIN	mg/L	44.2	See note 2
pH	units	8.0	See note 2
TDS	mg/L	570	See note 2
Peak Month Average Raw Influent Loadings			
BOD-5 day	lbs/day	223,846	calculated[1]
TSS	lbs/day	447,691	calculated[1]

1. For more information on calculated values, see Appendix B.
2. IEUA, 2008a.

Table 4-4
Flow Measurement Design Data

Parameter	Units	Value	Reference
Parshall Flumes			
Number	units	2	See note 1
Throat size	inches	60	See notes 1, 2 & 3
Maximum capacity	mgd, each	78.3	See notes 1, 2 & 3
Total peak flow capacity	mgd	156.6	See notes 1, 2 & 3

1. Black & Veatch, 1996.
2. Carollo Engineers, 2002.
3. James M. Montgomery Consulting Engineers, 1985 & 1987.

Table 4-5
Screening Facilities Design Data

Parameter	Units	Value	Reference
Mechanical Bar Screens			
Number	units	4	See notes 2, 3, & 4
Channel width	feet	6	See notes 2, 3, & 4
Channel depth	feet	8	See notes 2, 3, & 4
Bar thickness	inch	5/8	See note 5
Bar width	inches	2	See note 5
Effective area	percent	40	See notes 2 & 3
Peak approach velocity	feet/sec	3	See notes 2 & 3
Peak flow capacity	mgd, each	27.5	See note 2
Total peak flow capacity	mgd	110	calculated[1]
Manual Bar Screens			
Number	units	2	See notes 2 & 3
Channel width	feet	6	See note 2
Channel depth	feet	8	See note 2
Peak flow capacity	mgd, each	27.5	See note 2
Total peak flow capacity	mgd	55	calculated[1]

1. For more information on calculated values, see Appendix B.
2. Black & Veatch, 1996.
3. Carollo Engineers, 2002.
4. James M. Montgomery Consulting Engineers, 1985 & 1987.
5. IEUA, 2009a.

Table 4-6
Grit Removal Design Data

Parameter	Units	Value	Reference
Pista Grit Chamber			
Number	units	1	See notes 2, 3, & 4
Diameter	feet	20	See note 6
Tank Depth	feet	10	See note 6
Volume	cu ft	2,368	See note 5
Total capacity	mgd	51	See notes 2, 3, & 4
Aerated Grit Chamber			
Number	units	1	See notes 2
Length	feet	50	See notes 2
Width	feet	20	See notes 2
Side water depth (north side)	feet	25	See note 6
Side water depth (south side)	feet	15	See notes 2
Effective volume	cu ft	15,000	calculated[1]
Detention time at PWWF	minutes	1.5	calculated[1]
Peak flow capacity	mgd	110	calculated[1]

1. For more information on calculated values, see Appendix B.
2. Black & Veatch, 1996.
3. Carollo Engineers, 2002.
4. James M. Montgomery Consulting Engineers, 1985 & 1987.
5. Parsons, 2003.
6. IEUA, 2009a.

Based on these criteria, the capacity of each unit process, as defined in Section 4.1, is summarized in Table 4-7.

Table 4-7
Preliminary Treatment Capacity

Process	Peak Capacity (mgd)	Annual Average Capacity Without Redundancy (mgd)	Title 22 Reliable Annual Average Capacity (mgd)
Parshall flumes	156.6	62.6[1]	62.6[1, 2]
Bar screens	165	66.0	55.0[1,3]
Grit chambers	161	64.4[4]	44.0[1,5]

1. See discussion below regarding reliable capacity of these processes.
2. Peak Capacity/Peaking Factor = 156.6/2.5 = 62.6
3. Peak Capacity with one screen out of service/Peaking Factor = (165-27.5)/2.5 = 55.0
4. Peak Capacity/Peaking Factor = 161/2.5 = 64.4
5. Peak Capacity with largest grit chamber out of service/Peaking Factor = (161-51)/2.5 = 44.0

Raw influent flow enters the plant through the inlet structure and is divided between two parallel channels, each with a Parshall flume for flow measurement. The flow then enters the headworks where it splits into four screening channels. Following screening, flow is directed to either or both of the grit chambers. After grit removal, the flow is combined in a flow splitter box and then directed to the primary clarifiers.

Each Parshall flume is designed for a peak flow capacity of 78.3 mgd. While higher flow rates will pass through the influent channels, the accuracy of the Parshall flumes operating under submerged conditions would be impaired during extended wet weather periods. This operating condition would not, however, restrict the reliable treatment capacity of RP-1 under Title 22 regulations.

The maximum capacity of the mechanical barscreens is 110 mgd. The two manual barscreens provide standby capacity for the mechanical units. With one screen out of service, the peak flow capacity of the screening process is 137.5 mgd, which is equivalent to an annual average flow of about 55 mgd.

The reliable annual average capacity of the grit basins is 44 mgd based on maintaining a detention time of approximately 1.5 minutes at PWWF with one unit out of service. It should be noted that optimum grit removal is not essential to the plant's overall treatment ability. Operating under peak flow conditions with either grit basin out of service, grit would be removed in the primary clarifiers along with the primary solids. This flexibility allows the grit removal process to comply with Title 22 by relying on primary sedimentation as an alternative process.

In summary, the preliminary treatment facilities comply with Title 22 requirements by providing standby units and back-up treatment capacity. The preliminary treatment processes can effectively handle an annual average flow of 44 mgd.

4.5 Primary Treatment

Primary treatment at RP-1 presently consists of ten rectangular clarifiers and two circular clarifiers. Ferric chloride and polymer are added upstream of the primary clarifiers to enhance settling performance and for digester odor control. Table 4-8 presents design criteria for the existing primary treatment facilities. Annual average capacity of the clarifiers is determined based on the peak overflow rate and overall hydraulic peaking factor for the primary treatment process. Table 4-9 presents design criteria for the chemical storage and feed facilities serving primary treatment.

Table 4-8
Primary Treatment Design Data

Parameter	Units	Value	Reference
Rectangular Primary Clarifiers			
Number	units	10	See notes 2, 3 & 4
Length	feet	175	See notes 2, 3 & 4
Width	feet	20	See notes 2, 3 & 4
Side water depth	feet	11	See notes 2, 3 & 4
Total volume	cu ft	385,000	calculated[1]
Surface area per clarifier	sq ft	3,500	calculated[1]
Total surface area, all units in service	sq ft	35,000	calculated[1]
Peak overflow rate, all units in service	gpd/sq ft	2,400	See note 2
Peak capacity per clarifier	mgd	8.4	calculated[1]
Circular Primary Clarifiers			
Number	units	2	See notes 2, 3 & 4
Diameter	feet	100	See notes 2, 3 & 4
Side water depth	feet	9	See notes 2, 3 & 4
Total volume	cu ft	141,372	calculated[1]
Surface area per clarifier	sq ft	7,854	calculated[1]
Total surface area, all units in service	sq ft	15,708	calculated[1]
Peak overflow rate	gpd/sq ft	2,400	See notes 2 & 3
Peak capacity per clarifier	mgd	18.8	calculated[1]
Rectangular and Circular Primary Clarifiers			
Total peak flow capacity, all units in service	mgd	121.7	calculated[1]
Total annual average flow capacity, all units in service	mgd	48.7	calculated[1]
Total annual average flow capacity with one (largest) unit out of service	mgd	41.1[6]	calculated[1]

Table 4-8
Primary Treatment Design Data

Parameter	Units	Value	Reference
Detention Time at annual average flow, all units in service	hours	2.1	calculated[1]
BOD Removal	percent	45	See note 5
TSS Removal	percent	70	See note 5

1. For more information on calculated values, see Appendix B.
2. Black & Veatch, 1996.
3. Carollo Engineers, 2002.
4. James M. Montgomery Consulting Engineers, 1985 & 1987.
5. Parsons, 2003.
6. See discussion on following page regarding reliable capacity.

Table 4-9
Chemical Facilities Serving Primary Treatment Design Data

Parameter	Units	Value	Reference
Ferric Chloride Storage and Feed Facilities			
Storage Tanks			
Number	units	1	See note 2
Total storage volume	gal	13,000	See note 4
Feed Pumps			
Number	units	2	See note 2
Ferric chloride dosage	mg/L	13	See note 2
Total ferric chloride use	lbs/day	5,137	calculated[1]
Polymer Storage and Feed Facilities			
Storage Tanks			
Number	units	2	See note 4
Storage, each	gal	275	See note 2
Total storage volume	gal	550	See note 4
Feed Pumps			
Number	units	1	See note 2
Polymer dose	mg/L	0.10	See note 4

1. For more information on calculated values, see Appendix B.
2. Black & Veatch, 1996.
3. Polymer Storage Tanks are 275 gallon totes.
4. IEUA, 2009a.

Based on these criteria, the capacity of the primary treatment process, as defined in Section 4.1, is summarized in Table 4-10.

Table 4-10
Primary Treatment Capacity

Process	Peak Capacity (mgd)	Annual Average Capacity Without Redundancy (mgd)	Title 22 Reliable Annual Average Capacity (mgd)
Primary Clarifiers	121.7	48.7[1]	48.7[2]

1. Peak Capacity/Peaking Factor = 121.7/2.5 = 48.7
2. See discussion below regarding reliable capacity.

With all clarifiers in service, the annual average capacity of the primary treatment process is 48.7 mgd, based on a peak overflow rate of 2,400 gpd/sq ft and a peaking factor of 2.5. With the largest clarifier out of service, and based on this same design overflow rate, the annual average capacity would be reduced to 41.1 mgd. The overflow rate would increase to 2,567 gpd/sq ft, under the projected peak wet weather flow condition, if the largest unit was out of service. At this overflow rate, the performance of the clarifiers would be somewhat diminished, and increased loads would be imposed on downstream processes. However, the impacts of these increased loads would be buffered by flow equalization and short-term storage, allowing the secondary and tertiary treatment processes to continue to produce high quality recycled water. The rated reliable capacity of the primary treatment process can be based on utilizing all of the clarifiers because of the reliability provided by flow equalization and short-term storage as alternative processes under Title 22.

4.6 Flow Equalization, Short-Term Storage, and Intermediate Pumping

RP-1 features flow equalization composed of two basins, a short-term storage basin, flow diversion structures, and intermediate pumping facilities. Table 4-11 presents design criteria for the flow equalization, short-term storage, and intermediate pumping facilities.

Table 4-11
Flow Equalization, Short-Term Storage & Intermediate Pumping
Design Data

Parameter	Units	Value	Reference
Flow Equalization			
Number of basins	units	2	See note 2
Volume per basin	mil gal	1 @ 5.82, 1 @ 6.18	See note 5
Total volume	mil gal	12.0	See note 5

Table 4-11
Flow Equalization, Short-Term Storage & Intermediate Pumping
Design Data

Parameter	Units	Value	Reference
Short-Term Storage			
Number of basins	units	1	See note 2
Volume	mil gal	10.28	See note 5
Volume as a percent of annual average flow	percent	23	calculated[1]
Equalization and Storage Volume Required at PWWF	mil gal	21	calculated[1]
Intermediate Pumping			
Intermediate Pump Station No. 1			
Number of pumps	units	6	See note 4
Type of pumps		Vertical, Mixed Flow	See note 4
Capacity per pump	mgd	8	See notes 3 & 4
Total Discharge Head	ft	31	See note 4
Motor, each	hp	60	See note 4
Motor Drive	number and type	4 - Variable Frequency	See note 4
Intermediate Pump Station No. 2			
Number of pumps	units	4	See note 4
Type of pumps		Vertical, Mixed Flow	See note 4
Capacity per pump	mgd	8	See notes 3 & 4
Total Discharge Head	ft	33	See note 4
Motor, each	hp	75	See note 4
Motor Drive	number and type	2 – Variable Frequency	See note 4

1. For more information on calculated values, see Appendix B.
2. Black & Veatch, 1996.
3. James M. Montgomery Consulting Engineers, 1985 & 1987.
4. Parsons, 2003.
5. IEUA, 2009a.

Based on U.S. EPA guidelines (EPA 1979) for design of flow equalization facilities and flow peaking factors estimated for RP-1, Flow Equalization Basin Nos. 1 and 2 provide ample storage to effectively equalize diurnal flows and dampen peak flows to downstream treatment processes. Actual operating experience at RP-1 indicates that the secondary and tertiary processes experience a reduced diurnal flow pattern.

IEUA uses the short-term storage basin (Basin No. 3) during storm events to store and equalize peak wet weather flows. Its capacity can also be used to provide emergency storage or standby secondary treatment for emergency conditions when one of the anoxic/oxic-final clarifier systems is out of service by storing primary effluent until the secondary treatment units can be brought back on-line. Basin No. 3 can also provide storage for secondary effluent in the event that a portion of the tertiary treatment facilities are off-line. Chlorinated secondary effluent can be returned via pipeline upstream of the tertiary filters back to the emergency storage basin at RP-1.

The elevation of these ponds is the same elevation as the Intermediate Pump Station wetwells so that primary effluent flows to storage via gravity. Because the equalization basins and short-term storage basin have no mechanical equipment to malfunction, the likelihood of any basin being unavailable is negligible. Stored partially treated wastewater can then be conveyed to secondary and tertiary treatment after the emergency condition has been remedied.

Based on these criteria, the capacity for intermediate pumping, as defined in Section 4.1, is summarized in Table 4-12.

Table 4-12
Intermediate Pumping Capacity

Process	Peak Capacity (mgd)	Annual Average Capacity Without Reliability (mgd)	Title 22 Reliable Annual Average Capacity (mgd)
Intermediate Pumping	80.0	58.8[1]	47.1[2]

1. Peak capacity/secondary peak factor = 80.0/1.36 = 58.8
2. Peak capacity with two pumps out of service/secondary peak factor = (80.0-16)/1.36 = 47.1

With regard to intermediate pumping, RP-1 has a peak flow capacity of approximately 80 mgd if all ten pumps are in service. RP-1 has a reliable peak capacity of 64 mgd, even if one pump is out in each of the two Intermediate Pumping Stations. This is equivalent to a reliable average annual capacity of just over 47 mgd.

A bypass pipeline was constructed to divert primary effluent from RP-1 to RP-5 for secondary treatment. The bypass requires no pumping and conveys primary treated wastewater from RP-1 to RP-5 through a gravity pipeline. The RP-5 bypass gravity pipeline can be used to convey normal, dry weather, diurnal peak flows of primary effluent to RP-5 and help alleviate odors caused by primary effluent storage at RP-1. The RP-5 bypass line was completed in late 2006.

4.7 Secondary Treatment

The secondary facilities consist of three parallel suspended growth treatment systems: A, B, and C. Each system contains two identical aeration trains in parallel. Both System A and System B are identical. System C differs somewhat from the others because its clarifiers are larger. Tables 4-13 through 4-19 present operational parameters and design criteria for the secondary treatment facilities.

IEUA completed stress tests to determine the capacity of the secondary treatment facilities in 1996 (Cathcart Garcia Von Langen Engineers, 1996). As a result of those tests, modifications to the aeration system were made to bring the annual average capacity of the secondary treatment process up to 44 mgd. Modifications included installation of fine bubble diffused aeration, as recommended by the stress tests (IEUA, 1996 & Cathcart Garcia Von Langen Engineers, 1996). The flow split between Systems A, B, and C, which determines the rated capacity of each system, is based on actual performance results of the stress tests and the subsequent improvements.

Table 4-13
Secondary Treatment Operational Parameters for Systems A and B

Parameter	Units	Value	Reference
Suspended Growth Systems A and B[1]			
Influent Flow per System	percent	32	See notes 3 & 4
Influent Annual Average Flow per System	mgd	14.1	calculated[2]
Influent PWWF per System	mgd	19.2	calculated[2]
Peaking factor	units	1.36	See note 5
Average influent BOD	mg/L	131	calculated[2]
Average influent TSS	mg/L	96	calculated[2]
Average influent TKN	mg/L	32	calculated[2]
Peak month influent BOD	mg/L	184	calculated[2]
Peak month influent TSS	mg/L	163	calculated[2]
Peak month influent TKN	mg/L	38	calculated[2]
Anoxic zone per System			
Number of basins	units	2	See note 3
Length	feet	120	See note 8
Width	feet	60	See note 3
Side water depth	feet	17.8	See note 3

Table 4-13
Secondary Treatment Operational Parameters for Systems A and B

Parameter	Units	Value	Reference
Total volume	gallons	1,917,300	calculated[2]
Number of anoxic mixers	units	2	See note 3
Mixer motor, each	horsepower	20	See note 3
Oxic (aeration) zone per System			
Number of basins	units	2	See note 3
Length	feet	120	See note 8
Width	feet	60	See note 3
Side water depth	feet	17.8	See note 3
Total volume	gallons	1,917,300	calculated[2]
Average mixed liquor suspended solids	mg/L	4,200	See note 6
Dissolved oxygen level	mg/L	2.0	See note 6
Aeration type		Fine bubble panels	See note 7
Hydraulic retention time at annual average flow	hours	6.5	calculated[2]
Solids retention time (total including anoxic zone)	days	18	See note 6
Secondary solids	lb TSS/lb BOD_5	0.35	See note 6

1. Systems A and B are identical. One system is shown in table above.
2. For more information on calculated values, see Appendix B.
3. Black & Veatch, 1996.
4. IEUA, 1996.
5. IEUA, 2002-2004.
6. Parsons, 2003.
7. Cathcart Garcia Von Langen Engineers, 1996.
8. IEUA, 2009a.

Table 4-14
Secondary Clarifier Design Criteria for Systems A and B

Parameter	Units	Value	Reference
Clarifiers for Systems A and B[1]			
Influent Flow per System	percent	32	See notes 3 & 4
Influent Annual Average Flow per System	mgd	14.1	calculated[2]
Influent PWWF per System	mgd	19.2	calculated[2]
Peaking factor	units	1.36	See note 5
Number per System	units	2	See notes 3, 6 & 7
Diameter	feet	120	See notes 3, 6 & 7
Side water depth	feet	14	See notes 3, 6 & 7
Surface area per clarifier	sq ft	11,310	calculated[2]
Total surface area	sq ft	22,619	calculated[2]
Volume per clarifier	gallons	1,184,500	calculated[2]
Total volume	gallons	2,369,000	calculated[2]
Average overflow rate, all units in service	gpd/sq ft	700	See note 3
Detention time at Annual Average Flow, all units in service	hours	4.0	calculated[2]
Average solids loading rate	lbs/day/sq ft	42	See note 8
Return Activated Sludge	mg/L	8,400	See note 8
Annual average flow capacity	mgd	15.8	calculated[2]

1. Systems A and B are identical. One system is shown in table above.
2. For more information on calculated values, see Appendix B.
3. Black & Veatch, 1996.
4. IEUA, 1996.
5. IEUA, 2002-2004.
6. Carollo Engineers, 1993.
7. James M Montgomery Consulting Engineers, 1885 & 1987.
8. Parsons, 2003.

Table 4-15
Secondary Treatment Operational Parameters for System C

Parameter	Units	Value	Reference
Suspended Growth System C			
Influent Flow	percent	36	See notes 2 & 3
Influent Annual Average Flow	mgd	15.9	calculated[1]
Influent PWWF	mgd	21.6	calculated[1]
Peaking factor	units	1.36	See note 4
Average influent BOD	mg/L	131	calculated[1]
Average influent TSS	mg/L	96	calculated[1]
Average influent TKN	mg/L	32	calculated[1]
Peak month influent BOD	mg/L	184	calculated[1]
Peak month influent TSS	mg/L	163	calculated[1]
Peak month influent TKN	mg/L	38	calculated[1]
Anoxic zone per System			
Number of basins	units	2	See note 2
Length	feet	120	See note 7
Width	feet	60	See note 2
Side water depth	feet	17.8	See note 2
Total volume	gallons	1,917,300	calculated[1]
Number of anoxic mixers	units	2	See note 2
Mixer motor, each	horsepower	20	See note 2
Oxic (aeration) zone System			
Number of basins	units	2	See note 2
Length	feet	120	See note 7
Width	feet	60	See note 2
Side water depth	feet	17.8	See note 2
Total volume	gallons	1,917,300	calculated[1]
Average mixed liquor suspended solids	mg/L	4,200	See note 5
Dissolved oxygen level	mg/L	2.0	See note 5
Aeration type		Fine bubble panels	See note 6
Hydraulic retention time at annual average flow	hours	5.8	calculated[1]

Table 4-15
Secondary Treatment Operational Parameters for System C

Parameter	Units	Value	Reference
Solids retention time (total including anoxic zone)	days	18	See note 5
Secondary solids	lb TSS/lb BOD_5	0.35	See note 5

1. For more information on calculated values, see Appendix B.
2. Black & Veatch, 1996.
3. IEUA, 1996.
4. IEUA, 2002-2004
5. Parsons, 2003.
6. Cathcart Garcia Von Langen Engineers, 1996.
7. IEUA, 2009a.

Table 4-16
Secondary Clarifier Design Criteria for System C

Parameter	Units	Value	Reference
Clarifiers for System C			
Influent Flow	percent	36	See notes 2 & 3
Influent Annual Average Flow	mgd	15.9	calculated[1]
Influent PWWF	mgd	21.6	calculated[1]
Peaking factor	units	1.36	See note 4
Number	units	2	See notes 2, 5 & 6
Diameter	feet	130	See notes 2, 5 & 6
Side water depth	feet	14	See notes 2, 5 & 6
Surface area per clarifier	sq ft	13,273	calculated[1]
Total surface area	sq ft	26,546	calculated[1]
Volume per clarifier	gallons	1,390,200	calculated[1]
Total volume	gallons	2,780,300	calculated[1]
Average overflow rate, all units in service	gpd/sq ft	700	See note 2
Detention time at Annual Average Flow, all units in service	hours	4.2	calculated[1]
Average solids loading rate	lbs/day/sq ft	42	See note 7
Return Activated Sludge	mg/L	8,400	See note 7

Table 4-16
Secondary Clarifier Design Criteria for System C

Parameter	Units	Value	Reference
Annual average flow capacity	mgd	18.6	calculated[1]

1. For more information on calculated values, see Appendix B.
2. Black & Veatch, 1996.
3. IEUA, 1996.
4. IEUA, 2002-2004.
5. Carollo Engineers, 1993.
6. James M. Montgomery Consulting Engineers, 1985 & 1987.
7. Parsons, 2003.

Table 4-17
Secondary Treatment Aeration System

Parameter	Units	Value	Reference
Blowers for Fine Bubble Diffused Aeration in Oxic Zones (Systems A, B & C)			
Number	units	4	See notes 1 & 2
Type		Centrifugal	See note 2
Motor	horsepower, each	700	See notes 1 & 2
Capacity	standard cu ft / minute (scfm), each	13,426	See note 2

1. CH2M-Hill, 2003.
2. Parsons, 2003.

Table 4-18
Return Activated Sludge Pumping Design Criteria

Parameter	Units	Value	Reference
Return Sludge (RAS) Pumps			
Number			
System A	units	3	See note 2
System B	units	3	See note 2
System C	units	3	See note 2
Total	units	9	See note 2
Type		Horizontal, non-clog	See note 2
Motor Drive	number and type	2 – Variable Frequency per System and 1- Constant per System	See note 2
Capacity range per pump	gpm	0 – 5,600	See note 2
Total Discharge Head range	ft	6 - 29	See note 2
Average rate of return	percent of flow	97	See note 3
Annual average capacity, all units in service			
System A	mgd	24.9	calculated[1]
System B	mgd	24.9	calculated[1]
System C	mgd	24.9	calculated[1]
Total	mgd	74.7	calculated[1]
Annual average capacity, one unit out of service			
System A	mgd	16.6	calculated[1]
System B	mgd	16.6	calculated[1]
System C	mgd	16.6	calculated[1]
Total	mgd	49.8	calculated[1]

1. For more information on calculated values, see Appendix B.
2. James M. Montgomery Consulting Engineers, 1985 & 1987.
3. Parsons, 2003.

Table 4-19
Waste Activated Sludge Pumping Design Criteria

Parameter	Units	Value	Reference
Waste Sludge (WAS) Pumps			
Number			
Systems A & B (combined)	units	3	See note 2
System C	units	2	See note 2
Type		Horizontal, non-clog	See note 2
Motor Drive	type	Variable Frequency	See note 2
Capacity range per pump	gpm, each	0 – 600	See note 5
Head range	ft	6 – 36	See note 2
Average rate of secondary solids wasting	percent of flow	3	See note 3
Annual average capacity, all units in service			
Systems A & B (combined)	mgd	86.4	calculated[1]
System C	mgd	57.6	calculated[1]
Total	mgd	144.0	calculated[1]
Annual average capacity, one unit out of service			
Systems A & B (combined)	mgd	57.6	calculated[1]
System C	mgd	28.8	calculated[1]
Total	mgd	86.4	calculated[1]

1. For more information on calculated values, see Appendix B.
2. James M. Montgomery Consulting Engineers, 1985 & 1987.
3. Parsons, 2003.
4. Black & Veatch, 1996.
5. IEUA, 2009a.

The suspended growth process features a four-stage, single-sludge, biological nutrient removal (BNR) configuration, consisting of an anoxic zone followed by an oxic (aerobic) zone, concluded with a second anoxic and oxic zone to provide nitrification/denitrification for nitrogen removal. Each system is made up of two parallel trains, each with anoxic zones and oxic zones, and two secondary clarifiers. Flow equalized primary effluent enters the anoxic zones, which is mixed, but not aerated. In this denitrification zone, nitrates are biologically converted to nitrogen and released as nitrogen gas using the influent carbon source as food. Flow then continues to the oxic zone, which is aerated. In this nitrification zone, ammonia is biologically converted to nitrates.

Four large capacity blowers supply air to the fine bubble diffused aeration panels in the oxic zones. Only two blowers are used to supply air to the aeration system; the remaining two provide redundancy, if needed. Mixed liquor from the anoxic/oxic basins is sent to six circular secondary clarifiers. Return activated sludge (RAS) from the clarifiers is pumped to the influent of the anoxic zones where the nitrates are destroyed and released to the atmosphere. Waste activated sludge (WAS) is pumped to the dissolved air flotation (DAF) thickeners. Clarified secondary effluent is sent to the tertiary treatment process for further turbidity reduction and disinfection.

Based on these criteria, the capacity for RP-1's secondary treatment process, as defined in Section 4.1, is summarized in Table 4-20.

Table 4-20
Secondary Treatment Capacity

Process	Annual Average Capacity Without Redundancy (mgd)	Title 22 Reliable Annual Average Capacity (mgd)
System A	14.1	14.1[1]
System B	14.1	14.1[1]
System C	15.9	15.9[1]
Total	44.0[2]	44.0[1]

1. See discussion below regarding reliable capacity.
2. Parsons, 2003, to comply with TIN limit.

Under emergency conditions, IEUA proposes to utilize the Short-Term Storage Basin (Basin No. 3), as discussed above, for primary effluent storage and Title 22 redundancy for the secondary treatment process. On-site storage would provide an alternative means of standby capacity or redundancy in compliance with Title 22's allowance for short-term retention provisions for biological treatment processes. For example, System C would normally treat about 21.6 mgd (15.9 mgd x 1.36 peaking factor) during a peak wet weather flow event. System C is comprised of two parallel trains (See Tables 4-15 and 4-16), such that each train treats half the flow, or about 10.8 mgd. If one train of System C was out of service during a peak wet weather flow event, primary effluent could be diverted and temporarily stored in Basin No. 3, which has a volume of approximately 11.34 million gallons (See Table 4-11). Providing storage for that portion of the peak wet weather flow that the System C train would have handled, the Short-Term Storage Basin would provide approximately 25 hours of emergency storage for the secondary treatment process.

4.8 Flocculation / Clarification

Flocculation/clarification can be used as a side-stream tertiary process to treat recycled filter backwash by utilizing the sedimentation facility. Alternatively, the backwash waste can be diverted to the flow equalization basins where it would

be retreated through the secondary treatment process. The flocculation/clarification facility has a rated capacity of 20 mgd, but typically receives only about 3 to 5 mgd of waste filter backwash. The flocculation/clarifier reduces the turbidity of the recycled waste filter backwash stream prior to filtration. Alum is added as a coagulant. If needed, IEUA can also treat part of the filter influent stream, if the secondary effluent turbidity is high, for example, along with the waste washwater. Table 4-21 presents design criteria for the flocculation/clarification system.

Because flocculation/clarification is a sidestream process, its capacity is not included in the evaluation of the plant's overall Title 22 rated capacity. The 20 mgd rated flocculation/clarification process has the capacity to treat both the filter backwash waste loading and partial flows of high turbidity secondary effluent, if needed; however, RP-1 operates as a direct filtration plant.

Table 4-21
Flocculation/Clarification Facility Design Criteria

Parameter	Units	Value	Reference
Tertiary Plant Intake Pumping Station			
Number of pumps	units	2	See note 2
Capacity per pump	gpm	13,889	See note 2
Total capacity, all units in service	mgd	40	See note 2
Firm capacity, one unit out of service	mgd	20	See note 2
Coagulation/Flocculation/Clarification			
Average waste washwater flow	mgd	4	See note 3
Number of flocculation basins	units	2	See note 2
Volume per flocculation basin	cu ft	37,000	See note 2
Total volume	cu ft	74,000	See note 2
Detention time	minutes	15-20	See note 2
Alum storage and feed			
Storage	gallons	80,000	See note 2
Average dose	mg/L	5	See note 4
Average liquid feed rate	lb/day	250	See note 4
Number of pumps	units	4	See note 2
Maximum capacity per pump	gph	0-60	See note 2

Table 4-21
Flocculation/Clarification Facility Design Criteria

Parameter	Units	Value	Reference
Number of flocculation clarifiers	units	2	See note 2
Length	ft	120	See note 2
Width	ft	39.3	See note 2
Side water depth	ft	12	See note 2
Surface area per clarifier	sq ft	4,716	calculated[1]
Total surface area	sq ft	9,432	calculated[1]
Overflow rate at average flow	gpd/sq ft	424	calculated[1]

1. For more information on calculated values, see Appendix B.
2. Black & Veatch, 1996.
3. IEUA, 2002-2004.
4. IEUA, 2009

4.9 Filtration

The Title 22 Water Recycling Criteria (California, 2001) require that "filtered wastewater" be an oxidized wastewater that has passed through a bed of filter media at a rate that does not exceed 5 gpm/sq ft of surface area in dual media gravity filters, such as those at RP-1, so that the turbidity of the filtered wastewater does not exceed (a) an average of 2 NTU within a 24-hour period, (b) 5 NTU more than 5 percent of the time within a 24-hour period, and (c) 10 NTU at any time. Under Title 22 requirements, the filtration rate is restricted to no more than 5 gpm/sq ft with one filter out of service. Considering that a filter may be on-line, but performing a backwash sequence, this means that the maximum filtration rate allowable under Title 22 is 5 gpm/sq ft with two filters out of service (one out of service and another in backwash).

Table 4-22 presents design criteria for the RP-1 tertiary filtration facilities. The tertiary process features direct filtration of secondary effluent using 26 dual media gravity filters. Filter media is conventional anthracite and sand. The filters are arranged in three banks. Filter Bank No. 1 has eight filters. Filter Bank No. 2 and No. 3 each have nine filters. All of the filters are the same size. Providing in-line coagulation, alum is added to the filter influent to enhance filtration. Polymer feed facilities exist for additional coagulation, if needed to meet compliance with RP-1's discharge limits.

The peaking factor for filtration is based on peak dry weather flow because the RP-1 permit allows for bypassing peak wet weather flows around the filters when the effluent discharge is sufficiently diluted (at least 20:1) by the receiving waters. Thus, the peak dry weather influent flow to the filters is 51.9 mgd (44 mgd times 1.18 peaking factor).

For Title 22 compliance and enhanced flexibility, the three filter banks may be operated as a whole system, or separately, to control the filtration rate in each bank. Filter influent flow is metered by one meter controlling influent into bank No. 1 and one meter for banks No. 2 and 3. Filter influent is hydraulically balanced by manually adjusting valves between the filter banks and filter effluent is metered to ensure that the 5 gpm/sq ft maximum filtration rate required under Title 22 is not exceeded for water reuse. Currently, the filter influent valves are set conservatively so that the filter loading limit is not exceeded. Filtered effluent is metered and an alarm automatically alerts the operators of filter flow rates approaching the maximum limit. If the alarm indicates that the flow rate is being exceeded, the operator will adjust the filter influent valves to reduce the flow rate and maintain Title 22 compliance.

The filtration process as a whole (all three filter banks together) receiving an equalized secondary effluent flow of 51.9 mgd (44 mgd x 1.18 peaking factor = 51.9 mgd peak dry weather filter influent flow) would operate at a filtration rate of 4.6 gpm/sq ft with all 26 filters in service, or at a maximum filtration rate of 5.0 gpm/sq ft with 24 filters in service (one filter in backwash and another filter off-line). Therefore, the filtration process as a whole system complies with Title 22 Water Recycling Criteria for tertiary effluent at the peak dry weather flow of 51.9 mgd.

Table 4-22
Tertiary Filtration Design Criteria

Parameter	Units	Value	Reference
Influent annual average flow	mgd	44.0	See notes 3 & 4
Influent peak dry weather flow	mgd	51.9	calculated[1]
Dry weather peaking factor	units	1.18[2]	See note 5
Total number of filters	units	26	See notes 4 & 6
Length per filter	feet	24.3	See notes 4 & 6
Width per filter	feet	12.3	See notes 4 & 6
Surface area per filter	sq ft	299	calculated[1]
Media	type	dual	See notes 4, 6 & 7
Depth	inches	anthracite: 24 sand: 12 gravel: 18	See notes 4, 6 & 7
Effective size	millimeters	anthracite:1.1-1.25 sand: 0.5-0.6	See notes 4, 6 & 7
Uniformity coefficient		1.4 – 1.5	See notes

Table 4-22
Tertiary Filtration Design Criteria

Parameter	Units	Value	Reference
			43, 6 & 7
Number of filter banks	banks	3	See notes 4 & 7
Filter Bank No. 1			
Number of filters	units	8	See notes 4 & 7
Bank surface area, all units in service	sq ft	2,392	calculated[1]
Filter Bank No. 2			
Number of filters	units	9	See notes 4 & 6
Bank surface area, all units in service	sq ft	2,691	calculated[1]
Filter Bank No. 3			
Number of filters	units	9	See notes 4 & 6
Bank surface area, all units in service	sq ft	2,691	calculated[1]
Filtration Process as a Whole (Filter Bank Nos. 1, 2 & 3)			
Total surface area, all units in service	sq ft	7,771	calculated[1]
Firm surface area, two units out of service (one in backwash and one out for maintenance)	sq ft	7,173	calculated[1]
Filtration rate at peak dry weather flow, all units in service	gpm/sq ft	4.6	calculated[1]
Filtration rate at peak dry weather flow, two units out of service (one in backwash and one out for maintenance)	gpm/sq ft	5.0	calculated[1]
Maximum capacity, all units in service at 5 gpm/sq ft	mgd	55.9	calculated[1]
Annual average capacity, all units in service at 5	mgd	47.4	calculated[1]

Table 4-22
Tertiary Filtration Design Criteria

Parameter	Units	Value	Reference
gpm/sq ft			
Maximum capacity (Title 22 reliable capacity), two units out of service (one in backwash and one out for maintenance)	mgd	51.9	calculated[1]
Annual average capacity (Title 22 reliable capacity), two units out of service (one in backwash and one out for maintenance	mgd	44.0	calculated[1]
Filter backwash rate	gpm/sq ft	18.5	See note 7
Waste washwater holding basin and pumps			
Volume	gallons	780,000	See note 4
Number of pumps	units	3	See note 4
Capacity per pump	gpm	3,900	See note 4
Total capacity	gpm	11,700	calculated[1]

1. For more information on calculated values, see Appendix B.
2. During peak wet weather flow events, the filters may be bypassed and secondary effluent may be discharged when the receiving water provides at least 20:1 dilution. See filtration capacity discussion below.
3. RWQCB, 2009a.
4. Black & Veatch, 1996.
5. Carollo Engineers, 2002.
6. Parsons, 2003.
7. James M Montgomery Consulting Engineers, 1985 & 1987.

Chlorinated tertiary filter effluent is used as the source of backwash supply. Filter backwash waste is stored in a holding basin and pumped to the equalization basins or the flocculation/clarifier for treatment and recycling.

In summary, the tertiary filtration process, considered as a whole system, is able to treat peak flows up to 55.9 mgd with all 26 filters on-line at a filtration rate of 5 gpm/sq ft. This is equivalent to an annual average capacity of 47.4 mgd based on a peaking factor of 1.18 with all 26 filters in service. When Title 22 redundancy requirements are considered (one filter out of service and one filter in backwash), the filtration process as a whole system can reliably treat peak flows of 51.9 mgd with 24 filters in service at a filtration rate of 5 gpm/sq ft. This is equivalent to a reliable annual average flow capacity of 44 mgd for Title 22 compliance with all three banks together. The tertiary filtration capacity, as defined in Section 4.1, is summarized in Table 4-23.

Table 4-23
Tertiary Filtration Capacity

Process	Peak Capacity (mgd)	Annual Average Capacity Without Reliability (mgd)	Title 22 Reliable Annual Average Capacity (mgd)
Filtration as a whole	55.9[1]	47.4[2]	44.0 [3, 4]

1. Based on a maximum filtration rate of 5 gpm/sq ft. with 26 of 26 filters in service.
2. 55.9 mgd /1.18 peaking factor = 47.4 mgd (with 26 of 26 filters in service).
3. Based on a maximum filtration rate of 5 gpm/sq ft with 24 of 26 filters in service (one filter in backwash and one filter off-line).
4. During peak wet weather flow events, the filters may be bypassed and secondary effluent may be discharged when the receiving water provides at least 20:1 dilution. See Section 4.10.

RP-1's discharge permit allows unfiltered secondary effluent to be discharged whenever the flow in the receiving waters provides at least a 20:1 dilution. This dilution is provided during rainy periods, allowing RP-1 to bypass part of the secondary effluent around the filters. Initially, Filter Bank No. 1 would be bypassed and a portion of secondary effluent would be disinfected in a separate chlorine contact tank, dechlorinated, and discharged to Cucamonga Creek. Filter influent flow to Filter Bank Nos. 2 and 3 would be regulated to allow those filters to produce high quality recycled water in compliance with Title 22. At higher peak wet weather flows, Filter Bank Nos. 2 and 3 may also be bypassed, and disinfected, dechlorinated secondary effluent may be discharged to the creek provided that at least a 20:1 dilution is present in the creek. The next subsection has more information about disinfection capacity.

4.10 Chlorination/Dechlorination

RP-1 tertiary effluent is disinfected using sodium hypochlorite. Sodium hypochlorite is added to either or both the filter influent and effluent.

The disinfection facilities consist of sodium hypochlorite storage tanks and metering pumps, chlorine contact basins, and outfall pipelines. This system is capable of producing recycled water with a daily minimum one-hour average Concentration-Time of 450 mg-min/L. Design criteria are presented in Table 4-24 for the sodium hypochlorite system. At an average feed rate of 10 mg/L and with one of the metering pumps out of service, the reliable annual average capacity of the sodium hypochlorite feed system is over 58 mgd.

Table 4-24
Sodium Hypochlorite System Design Criteria

Parameter	Units	Value	Reference
Sodium hypochlorite concentration	percent	12.5	See note 2
Maximum dose @ average flow	mg/L	20	See note 2
Minimum residual	mg/L	5	See note 2
Days of storage	days	3	See note 2
Bulk Storage System			
Number of tanks	units	3	See note 2
Volume per tank	gallons	10,000	See note 2
Total volume	gallons	30,000	See note 2
Feed System			
Number of metering pumps	units	4	See note 3
Capacity per pump	gph	100	See note 3
Capacity			
Feed rate	gpd	10,000	See note 2
Peak capacity at 10 mg/L feedrate	mgd	115.1	calculated[1]
Annual average flow, all units in service	mgd	78	See note 2
Annual average flow, one pump out of service	mgd	58.5	calculated[1]

1. For more information on calculated values, see Appendix B.
2. Parsons, 2003.
3. CH2M-Hill, 2003.

RP-1 has three chlorine contact tanks. Chlorine Contact Tank Nos. 1 and 2 are identical and are described in Table 4-25. Chlorine Contact Tank No. 3 was added in 2004 and is described in Table 4-26.

Table 4-25
Chlorine Contact Tanks No. 1 & 2 Operating Parameters

Parameter	Units	Value	Reference
Chlorine Contact Tank Nos. 1 and 2			
Length per tank	feet	310.3	See note 2
Width per tank (5 channels)	feet	41.67	See note 2
Side water depth	feet	13.5	See note 2
Volume per tank	gallons	1,305,692	calculated[1]
Total volume (Nos. 1 and 2)	gallons	2,611,383	calculated[1]
Channel width	feet	8.3	See note 2
Effective length	feet	1,551	calculated[1]
Length : width	ratio	187 : 1	calculated[1]
Length : depth	ratio	115 : 1	calculated[1]
Required modal contact time	minutes	90	See note 3
Required CT	mg-min/L	450	See note 3
Peaking factor	units	1.18	See note 4
Peak capacity, (Tank Nos. 1 and 2 - all units in service)	mgd	41.3	calculated[1]
Annual average capacity, (Tank Nos. 1 and 2 - all units in service)	mgd	35	See note 4

1. For more information on calculated values, see Appendix B.
2. Black & Veatch, 1996.
3. RWQCB, 2009a.
4. Carollo Engineers, 2002.

Chlorine Contact Tank Nos. 1 and 2 provide the required contact time (CT), at least 450 milligram-minutes per liter (mg-min/L) with a 90-minute modal contact time, for up to 35 mgd of full Title 22 recycled water uses. According to dye tests conducted at RP-1, these two contact basins and their associated on-site piping provide a 90-minute modal contact time for an annual average flow of 35 mgd with a dry weather peaking factor of 1.18 (Carollo Engineers, 2002). At the 35 mgd flow rate, to reach the minimum CT of 450 mg-min/L, the required chlorine residual would be 5 mg/L (90 minutes modal contact time times 5 mg/L chlorine residual = 450 mg-min/L).

In summary, Chlorine Contact Tank Nos. 1 and 2 provide an annual average chlorination capacity of 35 mgd..

Utility water can be supplied to in-plant uses via two locations: an existing pump station that draws chlorinated filter effluent from the “old” effluent junction structure (See Figure 4-2.), or by utilizing the Philadelphia (1050 Feet Pressure Zone) Recycled Water Pump Station. IEUA plans to replace the utility water

pumps; however, they will remain at the same location, upstream of the chlorine contact basins. Thus, if the existing pump station is utilized, the plant utility water is chlorinated, but would not receive the full 90-minute modal contact time. Utility water is used for in-plant purposes. The utility water coliform limit is 240 MPN per 100 mL for two consecutive days, and the 7-day median should not exceed 23 MPN per 100 mL for two days.

Construction of a third contact tank was completed in 2004. Table 4-26 summarizes design criteria for Chlorine Contact Tank No. 3. Based on 90 minutes contact time, the addition of Chlorine Contact Tank No. 3 added approximately 14.8 mgd of capacity, bringing the total annual average disinfection capacity of all three chlorine contact tanks up to 49.8 mgd (35 mgd plus 14.8 mgd) for the 90-minute modal contact time (Carollo Engineers, 2002). Table 4-27 summarizes the existing chlorine contact tank capacity at RP-1.

Table 4-26
Chlorine Contact No. 3 Tank Operating Parameters

Parameter	Units	Value	Reference
Chlorine Contact Tank No. 3			
Length	feet	2 channels @ 309.7, 1 channel @ 259.4	See note 2
Width (all 3 channels)	feet	38.0	See note 2
Side water depth	feet	13.13	See note 2
Total volume	gallons	1,093,682	calculated[1]
Channel width	feet	12.67	See note 2
Effective length	feet	879	calculated[1]
Length : width	ratio	69 : 1	calculated[1]
Length : depth	ratio	67 : 1	calculated[1]
Required modal contact time	minutes	90	See note 3
Required CT	mg-min/L	450	See note 3
Peaking factor	units	1.18	See note 2
Peak capacity (Tank No. 3)	mgd	17.5	calculated[1]
Annual average capacity(Tank No. 3)	mgd	14.8	calculated[1]

1. For more information on calculated values, see Appendix B.
2. Carollo Engineers, 2002.
3. RWQCB, 2009a.

Table 4-27
Chlorine Contact Capacity

Process	Peak Capacity (mgd)	Annual Average Capacity Without Reliability (mgd)	Title 22 Reliable Annual Average Capacity (mgd)
Chlorine Contact Disinfection	58.8	49.8[1]	49.8 [2]

1. 58.8 mgd / 1.18 peaking factor = 49.8 mgd
2. For this process, the Title 22 reliable capacity equals annual average capacity with all tanks in service because it is highly unlikely that a chlorine contact tank would be taken out of service.

As illustrated in the tertiary treatment schematic shown on Figure 4-2 (presented earlier), the filter effluent piping modifications and the chlorine contact tank cells increase flexibility by allowing both Chlorine Contact Tank No. 2 & 3 to send effluent directly to Cucamonga Creek through Discharge Point 002.

Disinfected recycled water from Chlorine Contact Tank Nos. 1, 2 and 3 flows to the RP-1 Recycled Water Pump Station.

RP-1 effluent discharged to Cucamonga Creek or Prado Lake is dechlorinated using sodium bisulfite prior to discharge. The dechlorination facilities consist of storage tanks and feed pumps at two sites: RP-1 and Prado Lake. At the RP-1 facilities, RP-4 effluent is commingled with RP-1 effluent, dechlorinated, and discharged to Cucamonga Creek via the Discharge Point 002. RP-1 recycled water in excess of recycled water demands supplied by the South Zone Recycled Water Pump Station is dechlorinated at the end of the Discharge Point 001and discharged to Prado Lake. Table 4-28 summarizes design criteria for the dechlorination facilities.

Table 4-28
Dechlorination Design Criteria

Parameter	Units	Value	Reference
Influent Average Dry Weather Flow	mgd	44.0	See note 2
Influent Peak Wet Weather Flow	mgd	55.4	See note 4
Average Sodium Bisulfite Dose	mg/L	14	See note 3
Average Sodium Bisulfite Feed Rate	lbs/day	5,137	calculated[1]
Average Sodium Bisulfite Use	gpd	1,223	calculated[1]
Maximum Sodium Bisulfite Dose	mg/L	30	See note 3

Table 4-28
Dechlorination Design Criteria

Parameter	Units	Value	Reference
Maximum Sodium Bisulfite Feed Rate	lbs/day	11,009	calculated[1]
Maximum Sodium Bisulfite Use	gpd	2,621	calculated[1]
Sodium Bisulfite Storage			
Number of tanks	units	2 @ RP-1 2 @ Prado	See note 3
Volume per tank	gallons	12,500 @ RP-1 6,500 @ Prado	See note 3
Total storage	gallons	25,000 @ RP-1 13,000 @ Prado	See note 3
Sodium Bisulfite Feed Pumps			
Number of pumps	units	4 @ RP-1 3 @ Prado	See note 3
Capacity per pump	gph	90 @ RP-1 85 @ Prado	See note 7
Peak Capacity	mgd	145 @ RP-1 103 @ Prado	calculated[1]
Annual Average Capacity Without Reliability	mgd	115 @ RP-1 82 @ Prado	calculated[1]
Title 22 Reliable Annual Average Capacity	mgd	86 @ RP-1 54 @ Prado	calculated[1]
Dechlorination Chamber (North)			
Overall Footprint	ft x ft	14.5 x 74.0	See note 3
Approximate depth	ft	9.25	See note 3
Mixer Motor	hp	1.5	See note 3
Mixer Motor Speed	rpm	125	See note 3
Chamber volume	gallons	74,241	calculated[1]
Dechlorination Chamber (South)			
Overall Footprint	ft x ft	14.0 x 30.0	See note 3
Approximate depth	ft	6.0	See note 3
Chamber volume	gallons	18,850	calculated[1]
Total volume	gallons	93,091	calculated[1]
Detention time for dechlorination	min	5	See note 5
Peaking factor	units	1.18	See note 6
Peak capacity	mgd	26.8	calculated[1]

Table 4-28
Dechlorination Design Criteria

Parameter	Units	Value	Reference
Annual average capacity	mgd	22.7	calculated[1]

1. For more information on calculated values, see Appendix B.
2. RWQCB, 2009a.
3. Black & Veatch, 1996.
4. IEUA, 2002-2004.
5. MWH, 2007.
6. Carollo Engineers, 2002.
7. IEUA, 2009a.

Based on these design criteria, the capacity of the chlorination/dechlorination facilities, as defined in Section 4.1, is summarized in Table 4-29.

Table 4-29
Chlorination/Dechlorination Capacity

Process	Peak Capacity (mgd)	Annual Average Capacity Without Reliability (mgd)	Title 22 Reliable Annual Average Capacity (mgd)
Sodium hypochlorite	98.3	78	58.5
Chlorine Contact Tank Nos. 1 and 2	41.3	35.0	35.0[1]
Chlorine Contact Tank No. 3	17.5	14.8	14.8[1]
Total Chlorine Contact[2]	58.8	49.8	49.8[1]
Dechlorination @ RP-1 (Discharge Point 002)	145	115	86
Dechlorination @ Prado Lake (Discharge Point 001)	103	82	54

1. See discussion below regarding reliable capacity.
2. Total existing contact capacity is the sum of the capacities of Chlorine Contact Tank Nos. 1, 2, and 3.

Regarding redundancy, it is highly unlikely that the chlorine contact tanks or outfall pipeline would be out of service. The probability of one of the contact basins being out of service is extremely small because of its lack of mechanical equipment. In addition, standby storage of secondary effluent could be provided by Short-Term Storage (Equalization Basin No. 3) if one of the chlorine contact tanks were off-line. Therefore, the Title 22 reliable annual average capacity for the chlorine contact facilities is equal to the annual average capacity without reliability.

In conclusion, the Title 22 reliable annual average chlorination/dechlorination capacity of the tertiary treatment is restricted to 49.8 mgd based on existing Chlorine Contact Tank Nos. 1, 2 and 3.

4.11 Recycled Water Pump Station

The RP-1 Recycled Water Pump Station features three sets of pumps, Zone 1158 pumps (Zone 2B) Zone 1050 pumps (Philadelphia Line) and Zone 930 pumps (South Zone) Station. (See Figure 4-2) The Zone 1158 pumps discharge recycled water from RP-1 into the existing RP-4 outfall pipeline between RP-4 and RP-1, converting outfall line to a pressurized pipeline. The Zone 1050 pumps convey recycled water to irrigation users, groundwater recharge, as well as potential future users along Philadelphia Avenue. The Zone 930 pumps Station is interconnected to the Carbon Canyon Wastewater Reclamation Facility Recycled Water Pump Station and the Regional Plant No.5 Recycled Water Pump Station; any water conveyed by these Stations can be discharged to Prado Lake Dechlorination Station. Design criteria for the RP-1 Recycled Water Pump Station are summarized in Table 4-30.

Table 4-30
Recycled Water Pump Station Design Criteria

Parameter	Units	Value	Reference
South Zone Pump Station			See note 3
Pressure Zone	feet	930	See note 3
Capacity of Pump Station	mgd	34.5	See note 3
Number	units	3	See note 3
Type	type	Peerless Pump, Sterling: Vertical Turbine	See note 3
Motor horsepower, each	hp	150	See note 3
Rated Capacity per pump	gpm	2790	See note 3
Rated Head @ 1770 rpm	feet	170	See note 3
Motor Drive	type	Variable Frequency	See note 3
Number	units	1	See note 3
Type	type	Peerless Pump, Sterling: Vertical Turbine	See note 3
Motor horsepower, each	hp	500	See note 3
Rated Capacity per pump	gpm	9330	See note 3
Rated Head @ 1170 rpm	feet	170	See note 3
Motor Drive	type	Variable Frequency	See note 3
Philadelphia Pump Station			

Table 4-30
Recycled Water Pump Station Design Criteria

Parameter	Units	Value	Reference
Pressure Zone	feet	1050	See note 3
Capacity of Pump Station	mgd	13.5	See note 3
Number	units	3	See note 3
Type	type	Peerless Pump, Sterling: Vertical Turbine	See note 3
Motor horsepower, each	hp	300	See note 3
Rated Capacity per pump	gpm	3750	See note 3
Rated Head @ 1780 rpm	feet	260	See note 3
Motor Drive	type	Variable Frequency	See note 3
Zone 2B Pump Station			
Pressure Zone	feet	1158	See note 3
Capacity of Pump Station	mgd	16.0	See note 3
Number	units	4	See note 3
Type	type	Peerless Pump, Sterling: Vertical Turbine	See note 3
Motor horsepower, each	hp	400	See note 3
Rated Capacity per pump	gpm	2700	See note 3
Rated Head @ 1780 rpm	feet	470	See note 3
Motor Drive	type	Variable Frequency	See note 3
Outfall Pump Station			See note 3
Pressure Zone	feet	RP-1 Utility	See note 3
Capacity of Pump Station	mgd	7.8	See note 3
Number	units	2	See note 3
Type	type	Centrifugal Pump	See note 3
Motor horsepower, each	hp	150	See note 3
Rated Capacity per pump	gpm	1,500	See note 3
Motor Drive	type	Constant	See note 3
Number	units	3	See note 3
Type	type	Centrifugal Pump	See note 3
Motor horsepower, each	hp	75	See note 3
Rated Capacity per pump	gpm	800	See note 3
Motor Drive	type	Constant	See note 3

1. For more information on calculated values, see Appendix B.
2. Standby capacity will be provided by a Zone 2B pressure reducing valve that interties the W3 system with the Zone 2B system.
3. IEUA, 2009a.

4.12 Solids Thickening

RP-1 features two kinds of biosolids thickening: gravity thickening for primary solids and DAF thickening for secondary biosolids. Table 4-31 presents design criteria for these two biosolids thickening processes.

Table 4-31
Biosolids Thickening Design Criteria

Parameter	Units	Value	Reference
Gravity Thickeners			
Number	units	1	See note 2
Diameter	feet	70	See note 4
Water Depth	feet	14	See note 4
Total surface area	sq ft	3,848	calculated[1]
Primary solids loading rate	lbs/day/sq ft	22.5	See note 4
Thickened primary biosolids solids concentration	percent	6.0	See note 4
Average thickened primary biosolids flow	gpd	1,152,000	See note 4
Supernatant flow	mgd	1.2-2.3	See note 4
Thickened primary biosolids pumps			
Number	units	3	See note 2
Capacity per pump	gpm	1 @ 150 1 @ 50	See note 4
Total capacity	gpd	288,000	calculated[1]
Reliable capacity	gpd	72,000	calculated[1]
Dissolved Air Floatation Thickeners			
Number	units	3	See note 3
Length	feet	46.5	See note 3
Width	feet	15	See note 3
Total surface area	sq ft	2,100	calculated[1]
Solids loading rate per unit	lbs/hr/sq ft	700-1,400	See note 4
Thickened WAS solids concentration	percent	5	See note 2
Average thickened WAS flow	gpd	178,000	See note 2
Subnatant flow	mgd	0.3-0.5	See note 2
Thickened WAS pumps			
Number	units	5	See note 4
Capacity per pump	gpm	200	See note 2
Total capacity	mgd	1.4	calculated[1]
Firm capacity	mgd	1.2	calculated[1]

1. For more information on calculated values, see Appendix B.
2. Black & Veatch, 1996.
3. James M. Montgomery Consulting Engineers, 1985 & 1987.
4. IEUA, 2009a.

The solids concentration of the primary biosolids is increased from about 3 to nearly 7 percent using the gravity thickeners. Supernatant is returned to the splitter box at the headworks, downstream of the grit basins. WAS is thickened by three DAFT units from about 1 to 4 percent. Subnatant from the DAF thickeners is returned to the System C secondary treatment process.

4.13 Anaerobic Digestion

RP-1 has seven digesters. Prior to November 2000, the digesters operated in parallel at mesophilic temperatures of about 95^{o} F. In order to meet 40 CFR Part 503 regulations for Class A biosolids, IEUA converted the digestion system to a three-phase thermophilic process using six of the digesters. Thickened biosolids from the primary and secondary processes are stabilized in a three-stage anaerobic digestion process, which consists of mesophilic acid/thermophilic/mesophilic digestion stages. The three-stage digestion system increases the digestion rate, which increases the solids reduction and gas production. Table 4-32 presents design criteria for anaerobic digestion at RP-1.

Table 4-32
Anaerobic Digestion Design Criteria

Parameter	Units	Value	Reference
Number of digesters	units	7	See note 2
Mesophilic-Acid (90-95^{o} F.)			
Digester #1			
Diameter	ft	69	See notes 1 & 2
Depth	ft	30	See notes 1 & 2
Volume	gallons	838,670	See notes 1 & 2
Thermophilic-Gas (125-130^{o} F.)			
Digester #2			
Diameter	ft	69	See notes 1 & 2
Depth	ft	30	See notes 1 & 2
Volume	gallons	838,670	See notes 1 & 2
Digester #6			
Diameter	ft	90	See notes 1 & 2

Table 4-32
Anaerobic Digestion Design Criteria

Parameter	Units	Value	Reference
Depth	ft	30	See notes 1 & 2
Volume	gallons	1,680,509	See notes 1 & 2
Digester #7			
Diameter	ft	90	See notes 1 & 2
Depth	ft	30	See notes 1 & 2
Volume	gallons	1,680,509	See notes 1 & 2
Mesophilic-Gas (110-120^{o} F.)			
Digester #3 & 4			
Diameter	ft	65	See notes 1 & 2
Depth	ft	30	See notes 1 & 2
Volume	gallons	744,250	See notes 1 & 2
Digester #5			
Diameter	ft	80	See notes 1 & 2
Depth	ft	30	See notes 1 & 2
Volume	gallons	1,252,653	See notes 1 & 2
Mesophilic-Acid Detention Time	days	1.8	See note 2
Thermophilic-Gas Detention Time	days	9	See note 2
Mesophilic-Gas Detention Time	days	6	See note 2
Volatile Suspended Solids (VSS) loading, all units in service	lbs/day/cu ft	0.1	See note 1
VSS reduction	percent	50-60	See notes 2 & 3
Digestion capacity based on above hydraulic retention times and all units in service			
Mesophilic-Acid			
Raw Biosolids Flow	gpd	466,200	See note 2
Capacity	mgd	60.0	See note 2
Thermophilic-Gas			
Raw Biosolids Flow	gpd	475,200	See note 2
Capacity	mgd	61.2	See note 2

Table 4-32
Anaerobic Digestion Design Criteria

Parameter	Units	Value	Reference
Mesophilic-Gas			
Raw Biosolids Flow	gpd	491,300	See note 2
Capacity	mgd	63.3	See note 2

1. Black & Veatch, 1996.
2. Parsons, 2003.
3. CH2M-Hill, 2003.

The total design detention time in the digesters is about 17 days on an annual average flow basis. Volatile suspended solids (VSS) destruction is approximately 50 to 60 percent, resulting in Class A stabilized solids.

Title 22 does not include requirements for anaerobic digestion. Design criteria are provided, as discussed above, to demonstrate complete on-site treatment capabilities.

4.14 Solids Dewatering and Disposal

Digested biosolids are dewatered by belt filter presses, which produce a dewatered cake between 15 and 18 percent solids. Table 4-33 presents design criteria for solids dewatering facilities at RP-1.

Table 4-33
Solids Dewatering Design Criteria

Parameter	Units	Value	Reference
Solids Dewatering – Belt Filter Presses			
Digested solids pumps			
Number	units	4	See note 2
Capacity per pump	gpm	150	See note 2
Total capacity	gpm	600	calculated[1]
Firm capacity	gpm	450	calculated[1]
Digested solids (feed) concentration	percent	2.5	See note 2
Solids chemical conditioning system	type	polymer	See note 2
Belt filter presses			
Number	units	4	See notes 2 & 3
Nominal belt width	meters	2	See note 3
Hours of operation	hrs/day	12	See note 3
Average loading rate	gpm/meter	68	See note 2

Table 4-33
Solids Dewatering Design Criteria

Parameter	Units	Value	Reference
Dewatered cake solids concentration	percent	15-20	See notes 4 & 5
Solids capture rate	percent	92-95	See note 3
Average washwater return flow	gpd	100,000	See note 3
Dewatered Solids Disposal			
Solids Production	wet tons/day	120-140	See note 3
Transportation mode		trucks	See note 3
Number of truckloads	trucks/day	6 – 7	See note 3
Disposal site		co-composting	See note 3

1. For more information on calculated values, see Appendix B.
2. James M. Montgomery Consulting Engineers, 1985 & 1987.
3. Black & Veatch, 1996.
4. CH2M-Hill, 2003.
5. Parsons, 2003.

Dewatered stabilized biosolids are discharged to trucks and then hauled to a co-composting site for ultimate disposal.

Biosolids filtrate from the belt filter presses is currently discharged to the Non-Reclaimable Waste (NRW) pipeline, which conveys it to the Los Angeles County Sanitation Districts for treatment and disposal. IEUA is evaluating four options for the biosolids filtrate: (1) sidestream treatment at RP-1; (2) return to RP-1 and providing more air for aeration; (3) discharge to RP-5; and (4) continued discharge to the NRW line.

As discussed in the above sections, Title 22 does not specify requirements for solids handling processes. Design criteria for solids dewatering are provided for information purposes.

4.15 Odor Control

Currently RP-1 facilities possess two foul air bio-filters and one headworks odor scrubber. One bio-filter is designated to treat foul air from the headworks and the rectangular primary clarifiers; the odor scrubber is a backup foul air treatment process to be used during bio-filter media replacement. The second bio-filter treats foul air from the gravity thickener and dewatering building.

4.16 Power Supply

The primary source of power to RP-1 is Southern California Edison. This electrical power is supplied to the plant by four feeders. If an insufficient supply

of SCE power is unavailable, the entire plant automatically switches to the diesel generators power supply.

The secondary source of power to RP-1 is from the on-site cogeneration facilities, which burn digester biogas to generate electricity: two 1,400 KW capacity engines. Power from the cogeneration is used to minimize the SCE load when digester gas in available.

RP-1 also has three diesel-powered 1250 kW capacity standby generators, and one 600 kW capacity standby generator located in the tertiary process control building. Process equipment automatically switches over to these standby generators in the event of a power failure.

With two power sources, cogeneration and Southern California Edison, plus standby generators, RP-1 fully complies with the power supply reliability requirements of Title 22.

4.17 Monitoring and Alarms

Title 22 also requires that alarm devices be provided for (1) loss of power from the normal supply, (2) failure of the biological treatment process, (3) failure of the disinfection process, (4) failure of the coagulation process, and (5) failure of the filtration process. Operation of all these systems is constantly monitored and alarms are provided. RP-1 has a state-of-the-art Supervisory Control and Data Acquisition (SCADA) system that monitors all the vital functions in the plant. The RP-1 alarm devices monitor the following functions:

- Loss of normal power
- Failure of the biological treatment process
- Failure of the coagulation process
- Failure of the filtration process
- Failure of the disinfection process

Plant alarms are on emergency power and the signals are displayed all control rooms where they are monitored by operations personnel. RP-1 is manned 12 hours per day, 7 days per week. During the remaining 12 hours each day when the plant is unmanned, RP-1 operation is monitored remotely by the assigned operator via computer through the Distributed Control System (DCS). Alarms that occur during the unmanned period are annunciated through the DCS. A summary of key alarms is presented in Table 4-34. A detailed list of RP-1 alarms is included in Appendix C.

Table 4-34
RP-1 Summary of Principle Alarms

System Component	Parameter/Equipment	Alarm Conditions

Table 4-34
RP-1 Summary of Principle Alarms

System Component	Parameter/Equipment	Alarm Conditions
Power	Primary electrical service	Failure
	Cogeneration units	On, off, and failure
	Standby generators	On, off, and failure
Intermediate Pumps	Pumps	On, off, and failure
Biological	Dissolved oxygen level	High and low
	Blowers	On, off, and failure
RAS Pumps	Pumps	On, off, and failure
Coagulation	Chemical feed pumps	On, off, and failure
	Turbidity	High
Filtration	Valves	Open, closed, and failure
	Effluent turbidity	High
	Water level	High
Chlorination	Chemical feed pumps	On, off, and failure
Dechlorination	Chemical feed pumps	On, off, and failure
	Chlorine residual	High

Power supply reliability is discussed in the preceding section. Standby engine generators are activated automatically during a power failure to maintain critical equipment and alarms.

Alarms for biological treatment breakdown exist on all electrical/mechanical equipment serving the treatment process. Alarms signal low oxygen levels in the aeration (oxic) basins, or the failure of any blower. Failure of the RAS pumps or high torque on the clarifier scraper arms are also signaled by alarms. These alarms provide assurance that a biological system failure is not equipment related, and ensure the reliability of the anoxic/oxic treatment process.

As described earlier, coagulant can be added to the filter influent. Alarms on the alum feed pumps can signal failure of the coagulant feed system.

If the water level is high in any one of the tertiary filters, an alarm is activated to alert the operators. Other alarms monitor water levels in the influent meter and filter gallery sump. Filter influent meter readings are monitored to be sure that the maximum flow set points to the filter banks are not exceeded, as this would indicate that the Title 22 filtration rate limit is being approached. As described in the earlier filtration system subsection, operators can manually adjust the filter valves to operate the filtration system as a whole, or as separate banks. An alarm tied to the filter influent flow would alert the operators of any overload condition.

In general, poor effluent quality can also signal alarms. For example, high effluent turbidity alerts the operators to a problem at the filters. Filter effluent turbidity is monitored, and if it becomes too high, the alum feed system can be increased to provide additional coagulation in compliance with Title 22.

Multiple alarms and backup equipment ensure the reliability and safety of the disinfection system. Multiple bulk storage tanks and metering pumps provide duplicate equipment for the sodium hypochlorite system. The standby metering pump is started automatically if the duty pump fails.

Chlorine residual of the recycled water is also closely monitored and can activate an alarm if it is too high or too low. Chlorine residual is also monitored for discharges to Cucamonga Creek or Prado Lake, and an alarm is actuated if the residual is too high, indicating a failure of the dechlorination system.

4.18 Emergency Storage and Effluent Disposal

RP-1 has a short-term storage basin (Equalization Basin No. 3) that is used during emergency or wet weather flow conditions. This equalization basin has a volume over 10 million gallons and is described in Section 4.6. It provides emergency storage and standby capability for the secondary treatment process and chlorine contact facilities.

All raw wastewater influent to the plant must be treated and discharged. Diurnal peaks of primary effluent can be diverted from RP-1 to RP-5 for secondary treatment. Disinfected tertiary effluent produced at RP-1 that is not used in the recycling system is dechlorinated and discharged to two locations: Prado Lake and Cucamonga Creek, both of which are tributary to the Santa Ana River.

Section 5
Monitoring Program

This section demonstrates how the RP-1 monitoring program complies with Title 22 Water Recycling Criteria.

5.1 Sampling and Analysis

Water quality monitoring is required under Title 22 Water Recycling Criteria and RP-1's discharge permit. Title 22 requires that effluent samples be taken at least daily for Total Suspended Solids (TSS), BOD and coliform bacteria. Continuous flow, pH, contact time and turbidity monitoring and recording is required.

Specific guidelines and parameters are established in Order No. R8-2009-0021 for sampling and analysis of the influent and effluent streams. Depending on the constituent, sampling is required to be a continuous, 24-hour composite, or grab specimen taken on regularly scheduled intervals (daily, weekly, monthly, quarterly, semi-annually or annually).

5.2 Monitoring Program

The performance of each of the treatment processes is closely monitored at RP-1. Influent and effluent flow is measured continuously. RP-1 and RP-4 combined effluent turbidity, pH and conductivity are monitored continuously at monitoring location M-002A prior to discharge to Cucamonga Creek. Prior to discharge to Cucamonga Creek, the combined RP-1 and RP-4 effluent chlorine residual is continuously monitored at M-002A to ensure that the dechlorination facilities are functioning properly. Other constituents that are monitored and the frequency of the sampling and analyses are listed in Tables 5-1, 5-2, 5-3, 5-4, 5-5 and 5-6. In conformance with its permit, IEUA prepares an annual water quality report summarizing all monitoring data and relating any operational incidents.

Table 5-1
Influent Monitoring Program Summary[1]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[5]
Flow	mgd	Recorder/ totalizer	Continuous	--
pH	pH Units	Recorder	Continuous	--
Specific conductance	µmhos/cm	Recorder	Continuous	--
TOC	mg/L	Composite	Weekly	5310B
BOD_5[2]	mg/L	Composite	Weekly	5210B
Total Suspended Solids	mg/L	Composite	Weekly	2540C
TDS	mg/L	Composite	Weekly	2540C
Ammonia-Nitrogen	mg/L	Grab	Weekly	4500NH3H
Total Nitrogen	mg/L	Composite	Weekly	4500NO3F
TIN	mg/L	Composite	Weekly	Calculated
Cyanide (Free)[3]	µg/L	Grab	Monthly	ASTM D7237
Total Hardness	mg/L	Composite	Quarterly	200.7
Boron	mg/L	Composite	Quarterly	200.7
Chloride	mg/L	Composite	Quarterly	300.0
Fluoride	mg/L	Composite	Quarterly	300.0
Sodium	mg/L	Composite	Quarterly	200.7
Sulfate	mg/L	Composite	Quarterly	300.0
Arsenic	µg/L	Composite	Quarterly	200.7
Cadmium	µg/L	Composite	Quarterly	200.7
Total Chromium / Chromium, IV	µg/L	Composite	Quarterly	200.7
Total Recoverable Copper	µg/L	Composite	Quarterly	200.7
Total Recoverable Lead	µg/L	Composite	Quarterly	200.7
Total Recoverable Mercury	µg/L	Composite	Quarterly	200.7
Total Recoverable Nickel	µg/L	Composite	Quarterly	200.7
Selenium	µg/L	Composite	Quarterly	200.7
Total Recoverable Silver	µg/L	Composite	Quarterly	200.7
Total Recoverable Zinc	µg/L	Composite	Quarterly	200.7

Table 5-1
Influent Monitoring Program Summary[1]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[5]
Bis (2-ethylhexyl) phthalate	µg/L	Grab	Quarterly	625
Volatile organic portion of EPA Priority Pollutants[4]	µg/L	Grab	Annually	624
Remaining EPA Priority Pollutants[4]	µg/L	Composite	Annually	varies

1. Source: RWQCB, 2009a.
2. BOD_s is calculated base on a BOD_5/TOC correlation approved by the RWQCB.
3. Free cyanide is measured as aquatic free cyanide (ASTM Method D7237 without sodium hydroxide (NaOH) preservation.
4. See waste discharge permit (Order No. R8-2009-0021) (RWQCB, 2009a) for complete list or description.
5. Suggested laboratory methods from U.S. Environmental Protection Agency and Standard Methods for the Examination for Water and Wastewater (American Public Health Association, American Water Works Association and Water Environment Federation) and the reportable detection limits (RDL) or minimum levels (ML) for the associated laboratory methods are shown. Test Methods correspond with the reportable detection limits. It should be noted that there are other test methods allowed. Refer to 40 CFR 136.

Table 5-2
Effluent Monitoring Program Summary for Recycled Water at M-001-A
(Without 20:1 Dilution in the Receiving Water)[1]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[9]
Flow	mgd	Recorder/ totalizer	Continuous	--
Specific conductance	µmhos/cm	Recorder	Continuous	--
pH	pH units	Recorder	Continuous	--
Turbidity[3]	NTU	Recorder	Continuous	--
Total Chlorine Residual	mg/L	Recorder	Continuous	--
Coliform Organisms[4]	MPN per 100 ml	Grab	Daily	9221B
CT	mg-minutes/L	Recorder	Continuous	Calculated
TOC	mg/L	Composite	Daily	5310B
BOD_5[6]	mg/L	Composite	Daily	5210B
Total Suspended Solids	mg/L	Composite	Daily	2540D

Table 5-2
Effluent Monitoring Program Summary for Recycled Water
at M-001-A
(Without 20:1 Dilution in the Receiving Water)[1]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[9]
Ammonia-Nitrogen	mg/L	Grab	Weekly	4500NH3H
Temperature	°C	Grab	Weekly	--
TDS	mg/L	Composite	Monthly	2540C
TIN	mg/L	Composite	Monthly	Calculated
Total Nitrogen	mg/L	Composite	Monthly	4500NO3F
Cyanide (Free)[7]	µg/L	Grab	Monthly	ASTM D7237
Total Recoverable Copper	µg/L	Composite	Monthly	200.8
Toxicity	TUc	Composite	Monthly	1002
Total Hardness	mg/L	Composite	Monthly	200.7
Bicarbonate	mg/L	Composite	Monthly	SM2320B
Boron	mg/L	Composite	Monthly	200.7
Calcium	mg/L	Composite	Monthly	200.7
Carbonate	mg/L	Composite	Monthly	2340B
Chloride	mg/L	Composite	Monthly	300.0
Fluoride	mg/L	Composite	Monthly	300.0
Magnesium	mg/L	Composite	Monthly	200.7
Sodium	mg/L	Composite	Monthly	200.7
Sulfate	mg/L	Composite	Monthly	300.0
Total Recoverable Cadmium	µg/L	Composite	Monthly	200.7
Chromium (VI) or Total Chromium[8]	µg/L	Composite	Monthly	200.7
Total Recoverable Lead	µg/L	Composite	Monthly	200.7
Total Recoverable Mercury	µg/L	Composite	Monthly	200.7
Total Recoverable Selenium	µg/L	Composite	Monthly	200.7
Total Recoverable Silver	µg/L	Composite	Monthly	200.7
Total Recoverable Zinc	µg/L	Composite	Monthly	200.7
Bis-(2-ethylhexyl) phthalate	µg/L	Grab	Monthly	625
Aluminum	mg/L	Composite	Quarterly	200.8
Antimony	mg/L	Composite	Quarterly	200.8
Arsenic	µg/L	Composite	Quarterly	200.7
Barium	µg/L	Composite	Quarterly	200.8
Cobalt	µg/L	Composite	Quarterly	200.7
Total Recoverable Nickel	µg/L	Composite	Quarterly	200.7

Table 5-2
Effluent Monitoring Program Summary for Recycled Water
at M-001-A
(Without 20:1 Dilution in the Receiving Water)[1]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[9]
Volatile organic portion of EPA Priority Pollutants[2]	µg/L	Grab	Annually	624
Remaining EPA Priority Pollutants[2]	µg/L	Composite	Annually	varies

1. Source: RWQCB, 2009a.
2. See waste discharge permit (Order No. R8-2009-0021) (RWQCB, 2009a) for complete list or description.
3. Turbidity analysis shall be continuous, performed by a continuous recording turbidimeter. Compliance with the daily average operating filter effluent turbidity shall be determined by averaging the levels or recorded turbidity taken at a minimum of four-hour intervals over a 24-hour period. The results of the daily average turbidity determinations shall be reported monthly.
4. Samples for total coliform bacteria shall be collected daily. Samples shall be taken from the disinfected effluent.
5. The CT and modal contact time shall be continuously calculated and recorded. The minimum daily value shall be reported monthly. Modal contact time and CT shall be calculated based on the minimum one-hour average value in a 24-hour period.
6. BOD_5 is calculated daily based on a BOD_5/TOC correlation approved by the Regional Water Board.
7. Free Cyanide is measured as aquatic free cyanide (ASTM Method D7237) without NaOH preservations.
8. If Total Chromium test result is greater than 11 µg/L, the following sample shall be tested for Chromium VI, until directed otherwise.
9. Suggested laboratory methods from U.S. Environmental Protection Agency and Standard Methods for the Examination for Water and Wastewater (American Public Health Association, American Water Works Association and Water Environment Federation) and the reportable detection limits (RDL) or minimum levels (ML) for the associated laboratory methods are shown. Test Methods correspond with the reportable detection limits. It should be noted that there are other test methods allowed. Refer to 40 CFR 136.

Table 5-3
Effluent Monitoring Program Summary for Recycled Water
at M-001B and M-002A
(Without 20:1 Dilution in the Receiving Water)[1]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[10]
Flow	mgd	Recorder/ totalizer	Continuous	--
Specific conductance	µmhos/cm	Recorder	Continuous	--
pH	pH units	Recorder	Continuous	--
Turbidity[3]	NTU	Recorder	Continuous	--
Total Chlorine Residual	mg/L	Recorder	Continuous	--
Coliform Organisms[4,5]	MPN per 100 ml	Grab	Daily	9221B
CT	mg-minutes/L	Recorder	Continuous[6]	Calculated
TOC	mg/L	Composite	Daily	5310B
BOD_5[7]	mg/L	Composite	Daily	5210B
Total Suspended Solids	mg/L	Composite	Daily	2540D
Ammonia-Nitrogen	mg/L	Grab	Weekly	4500NH3H
Temperature	°C	Grab	Weekly	--
TDS	mg/L	Composite	Monthly	2540C
TIN	mg/L	Composite	Monthly	Calculated
Total Nitrogen	mg/L	Composite	Monthly	4500NO3F
Cyanide (Free)[8]	µg/L	Grab	Monthly	ASTM D7237
Total Recoverable Copper	µg/L	Composite	Monthly	200.7
Toxicity	TUc	Composite	Monthly	1002
Total Hardness	mg/L	Composite	Monthly	200.7
Bicarbonate	mg/L	Composite	Monthly	SM2320B
Boron	mg/L	Composite	Monthly	200.7
Calcium	mg/L	Composite	Monthly	200.7
Carbonate	mg/L	Composite	Monthly	2340B
Chloride	mg/L	Composite	Monthly	300.0
Fluoride	mg/L	Composite	Monthly	300.0
Magnesium	mg/L	Composite	Monthly	200.7
Sodium	mg/L	Composite	Monthly	200.7
Sulfate	mg/L	Composite	Monthly	300.0
Total Recoverable Cadmium	µg/L	Composite	Monthly	200.7
Chromium (VI) or Total Chromium[9]	µg/L	Composite	Monthly	200.7
Total Recoverable Lead	µg/L	Composite	Monthly	200.7
Total Recoverable Mercury	µg/L	Composite	Monthly	200.7

Table 5-3
Effluent Monitoring Program Summary for Recycled Water
at M-001B and M-002A
(Without 20:1 Dilution in the Receiving Water)[1]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[10]
Total Recoverable Selenium	µg/L	Composite	Monthly	200.7
Total Recoverable Silver	µg/L	Composite	Monthly	200.7
Total Recoverable Zinc	µg/L	Composite	Monthly	200.7
Bis-(2-ethylhexyl) phthalate	µg/L	Grab	Monthly	625
Aluminum	mg/L	Composite	Quarterly	200.8
Antimony	mg/L	Composite	Quarterly	200.8
Arsenic	µg/l	Composite	Quarterly	200.7
Barium	µg/l	Composite	Quarterly	200.8
Cobalt	µg/l	Composite	Quarterly	200.7
Total Recoverable Nickel	µg/l	Composite	Quarterly	200.7
Volatile organic portion of EPA Priority Pollutants[2]	µg/l	Grab	Annually	624
Remaining EPA Priority Pollutants[2]	µg/l	Composite	Annually	Varies

1. Source: RWQCB, 2009a. Effluent compliance is for tertiary treated effluent for DP-001 and DP-002 at Monitoring Locations M-001B and M-002A.
2. See waste discharge permit (Order No. R8-2009-0021) (RWQCB, 2009a) for complete list or description.
3. Turbidity analysis shall be continuous, performed by a continuous recording turbidimeter. Compliance with the daily average operating filter effluent turbidity shall be determined by averaging the levels or recorded turbidity taken at a minimum of four-hour intervals over a 24-hour period. The results of the daily average turbidity determinations shall be reported monthly.
4. Samples for total coliform bacteria shall be collected daily. Samples shall be taken from the disinfected effluent.
5. M-001B is the coliform monitoring location for DP 001 & DP002. Alternative monitoring at M-002B is available if gate is closed between Chlorine Contact Basin 2 and 3.
6. The CT and modal contact time shall be continuously calculated and recorded. The minimum daily value shall be reported monthly. Modal contact time and CT shall be calculated based on the minimum one-hour average value in a 24-hour period.
7. BOD_5 is calculated daily based on a BOD_5/TOC correlation approved by the Regional Water Board.
8. Free Cyanide is measured as aquatic free cyanide (ASTM Method D7237) without NaOH preservations.
9. If Total Chromium test result is greater than 11 µg/L, the following sample shall be tested for Chromium VI, until directed otherwise.
10. Suggested laboratory methods from U.S. Environmental Protection Agency and Standard Methods for the Examination for Water and Wastewater (American Public Health Association, American Water Works Association and Water Environment Federation) and the reportable detection limits (RDL) or minimum levels (ML) for the associated laboratory methods are shown. Test Methods correspond with the reportable detection limits. It should be noted that there are other test methods allowed. Refer to 40 CFR 136.

Table 5-4
Secondary Effluent Monitoring Program Summary for Diluted Discharges (With 20:1 Dilution in the Receiving Water)[1]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Test Method[6]
Flow	mgd	Grab	Continuous[5]	--
pH	pH units	Recorder	Continuous	--
Total Residual Chlorine	mg/L	Recorder/ totalizer	Continuous	--
BOD_5	mg/L	Grab	Daily (when discharging)	405.1
Total Dissolved Solids	mg/L	Grab	Daily (when discharging)	2540C
Coliform Organisms	MPN per 100 ml[3]	Grab	Daily (when discharging)	9221B
Suspended Solids	mg/L	Grab	Daily (when discharging)	2540D
Total Hardness	mg/L	Grab	When Discharge	200.7
EPA Priority Pollutants[2]	µg/L	Grab	Annually[4]	Varies

1. Source: RWQCB, 2009a. Effluent compliance is for disinfected secondary treated effluent for DP-001 at Monitoring Locations M-002A.
2. See waste discharge permit (Order No. R8-2009-0021) (RWQCB, 2009a) for complete list or description.
3. MPN/100mL – Most Probable Number per 100 milliliters.
4. Sample is collected from the first discharge, once a year.
5. Daily monitoring is required when discharging.
6. Suggested laboratory methods from U.S. Environmental Protection Agency and Standard Methods for the Examination for Water and Wastewater (American Public Health Association, American Water Works Association and Water Environment Federation) and the reportable detection limits (RDL) or minimum levels (ML) for the associated laboratory methods are shown. Test Methods correspond with the reportable detection limits. It should be noted that there are other test methods allowed. Refer to 40 CFR 136.

Table 5-5
Reclamation Monitoring Program Summary[1]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[4]
Flow	mgd	Recorder/ totalizer	Continuous	--
pH	Standard units	Recorder/ totalizer	Continuous	--
Turbidity[2]	NTU	Recorder	Continuous	--
CT	mg-minutes/L	Recorder	Continuous[3]	Calculated
Coliform Organisms	MPN per 100 mL	Grab	Daily	9221B
BOD_5	mg/L	Composite	Daily	405.1
Total Suspended Solids	mg/L	Composite	Daily	2540D
TDS	mg/L	Composite	Monthly	2540C

1. Source: RWQCB, 2009a. Reclamation monitoring locations at REC-001 to REC-004.
2. Turbidity samples shall be collected at M-001A and M-002A, respectively.
3. The CT and modal contact time shall be continuously calculated and recorded. Modal contact time and CT shall be calculated based on the minimum one-hour average value in a 24-hr period.
4. Suggested laboratory methods from U.S. Environmental Protection Agency and Standard Methods for the Examination for Water and Wastewater (American Public Health Association, American Water Works Association and Water Environment Federation) and the reportable detection limits (RDL) or minimum levels (ML) for the associated laboratory methods are shown. Test Methods correspond with the reportable detection limits. It should be noted that there are other test methods allowed. Refer to 40 CFR 136.

Table 5-6
Receiving Water Monitoring Program Summary
(At Monitoring Location R-002U)[1]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[3]
Flow	mgd	Estimate	Weekly	--
Dissolved Oxygen	mg/L	Grab	Weekly	--
Temperature	°C	Grab	Weekly	--
pH	pH unit	Grab	Weekly	--
Total Dissolved Solids	mg/L	Grab	Monthly	2540C
Total Inorganic Nitrogen	mg/L	Grab	Monthly	--
Total Hardness	mg/L	Grab	Quarterly	200.7
Total Suspended Solids	mg/L	Grab	Quarterly	2540D
EPA Priority Pollutants[2]	µg/L	Grab	Annually	Varies

1. Source: RWQCB, 2009a. Monitoring Location R-001U is within 500 feet upstream of the point of discharge DP-002 in Cucamonga Creek.
2. See waste discharge permit (Order No. R8-2009-0021) (RWQCB, 2009a) for complete list or description.
3. Suggested laboratory methods from U.S. Environmental Protection Agency and Standard Methods for the Examination for Water and Wastewater (American Public Health Association, American Water Works Association and Water Environment Federation) and the reportable detection limits (RDL) or minimum levels (ML) for the associated laboratory methods are shown. Test Methods correspond with the reportable detection limits. It should be noted that there are other test methods allowed. Refer to 40 CFR 136.

Table 5-7
Receiving Water Monitoring Program Summary
(At Monitoring Location R-002D)[1]

Parameter	Units	Sample Type	Minimum Sampling & Testing Frequency	Required Analytical Test Method[2]
Dissolved Oxygen	mg/L	Grab	Weekly	--
Temperature	°C	Grab	Weekly	--
pH	pH unit	Grab	Weekly	--
Color change, foam, deposition of material, odor	--	Observe	Weekly	--
Total Hardness	mg/L	Grab	Quarterly	200.7
Total Suspended Solids	mg/L	Grab	Quarterly	2540D
EPA Priority Pollutants	µg/L	Grab	Annually	Varies

1. Source: RWQCB, 2009a.
2. Suggested laboratory methods from U.S. Environmental Protection Agency and Standard Methods for the Examination for Water and Wastewater (American Public Health Association,
American Water Works Association and Water Environment Federation) and the reportable detection limits (RDL) or minimum levels (ML) for the associated laboratory methods are shown. Test Methods correspond with the reportable detection limits. It should be noted that there are other test methods allowed. Refer to 40 CFR 136.

Section 6
Contingency Plan

IEUA's contingency plan to maintain continuous, high-level treatment at RP-1 is described in this section.

6.1 Contingency Plan

The basis for the RP-1 contingency plan relies on the use of multiple treatment units and standby equipment. As described for each process in Section 4 of this report, RP-1 has capacity to treat flows averaging 44 mgd. Reliability is provided either by standby units or by reliance on downstream processes. For pumping stations and similar mechanical facilities, standby units are available in the event that duty units are out of service. For major processes, such as biological treatment, flow equalization provides short-term storage for that portion of the secondary process that is taken out of service.

As described in Section 4, RP-1 has standby diesel-powered generators in addition to two power sources. The primary source is Southern California Edison. On-site cogeneration facilities using digester biogas to generate electricity are the secondary power source. These two sources, plus the generators provide a reliable power supply.

Also, RP-1 has the ability to divert primary treated wastewater, as well as divert sanitation lift station flow to downstream facilities if needed to limit the hydraulic load on RP-1's secondary, tertiary and solids treatment processes.

Plant alarms are on emergency power, and in the event of an alarm, the DCS alerts plant operations personnel of any problems. During periods when the plant is unmanned, RP-1 provides operational reliability by scheduling an on-call operator for remote standby response for critical alarms via computer through the Distributed Control System (DCS). If the alarm condition continues and there is no initial response, the paging system automatically notifies additional IEUA personnel, working up the management hierarchy, such as the operations supervisor at the facility, deputy manager of operations, and finally the manager of operations. This ensures that someone responds to any priority alarm condition at all times. Section 4 discusses monitoring and alarms at RP-1 in more detail.

Another important part of the RP-1 contingency plan involves IEUA's preventive maintenance program. Described in Section 7, this program ensures that all mechanical equipment is kept in reliable working order. RP-1 has an excellent operating and monitoring record which also helps to avert problems before they become serious concerns.

Section 7
Operation and Maintenance Plan

Operation and maintenance of RP-1 are described in this section. IEUA's plans for staffing the facility and performing preventive maintenance are discussed.

7.1 Staffing

RP-1 is fully staffed with operation and maintenance personnel as required by SWRCB's class V tertiary wastewater treatment plant classification. Operators are at the plant 12 hours per day with on-call operators in standby for the remaining time, 7 days per week. Certified operators at the plant are listed in Table 7-1. In addition to these personnel, the plant has a Deputy Manager of Operations, who is a Grade V wastewater operator. IEUA has a Manager of operations, as well as an Executive Manager of Operations, who are Grade V operators and are in charge of wastewater administration for the entire IEUA service area.

Table 7-1
Operations Staff

Operator Grade[1]	Position	Number of Persons[2]
V	Deputy Manager of Operations	1
V	Operations Supervisor	1
III	Operations Assistant	2
III-V	Operator	11
OIT I - II	Operator	6

1. State Wastewater Certification
2. Staffing plan as of January 2010, subject to change.

Mechanical, electrical, and instrumentation maintenance personnel are also on duty as required. Table 7-2 lists the maintenance staff available at RP-1, RP-4 and related IEUA facilities.

Table 7-2
Plant Maintenance Staff

Certification[1]	Position	Number of Persons[2]
	Deputy Manager of Electrical/Instrumentation and Distributed-Control-Systems (DCS)	1
	Deputy Manager of Maintenance Planning	1
	Deputy Manager of Plant Maintenance	1
I	Plant Maintenance Technologist	2
	Plant Maintenance Technician II	3
I	Senior Mechanical Technologist	1
	Mechanic II	5
	Machinist	1
	Senior Electrical/Instrumentation Technician	1
II	Electrical/Instrumentation Technologist	2
	Instrumentation Technician II	5
	Electrical Technician II	4
	Senior Industrial Engine Technician	1
II	Mechanical Technologist	1
	Industrial Engine Technician	2
III	Senior DCS Administrator (Electrical/Instrumentation Technologist)	1
	DCS Technician	3

1. California Water Environment Association Certification.
2. Staff plan as of January 2010, subject to change.

7.2 Preventive Maintenance Program

Under IEUA's preventive maintenance program, inspections, lubrications, and operational rotation and repair of all mechanical, electrical, and support equipment are regularly scheduled. In addition to retaining manufacturers' maintenance manuals, files are kept for all major equipment. Routine or regularly scheduled maintenance activities are carried out with the aid of detailed checklists to ensure that important checks and servicing are not overlooked and that complete records are kept for all major equipment components. An organized system based on work orders and priority determined on a "need" basis coordinates the operation and maintenance personnel at the plant. The maintenance department normally keeps lists of replacement parts necessary for specific equipment, and in many cases, stocks the replacement parts at the plant site.

Section 8
Recycled Water Use

This section of the report describes the recycled water users, demands, distribution system, and on-site user facilities.

8.1 Users and Demands

Over 13,000 acre-feet per year (afy) of recycled water from RP-1 is currently served to over ninety customers. Current recycled water users and their individual demands, type of use, and distribution system pressure zone (PZ) are listed below in Table 8-1. This is equivalent to an annual average flow rate of nearly 12 mgd. Water recycling has been practiced at RP-1 for some time and is specified in the plant's waste discharge permit, which notes that treated effluent is recycled for landscape irrigation, fire suppression, dust control, and groundwater recharge. Besides these uses, treated effluent is used as utility water for in-plant needs.

Table 8-1[1]
Recycled Water Users

Recycled Water User Name	Type of Use	PZ	Total[2]
C W FARMS I	Agricultural Irrigation	800	316.93
C W FARMS II	Agricultural Irrigation	800	45.67
C W FARMS III	Agricultural Irrigation	800	257.76
C W FARMS IV	Agricultural Irrigation	800	691.71
CAL POLY POMONA	Agricultural Irrigation	800	334.01
CHINO DEVELOPMENT CORPORATION	Landscape Irrigation	800	38.16
CHINO HILLS FORD	Landscape Irrigation	800	5.28
CLEVELAND FARM #1	Agricultural Irrigation	800	223.80
Cal Aero Academy (K-8 SCHOOL)	Landscape Irrigation	800	10.74
LA BRUCHERIE FARMS	Agricultural Irrigation	800	133.44
NYENHUIS DAIRY	Agricultural Irrigation	800	431.38
PRESERVE MAINTENANCE CORP	Landscape Irrigation	800	7.04
PRESERVE MAINTENANCE CORP	Landscape Irrigation	800	6.08
PRESERVE MASTER MAINTENANCE	Landscape Irrigation	800	14.20
RICHARDSON, DON	Agricultural Irrigation	800	35.16
SUPERIOR SOD	Landscape Irrigation	800	192.04
SUPERIOR SOD	Landscape Irrigation	800	104.44
THE PRESERVE MASTER COMMUNITY	Landscape Irrigation	800	5.19
VIAVERDE NURSERY	Landscape Irrigation	800	7.24

Table 8-1[1]
Recycled Water Users

Recycled Water User Name	Type of Use	PZ	Total[2]
VIRAMONTES EXPRESS	Landscape Irrigation	800	7.73
WATSON LAND COMPANY	Landscape Irrigation	800	6.39
WATSON LAND COMPANY	Landscape Irrigation	800	5.75
ALL COAST FOREST PRODUCTS	Landscape Irrigation	930	5.10
CAL POLY POMONA	Agricultural Irrigation	930	125.57
CITY OF CHINO	Landscape Irrigation	930	80.93
CITY OF CHINO	Landscape Irrigation	930	10.81
CITY OF CHINO AYALA PARK	Landscape Irrigation	930	26.07
CITY OF CHINO AYALA PARK	Landscape Irrigation	930	26.82
CLEVELAND FARM #2	Agricultural Irrigation	930	81.45
CLEVELAND FARM #2	Agricultural Irrigation	930	843.80
CLEVELAND FARM #2	Agricultural Irrigation	930	120.38
COLLEGE PARK COMMUNITY ASSOC	Landscape Irrigation	930	8.42
MAJESTIC MANAGEMENT	Landscape Irrigation	930	5.17
California Cogeneration	Industrial	930	46.84
SAN BDNO COUNTY FAIRGROUNDS	Landscape Irrigation	930	7.92
SUN CAL INLAND EMPIRE DIV	Landscape Irrigation	930	7.99
Big League Dreams	Landscape Irrigation	930	25.13
BRE Properties	Landscape Irrigation	930	8.16
C.U.S.D.	Landscape Irrigation	930	5.45
Caltrans	Landscape Irrigation	930	7.47
Chino Hills Business Park	Landscape Irrigation	930	6.20
Chino Hills High School	Landscape Irrigation	930	7.81
Chino Hills High School	Landscape Irrigation	930	6.74
Choung, Cu	Landscape Irrigation	930	26.17
Chino Hills City	Landscape Irrigation	930	8.23
Chino Hills City	Landscape Irrigation	930	8.32
Chino Hills City	Landscape Irrigation	930	8.50
Chino Hills City	Landscape Irrigation	930	10.30
Chino Hills City	Landscape Irrigation	930	10.28
Chino Hills City	Landscape Irrigation	930	9.79
Chino Hills City	Landscape Irrigation	930	12.75
Chino Hills City	Landscape Irrigation	930	7.44
Chino Hills City	Landscape Irrigation	930	5.14
Chino Hills City	Landscape Irrigation	930	9.77
Chino Hills City	Landscape Irrigation	930	8.31

Table 8-1[1]
Recycled Water Users

Recycled Water User Name	Type of Use	PZ	Total[2]
Chino Hills City	Landscape Irrigation	930	7.00
Fieldstone Comm	Landscape Irrigation	930	6.66
Los Serranos Golf	Landscape Irrigation	930	97.97
Los Serranos Golf	Landscape Irrigation	930	42.93
Pine Corporate Ctr Assoc	Landscape Irrigation	930	5.86
Pinehurst Hills Comm Assoc	Landscape Irrigation	930	5.01
Ridgegate Neighborhood Assoc	Landscape Irrigation	930	6.80
Ridgegate Neighborhood Assoc	Landscape Irrigation	930	5.19
Ridgegate Neighborhood Assoc	Landscape Irrigation	930	7.13
Sycamore Heights Comm Assoc	Landscape Irrigation	930	5.06
Sycamore Heights Comm Assoc	Landscape Irrigation	930	5.16
Sycamore Heights Comm Assoc	Landscape Irrigation	930	9.21
Chino Creek Park	Landscape Irrigation	800	5.92
Greenlee Nursery	Landscape Irrigation	800	5.19
Chino Creek Park	Evaporation/Percolation	800	67.60
Ely	Recharge Basin	1158	126
RP-3	Recharge Basin	1158	655
Bootsma Farm (ORW-20)	Agricultural Irrigation	930	49.74
Cleveland Farms	Agricultural Irrigation	930	69.94
Cleveland Farms	Agricultural Irrigation	930	465.05
Cleveland Farms	Agricultural Irrigation	930	174.01
Cleveland Farms	Agricultural Irrigation	930	82.58
Cleveland Farms	Agricultural Irrigation	930	8.73
Legend Dairies (Petersma)	Agricultural Irrigation	930	110.29
David Li	Agricultural Irrigation	930	125.63
Murai Farms (Luke Li)	Agricultural Irrigation	930	141.57
Murai Farms (Luke Li)	Agricultural Irrigation	930	150.45
Ron LaBrucherie	Agricultural Irrigation	930	306.99
Sam Lewis Farm	Agricultural Irrigation	930	486.84
Yoog II Farm Inc.	Agricultural Irrigation	930	87.30
CalTrans	Landscape Irrigation	1050	15.48
CalTrans	Landscape Irrigation	1050	40.34
Cleveland Farms	Agricultural Irrigation	1050	193.31
CCC-S	Landscape Irrigation	1158	6.29
Fruit Growers	Industrial	1158	14.59

Table 8-1[1]
Recycled Water Users

Recycled Water User Name	Type of Use	PZ	Total[2]
Kaiser Hospital	Landscape Irrigation	1158	10.51
Toyota	Landscape Irrigation	1158	12.58
Toyota	Landscape Irrigation	1158	13.37
Toyota	Landscape Irrigation	1158	13.96
Toyota	Landscape Irrigation	1158	9.41
Toyota	Landscape Irrigation	1158	8.77
Toyota	Landscape Irrigation	1158	10.18
Toyota	Landscape Irrigation	1158	7.69
Westwind Park	Landscape Irrigation	1158	39.53
Whispering Lakes Golf Course	Landscape Irrigation	1158	364.85
Bellevue Memorial Park	Landscape Irrigation	1158	53.51
City of Ontario (Soccer Complex)	Landscape Irrigation	1158	35.96
El Prado Golf Course	Landscape Irrigation	800	73.68
El Prado Regional Park	Landscape Irrigation	800	478.41
El Prado Golf Course (Meter Read)	Landscape Irrigation	800	54.75
El Prado Regional Park (Meter Read)	Landscape Irrigation	800	271.59

1. IEUA, 2009b. Demands shown are for the month of July 2009 through October 2009.
2. Current recycled water users may have multiple meters per site

IEUA utilizes RP-1 recycled water for IEUA's Phase I and Phase II Chino Basin Recycled Water Groundwater Recharge System (Groundwater Recharge Program). The Groundwater Recharge Program is jointly sponsored by IEUA and the Chino Basin Watermaster, Chino Basin Water Conservation District, and San Bernardino County Flood Control District to improve the quality of local drinking water wells, enhance water supply reliability, and lower the cost of water to residents throughout the Chino Groundwater Basin. IEUA is the lead agency for the project. The Groundwater Recharge Program features up to 19 recharge basins that are used to recharge a blend of up to about 134,000 afy of recycled water, stormwater, and imported water. The program utilizes approximately 22,400 afy of recycled water from IEUA Recycled Water Treatment Plants.

Regulatory compliance is addressed in the "Title 22 Engineering Report for the Phase I Chino Basin Recycled Water Groundwater Recharge Project" (CH2M Hill, 2003) and the associated CDPH Findings of Fact (CDPH, 2004), plus the "Phase II Chino Basin Recycled Water Groundwater Recharge Project Title 22 Engineering Report" (DDB Engineering, Inc. and Wildermuth Environmental, Inc., 2006) and the associated CDPH Findings of Fact (CDPH, 2007). In June, 2007, the RWQCB approved Order No. R8-2007-0039 (RWQCB, 2007) that

establishes water recycling requirements for the Chino Basin Recycled Water Groundwater Recharge Program.

The compliance of the groundwater recharge activity with Title 22 requirements is regulated by Order No. R8-2007-0039 (RWQCB, 2007).

IEUA continues to identify potential recycled water users in the RP-1 service area, as well as continuing to expand the recycled water service area.

8.2 Distribution System

Recycled water is supplied from the RP-1 Recycled Water Pump Stations: Philadelphia Avenue (1050 pressure zone), Zone 2B (1158 pressure zone) and South Zone (800 and 930 pressure zone). The Recycled Water Pump Station has three sets of pumps, which discharge recycled water from the plant to various pressure zones of the IEUA distribution system: 800, 930, 1050 and 1158 pressure zones, as described in Section 4. Many of RP-1's recycled water customers are served from the South Zone Recycled Water Pump Station, which conveys water through a pressurized pipeline to the 800 and 930 pressure zones. The 800 and 930 pressure zones have multiple connections that give the flexibility at times to supply water from RP-5 and CCWRF. The remainder of the 930 pressurized distribution system serves El Prado Golf Course, El Prado Park, and several other recycled water customers along the pipeline. Other users along the pipeline alignment also receive fully disinfected tertiary effluent from RP-1 in full compliance with the highest level of reuse under Title 22 regulations.

8.3 Recycled Water User Facilities

Recycled water facilities at the customer locations consist of pipelines, backflow preventers, flowmeters, valves, pressure regulators, storage lakes, and booster pumps.

IEUA Ordinance No. 69 (IEUA, 2000), adopted by the IEUA Board of Directors in May, 2000, establishes rules, requirements, and responsibilities, under which, recycled water service is provided to customers. Applicants for recycled water service agree to comply with the terms of their Recycled Water Use Permit, as well as applicable Federal, State and Local statutes, to protect public health. The on-site operational controls must be appropriate for the beneficial use approved in the Recycled Water Use Permit for the safe and reliable delivery of recycled water. Specific identification, signage, and cross-connection prevention requirements include the following measures:

- All recycled water valves, outlets, quick couplers, and sprinkler heads shall be of a type, or secured in a manner that only permits operation by personnel authorized by the customer.
- All recycled water valves and outlets shall be appropriately tagged to warn the public and employees that the water is not intended nor allowed for drinking.

- All piping, valves and outlets shall be color-coded (purple) or otherwise marked to differentiate recycled water from non-recycled water facilities.
- Hose bibs shall not be used in the recycled water system; quick couplers or comparable connection devices shall be used instead.
- Adequate means of notification shall be provided to inform the public, employees and others that recycled water is being used. Such notification shall include the posting of conspicuous recycled water information signage with proper wording in both English and Spanish of sufficient size to be clearly read, which shall be posted at adequate intervals around the use area. Signage shall be in conformance with CDPH Title 22 regulations.
- Cross-connection prevention measures, such as backflow preventers or reduced pressure principle devices, shall be installed and maintained to comply with requirements of CDPH and local potable water purveyors.

IEUA encourages the maximum use of recycled water for beneficial purposes. As part of this effort, IEUA maintains guidance programs to educate and support local member agencies and recycled water customers in the proper design, installation, operation, and maintenance of their on-site recycled water systems.

Section 9
Conclusions and Recommendations

This chapter summarizes the findings of the evaluation of RP-1 for compliance with Title 22 Water Recycling Criteria. Conclusions and recommendations are presented.

9.1 Conclusions

This Title 22 Engineering Report demonstrates how IEUA's RP-1 provides reliable treatment capacity in compliance with Title 22 Water Recycling Criteria for an annual average flow of 44 mgd. The peak capacity and Title 22 reliable annual average capacity of each treatment process are summarized in Table 9-1. Described in detail in Section 4, capacity is based on the following criteria:

- Design criteria and actual operating parameters; and
- Provision for redundant, standby, or alternative equipment or treatment processes.

Table 9-1
RP-1 Process Capacity Summary

Existing Process	Peak Capacity[1] (mgd)		Annual Average Capacity Without Reliability[2] (mgd)		Title 22 Reliable Annual Average Capacity[3] (mgd)	
	By Unit Process	Overall	By Unit Process	Overall	By Unit Process	Overall
Preliminary Treatment						
Parshall flumes	156.6		62.6		62.6	
Bar screens	165.0		66.0		55.0	
Grit chambers	161.0	156.6	64.4	62.6	44.0	44.0
Primary Treatment						
Clarifiers	121.7	121.7	48.7	48.7	48.7	48.7
Intermediate Pumping	80.0	80.0	58.8	58.8	47.1	47.1
Secondary Treatment	NA[5]	NA[5]	44.0	44.0	44.0	44.0
Filtration	55.9	55.9	47.4	47.4	44.0[6]	44.0[6]
Disinfection						
Sodium hypochlorite	115.1		78.0		58.5	

Table 9-1
RP-1 Process Capacity Summary

Existing Process	Peak Capacity[1] (mgd)		Annual Average Capacity Without Reliability[2] (mgd)		Title 22 Reliable Annual Average Capacity[3] (mgd)	
	By Unit Process	Overall	By Unit Process	Overall	By Unit Process	Overall
Chlorine contact tanks	58.8	58.8	49.8	49.8	49.8[7]	49.8[7]
Dechlorination						
At RP-1	145.0		115.0		86.0	
At Prado Lake	103.0	248.0[8]	82.0	197.0[8]	54.0	140.0[8]

1. Peak Capacity = total peak flow capacity with all units in service.
2. Annual Average Capacity = annual average flow capacity with all units in service.
3. Title 22 Reliable Annual Capacity = annual average flow capacity conforming to the reliability requirements set forth in Title 22. Reliability may be provided by redundant, standby, or alternative equipment or processes. The specific means of establishing reliability is described in Section 4 for each treatment process.
4. Overall future capacity with planned near-term improvements.
5. Not applicable because of primary effluent flow equalization.
6. Filtration capacity for Title 22 compliance is based the filtration process as a whole (all 3 filter banks) with two filters off-line (one filter out of service and one filter in backwash) at a maximum filtration rate of 5 gpm/sq ft.
7. Capacity with Chlorine Contact Tank Nos. 1, 2, and 3 (all units) in service (See Section 4).
8. Overall dechlorination capacity is the sum of RP-1 and Prado Lake facilities.

9.2 Recommendations

RP-1 currently complies with Title 22 Water Recycling Criteria at an annual average capacity of 44 mgd.

It is recommended that any proposed future modifications at the plant be designed in compliance with Title 22 for continued use of recycled water produced by RP-1.

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Appendix A

ORDER NO. R8-2009-0021
NPDES NO. CA8000409

WASTE DISCHARGE AND PRODUCER /USER RECLAMATION REQUIREMENTS
FOR
INLAND EMPIRE UTILITIES AGENCY
REGIONAL WATER RECYCLING FACILITIES
SURFACE WATER DISCHARGES AND RECYCLED WATER USE

California Regional Water Quality Control Board
Santa Ana Region

July 20, 2009

ITEM: ***7**

SUBJECT: Issuance of Waste Discharge and Producer/User Reclamation Requirements for the Inland Empire Utilities Agency's Regional Water Recycling Facilities, Surface Water Discharges and Recycled Water Use, Order No. R8-2009-0021, NPDES No. CA8000409, San Bernardino County

DISCUSSION:

See attached Fact Sheet

RECOMMENDATIONS:

Adopt Order No. R8-2009-0021, NPDES No. CA8000409 as presented.

COMMENT SOLICITATION:

Comments were solicited from the discharger and the following agencies:

U.S. Environmental Protection Agency, Permits Issuance Section (WTR-5) – Doug Eberhardt
U.S. Army District, Los Angeles, Corps of Engineers - Regulatory Branch
U.S. Fish and Wildlife Service, Carlsbad – Christine Medak
State Water Resources Control Board, Office of the Chief Counsel – David Rice
State Department of Fish and Game, Los Alamitos - Ms. Latonio
California Department of Public Health, San Bernardino – Sean McCarthy
California Department of Public Health, Carpenteria - Jeff Stone
State Department of Water Resources, Glendale – Charles Keene
Santa Ana Watershed Project Authority – Celeste Cantu
Santa Ana River Dischargers Association – Ed Filadelfia
Orange County Water District - Nira Yamachika
San Bernardino County Transportation/Flood Control District – Naresh Varma
San Bernardino County Environmental Health Services – Daniel Avera
City of Chino, Public Works Department – Jose Alire
City of Chino Hills - Public Works Department
City of Fontana – Chuck Hays, chays@fontana.org
City of Montclair - Nicole Greene
City of Ontario – Mohamed El-Amamy
City of Upland – Maria Linzay
Cucamonga Valley Water District -
Inland Empire Waterkeeper – Autumn DeWoody
Orange County Coastkeeper - Garry Brown
Lawyers for Clean Water C/c San Francisco Baykeeper
Natural Resources Defense Council – David Beckman
Inland Empire Utilities Agency - Patrick Sheilds

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

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ORDER NO. R8-2009- 0021
NPDES NO. CA8000409

WASTE DISCHARGE AND PRODUCER/USER RECLAMATION REQUIREMENTS FOR INLAND EMPIRE UTILITIES AGENCY REGIONAL WATER RECYCLING FACILITIES SURFACE WATER DISCHARGES AND RECYCLED WATER USE

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 1. Discharger Information

Discharger/ Operator	Inland Empire Utilities Agency			
Name of Facility	Regional Water Recycling Plant No. 1 (RP-1)	Regional Water Recycling Plant No. 4 (RP-4)	Regional Water Recycling Plant No. 5 (RP-5)	Carbon Canyon Water Reclamation Facility (CCWRF)
Facility Address	2450 East Philadelphia Street	12811 Sixth Street	6068 Kimball Ave, Building "C".	14950 Telephone Avenue
	Ontario, CA 91761	Rancho Cucamonga, CA 91729	Chino, CA 91708	Chino, CA 91710
	San Bernardino County			
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a major discharge.				

The discharge by Inland Empire Utilities Agency (IEUA) from the discharge points identified below is subject to waste discharge requirements as set forth in this Order:

Table 2. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Tertiary treated effluent from RP-1	N33°56'39"	W117°38'34"	Prado Park Lake, overflow from the lake to an unnamed creek, then to Reach 1A of Chino Creek, a tributary to Reach 3 of Santa Ana River in Prado Basin
002	Tertiary treated effluent from RP-1&RP-4	N34°01'31"	W117°33'56"	Reach 1 of Cucamonga Creek, then to Mill Creek, then to Reach 1A of Chino Creek, a tributary to Reach 3 of Santa Ana River in Prado Basin
003	Tertiary treated effluent from RP-5	N33°57'44"	W117°40'41"	Reach 1B of Chino Creek, a tributary to Reach 3 of Santa Ana River
004	Tertiary treated effluent from CCWRF	N33°58'56	W117°41'48"	Reach 2 of Chino Creek, a tributary to Reach 3 of Santa Ana River
005	Recycled water from RP-1	N34°01'29"	W117°35'57"	Use area overlying Chino North "Max Benefit" GMZ (or Chino 1, 2, and 3 "Antidegradation" GMZs – see Fact Sheet)
006	Recycled water from RP-4	N34°04'59"	W117°31'35"	
007	Recycled water from RP-5	N33°57'51"	W117°40'24"	
008	Recycled water from CCWRF	N33°58'47"	W117°41'37"	
S-001	Stormwater from RP-1	N34°01'36"	W117°35'59"	Stormwater runoff to Reach 1 of Cucamonga Creek
S-002	Stormwater from RP-1	N34°01'28"	W117°35'58"	Stormwater runoff to Reach 1 of Cucamonga Creek

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	July 20, 2009
This Order shall become effective on:	July 20, 2009
This Order shall expire on:	July 1, 2014
The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:	January 2, 2014

I, Gerard J. Thibeault, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Santa Ana Region, on July 20, 2009.

Gerard J. Thibeault, Executive Officer

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List of Attachments

I. FACILITY INFORMATION

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 4. Facility Information

Discharger/Operator	Inland Empire Utilities Agency			
Name of Facility (RWRF)	RP-1	RP-4	RP-5	CCWRF
Address	2450 East Philadelphia Street	12811 Sixth Street	6068 Kimball Avenue Building "C"	14950 Telephone Avenue
	Ontario, CA 91761	Rancho Cucamonga, CA 91729	Chino, CA 91708	Chino, CA 91710
	San Bernardino County			
Facility Contact, Title and Phone	Patrick O. Sheilds, Executive Manager of Operations, (909) 993-1806			
Authorized Person to Sign and Submit Reports	Patrick O. Sheilds, Executive Manager of Operations, (909) 993-1806			
Address	6075 Kimball Avenue, Chino, CA 91708			
Mailing/Billing Address	P.O. Box 9020, Chino Hills, CA 91709			
Type of Facility	POTW			
Facilities Permitted Flow	84.4 million gallons per day (mgd)			
Facility Design Flow	44 mgd	14 mgd	15 mgd (and 1.3 mgd RP-2 sludge treatment system wastewater flows)	11.4 mgd

II. FINDINGS

The California Regional Water Quality Control Board, Santa Ana Region (hereinafter Regional Water Board), finds:

A. Background. The Inland Empire Utilities Agency (hereinafter Discharger, or IEUA) owns and operates a regional wastewater collection system and four regional water recycling facilities (hereinafter, Facilities), including Regional Water Recycling Plants Nos. 1, 4, and 5 and the Carbon Canyon Water Reclamation Facility (CCWRF). The Discharger is currently discharging from these Facilities pursuant to the following waste discharge and producer/user water reclamation requirements:

1. Order No. R8-2006-0010, National Pollutant Discharge Elimination System (NPDES) Permit No. CA0105279, as amended by Orders No. R8-2007-0045 and No. R8-2007-0078, for treated wastewater discharges from Regional Water Recycling Plant No. 1 (RP-1) and Regional Water Recycling Plant No. 4 (RP-4);

2. Order No. R8-2008-0028, NPDES No. CA8000402 for treated wastewater discharges from Regional Water Recycling Plant No. 5 (RP-5); and

3. Order No. R8-2004-0020, NPDES No. CA8000073, as amended by Orders No. R8-2006-0038 and No. R8-2007-0078, for treated wastewater discharges from Carbon Canyon Water Reclamation Facility (CCWRF).

The Discharger submitted a Report of Waste Discharge (ROWD), dated January 27, 2009, and applied for a NPDES permit to consolidate the three waste discharge and producer/user water reclamation requirements identified above into one permit to regulate a total discharge of up to 84.4 million gallons per day (mgd) of tertiary treated wastewater from RP-1, RP-4, RP-5, and CCWRF.

For the purposes of this Order, references to the “discharger” or “permittee” in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

B. Facility Description. IEUA owns and operates a regional wastewater collection system and four water recycling plants. Wastewater can be diverted to different plants via available routing options built into the regional system (see Figure 1 of Attachment C for further detail). After treatment, effluent/recycled water can be discharged to nearby outfall(s) or it can be recycled for industrial uses, irrigation and groundwater recharge. The wastewater treatment systems consist of primary, secondary, and tertiary treatment. Treated wastewater is discharged from various discharge points either to Prado Park Lake, Reach 1 of Cucamonga Creek, or Chino Creek. The lake and the creeks are tributaries to Reach 3 of the Santa Ana River within the Prado Basin Management Zone. Recycled water is used in areas overlying the Chino North “Maximum Benefit” Groundwater Management Zone (GMZ) (or Chino 1, 2, and 3 “Antidegradation” GMZs). Groundwater recharge of recycled water is regulated under separate waste discharge requirements. Attachment B provides maps of the area

around these Facilities. Attachment C provides flow schematics at each Facility, the IEUA System-Wide influent flow interrelationship diagram, and a schematic of the IEUA System-Wide Water Recycling Distribution System.

C. Legal Authorities. This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this Facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, Division 7 of the Water Code (commencing with section 13260).

D. Background and Rationale for Requirements. The Regional Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through E and G through K are also incorporated into this Order.

E. California Environmental Quality Act (CEQA). Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code section 21000 et seq. (*County of Los Angeles v. California State Water Resources Control Board* (2006) 143 Cal.App.4th 985, mod. (Nov. 6, 2006, B184034) 50 Cal.Rptr.3d 619, 632-636). This action also involves the re-issuance of waste discharge requirements for an existing facility that discharges treated wastewater to land and as such, is exempt from the provisions of California Environmental Quality Act (commencing with Section 21100) in that the activity is exempt pursuant to Title 14 of the California Code of Regulations Section 15301.

F. Technology-based Effluent Limitations. Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations[1], require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at Part 133 and/or Best Professional Judgment (BPJ) in accordance with Part 125, section 125.3. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).

[1] *All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.*

G. Water Quality-Based Effluent Limitations. Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. This Order contains requirements, expressed as a technology equivalence requirement, more stringent than secondary treatment requirements. These requirements are necessary to meet applicable water quality standards.

The rationale for these requirements, which consist of tertiary or equivalent treatment requirements and other provisions, is discussed in the Fact Sheet.

Section 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

H. Water Quality Control Plans. The Regional Water Board adopted a revised Water Quality Control Plan for the Santa Ana Region (hereinafter Basin Plan) that became effective on January 24, 1995. The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters in the Santa Ana Region addressed through the plan. More recently, the Basin Plan was amended significantly to incorporate revised boundaries for groundwater subbasins, now termed "management zones", new nitrate-nitrogen and TDS objectives for the new management zones, and new nitrogen and TDS management strategies applicable to both surface and ground waters.

This Basin Plan Amendment was adopted by the Regional Water Board on January 22, 2004. The State Water Resources Control Board (State Water Board) and Office of Administrative Law (OAL) approved the Amendment on September 30, 2004 and December 23, 2004, respectively. EPA approved the surface water standards components of the N/TDS Amendment on June 20, 2007.

In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which established State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Based on the criteria specified in the State Water Board Resolution, the Basin Plan specifies that Reaches 1A, 1B, and 2 of Chino Creek, Reach 1 of Cucamonga Creek and Reach 5 of the Santa Ana River, beginning at the intersection of Orange Avenue in the City of Redlands, and downstream reaches are excepted from the municipal and domestic supply beneficial use.

As discussed in detail in the Fact Sheet (Attachment F), beneficial uses applicable to the Prado Basin Management Zone, Reach 1 of Cucamonga Creek, Reaches 1A, 1B, and 2 of Chino Creek, and Reach 3 of the Santa Ana River are as follows:

Table 5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
001	Prado Park Lake overflow from the lake to an unnamed creek, then to Reach 1A of Chino Creek	Present or Potential: Water contact recreation (REC-1), non-contact water recreation (REC-2), warm freshwater habitat, wildlife habitat (WILD), and rare, threatened and endangered species. Recreational use at Prado Park Lake is restricted to fishing and boating. Excepted from Municipal and Domestic Supply.
002	Reach 1 of Cucamonga Creek, then to Mill Creek, thence to Reach 1A of Chino Creek	Present or Potential: Groundwater Recharge, Water contact recreation (REC-1), non-contact water recreation (REC-2), Limited warm freshwater habitat, and wildlife habitat (WILD). Excepted from Municipal and Domestic Supply.
003	Reach 1B of Chino Creek	Present or Potential: Water contact recreation (REC-1), non-contact water recreation (REC-2), warm freshwater habitat, wildlife habitat (WILD), and rare, threatened and endangered species. Excepted from Municipal and Domestic Supply.
004	Reach 2 of Chino Creek	Present or Potential: Groundwater Recharge, Water contact recreation (REC-1), non-contact water recreation (REC-2), Cold freshwater habitat, and wildlife habitat (WILD). Excepted from Municipal and Domestic Supply.
001, 002, 003, 004, S-001, & S-002	Reach 3 of Santa Ana River within Prado Basin Area	Present or Potential: Agricultural supply, groundwater recharge, water contact recreation, non-contact water recreation, warm freshwater habitat, wildlife habitat, and rare, threatened or endangered species. Excepted from Municipal and Domestic Supply.
001, 002, 003, 004, 005, 006, 007, 008, S-001, & S-002	Chino North “Max Benefit” GMZ/Chino 1, 2 and 3 “antidegradation” GMZs	Present or Potential: Municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.
	Orange GMZ (affected GMZ downstream of discharge points)	Present or Potential: Municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.

Requirements of this Order implement the Basin Plan.

I. National Toxics Rule (NTR) and California Toxics Rule (CTR). USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.

J. Compliance Schedules and Interim Requirements – Not Applicable

K. State Implementation Policy. On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

L. Alaska Rule. On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes. (40 C.F.R. section 131.21; 65 Fed. Reg. 24641 (April 27, 2000).) Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000 may be used for CWA purposes, whether or not approved by USEPA.

M. Stringency of Requirements for Individual Pollutants. This Order contains both technology-based and water quality based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD_5 and Suspended Solids. Restrictions on the same pollutants are discussed in Section IV.B.2. of Attachment F. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, this Order contains effluent limitations more stringent than the minimum, federal technology-based requirements that are necessary to meet water quality standards. These limitations are not more stringent than required by the CWA.

Water quality-based effluent limitations have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to section 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations for priority pollutants are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. With the exception of certain surface water standards changes adopted as part of the Nitrogen/TDS Basin Plan Amendment (see Section H, above), all beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to section 131.21(c)(1). The surface water standards changes adopted as part of the Nitrogen/TDS Basin Plan Amendment were approved by USEPA on June 20, 2007.

N. Antidegradation Policy. Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. As discussed in the Fact Sheet, discharges in accordance with the terms and conditions of this Order will not result in a lowering of water quality. Therefore, the permitted discharges are consistent with the antidegradation provisions of section 131.12 and State Water Board Resolution No. 68-16.

O. Anti-Backsliding Requirements. Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit. With the exception of the average monthly limitation for free cyanide, all effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Orders and are consistent with the anti-backsliding requirements of the CWA and federal regulations.

P. Endangered Species Act. This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

Q. Monitoring and Reporting. Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment E.

R. Pretreatment: The Discharger has established an approved regional pretreatment program. The approved pretreatment program and its components, such as Ordinance No.97-OR5, local limits (adopted by the Discharger in 2000), and control mechanisms, among others, are hereby made an enforceable condition of this Order.

S. Biosolids Requirements. On February 19, 1993, the USEPA issued a final rule for the use and disposal of sewage sludge, 40 CFR, Part 503. This rule requires that producers of sewage sludge meet certain reporting, handling, and disposal requirements. The State of California has not been delegated the authority to implement this program, therefore, the U.S. Environmental Protection Agency is the implementing agency. However, this Order includes Regional Water Board biosolids requirements.

T. State General Waste Discharge Requirements for Sanitary Sewer Systems. The State Water Board issued General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003 on May 2, 2006, requiring public agencies that own sanitary sewer systems comprised of more than one mile of pipes or sewer lines, to enroll for coverage under the General Order. The General Order requires agencies to develop sanitary sewer management plans (SSMPs) and report all sanitary sewer overflows (SSOs).

This Order requires the Discharger and other governmental agencies[2] to obtain enrollment for regulation under the General Water Quality Order No. 2006-0003. The Discharger has already enrolled.

[2] *Member agencies and sewering agencies discharging wastewater into the Facility.*

U. Standard and Special Provisions. Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. The rationale for the special provisions contained in this Order is provided in the attached Fact Sheet.

V. Provisions and Requirements Implementing State Law. The provisions/requirements in subsections IV.B, IV.C, V.B, and VI.C. of this Order are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

W. Notification of Interested Parties. The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet of this Order.

X. Consideration of Public Comment. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet of this Order.

IT IS HEREBY ORDERED, that this Order supersedes Order No. R8-2006-0010 as amended by Orders No. R8-2007-0045 and No. R8-2007-0078; Order No. R8-2008-0028, and Order No. R8-2004-0020 as amended by Order Nos. R8-2006-0038, and R8-2007-0078, except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

III. DISCHARGE PROHIBITIONS

A. The direct discharge of secondary treated wastewater to Chino Creek and Reach 1 of Cucamonga Creek other than when the flow[3] in the creeks results in a dilution of 20:1 or more at the point of discharge is prohibited.

B. Discharge of wastewater at a location or in a manner different from those described in this Order is prohibited.

C. The bypass or overflow of untreated wastewater or wastes to surface waters or surface water drainage courses is prohibited, except as allowed in Standard Provision I.G. of Attachment D, Federal Standard Provisions.

D. The discharge of any substances in concentrations toxic to animal or plant life is prohibited.

E. The discharge of any radiological, chemical, or biological warfare agent or high level radiological waste is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations –Discharge Points (DP) 001, 002, 003, and 004

Unless otherwise specifically specified hereinafter, compliance with the following effluent limitations is measured at monitoring locations M-001, M-002, M-003 and M-004 as described in the attached MRP (Attachment E).

1. Final Effluent Limitations for discharges under conditions <u>without</u> 20:1 dilution in the receiving water – DPs 001, 002, 003 and 004

a. The Discharge shall maintain compliance with the following effluent limitations at:

(1) DPs 001, 002, 003 and 004 with compliance measured at Monitoring Locations M-001A & B, M-002A & B, M-003 and M-004, respectively, as described in the attached MRP:

Table 6. Effluent Limitations at DP 001 through DP 004

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	20	30	--	--	--
Total Suspended Solids	mg/L	20	30	--	--	--
Ammonia-Nitrogen	mg/L	4.5	--	--	--	--
Total Chlorine Residual[3]	mg/L					0.1

(2) DPs 001 and 002 with compliance measured at Monitoring Locations M-001B and M-002A, respectively, as described in the attached MRP:

[3] *See Section VII.M. – Compliance Determination.*

Table 7. Effluent Limitations Applicable at DP 001 and DP 002 only

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
Free Cyanide	µg/L	4.2	--	8.5
Bis(2-ethylhexyl) Phthalate	µg/L	5.9		11.9
Selenium	µg/L	4.1		8.2

(3) DP 003 with compliance measured at Monitoring Location M-003, as described in the attached MRP:

Table 8. Effluent Limitations Applicable at DP 003 only

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
Free Cyanide	µg/L	4.6	--	7.3
Bromodichloromethane	µg/L	46	--	92

(4) DP 004 with compliance measured at Monitoring Location M-004, as described in the attached MRP:

Table 9. Effluent Limitations Applicable at DP 004 only

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
Free Cyanide	µg/L	4.3	--	8.5
Bis(2-ethylhexyl) Phthalate	µg/L	5.9	--	11.9

b. **Percent Removal:** The average monthly percent removal of BOD 5-day 20°C and total suspended solids shall not be less than 85 percent. (See Compliance Determination Section VII.N.)

c. **TDS Limitations** - The lower of the two total dissolved solids (TDS) limits specified in (1) or (2), below, is the limit.

(1) The 12-month flow weighted running average TDS constituent concentration and mass emission rates shall not exceed 550 mg/L and 366,960 lbs/day[4], respectively. This limitation may be met on an agency-wide basis using flow weighted averages of the discharges from the Discharger's RP-1, RP-4, RP-5 and CCWRF, or

(2) The 12-month flow weighted running average TDS concentration shall not exceed the 12-month flow weighted running average TDS concentration in the water supply by more than 250 mg/L[5]. This limitation may be met on an agency-wide basis using flow weighted averages of the water supplied to the Discharger's RP-1, RP-4, RP-5 and CCWRF service areas.

d. The 12-month flow weighted running average Total Inorganic Nitrogen (TIN) concentration and mass emission rates shall not exceed 8 mg/L and 5,338 lbs/day[6], respectively. This limitation may be met on an agency-wide basis using flow weighted averages of the discharges from the Discharger's RP-1, RP-4, RP-5 and CCWRF.

e. The discharge shall at all times be adequately oxidized, filtered, and disinfected treated wastewater and shall meet the following limitations.

(1) The turbidity of the filtered wastewater shall not exceed any of the following:

(a) Average of 2 Nephelometric Turbidity Unit (NTU) within any 24-hour period;

(b) 5 NTU more than 5 percent of the time in any 24-hour period; and

(c) 10 NTU at any time.

(2) The disinfected effluent shall meet the following:

(a) When chlorine disinfection process is utilized following filtration, a CT (the product of total chlorine residual and modal contact time measured at the same point) value of not less than 450 milligram-minutes per liter at all times with a modal contact time of at least 90 minutes[7], based on peak dry weather design flow[8;] shall be provided[9].

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4 *Based on wasteload allocation volume of 80 mgd and concentration of 550 mg/L.*

5 *See Section VII.L. - Compliance Determination.*

6 *Based on wasteload allocation volume of 80 mgd and concentration of 8 mg/L.*

7 *The modal contact time requirement is applicable only to the use of recycled water and not to surface water discharges, provided the receiving water provides a 1:1 dilution. The receiving water considered here shall exclude upstream POTW effluent flow.*

8 *"Peak Dry Weather Flow" means the arithmetic mean of the maximum peak flow rates sustained over some period of time (for example three hours) during the maximum 24-hour dry weather period. Dry weather period is defined as period of little or no rainfall.*

(b) When a disinfection process combined with the filtration process is utilized, the combined process shall demonstrate[10] inactivation and/or removal of 99.999 percent of the plaque-forming units of F-specific bacteriophage MS-2[11], or polio virus in the wastewater. A virus that is at least as resistant to disinfection as polio virus may be used for purposes of the demonstration.

(c) The weekly average concentration of total coliform bacteria shall not exceed a Most Probable Number (MPN) of 2.2 total coliform bacteria per 100 milliliters (ml). (see Compliance Determination VII.J.1., below)

(d) The number of total coliform bacteria shall not exceed an MPN of 23 total coliform bacteria per 100 ml in more than one sample in any 30-day period.

(e) No total coliform bacteria sample shall exceed an MPN of 240 total coliform bacteria per 100 ml.

f. There shall be no visible oil and grease in the discharge.

g. The pH of the discharge shall be within 6.5 to 8.5 pH[12].

h. Wastewater discharged at DP 001 shall be limited to treated and disinfected effluent that meets the conditions in Section IV.A.1.

i. Wastewater discharged at DP 002 through DP 004 shall be limited to treated and disinfected effluent that meets the conditions in Section IV.A.1., except for discharges of treated wastewater that meets the conditions specified in Section IV.A.4., when the flow[13] in Reaches 1B or 2 of Chino Creek or Reach 1 of Cucamonga Creek results in a dilution of 20:1 or more at the point of discharge.

2. Interim Effluent Limitations – Not Applicable

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9 *Modal contact time and CT shall be calculated based on the minimum one-hour average value in a 24-hr period.*

10 *Meeting the discharge limits in A.1.e.(2).(c),(d), and (e) shall constitute the demonstration required by this sub-paragraph.*

11 *F-Specific bacteriophage MS-2 means a strain of a specific type of virus that infects coliform bacteria that is traceable to the American Type Culture Collection (ATCC) 15597B1) and is grown on lawns of E. coli (ATCC 15597).*

12 *See Section VII.K. Compliance Determination.*

13 *Exclusive of discharges to surface waters from upstream publicly owned treatment works.*

3. Toxicity Requirements/Discharge Specifications

a. There shall be no acute or chronic toxicity in the plant effluent nor shall the plant effluent cause any acute or chronic toxicity in the receiving water. All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in human, plant, animal, or indigenous aquatic life. This Order contains no numeric limitation for toxicity. However, the Discharger shall conduct chronic toxicity monitoring.

b. The Discharger shall implement the accelerated monitoring as specified in Attachment E when the result of any single chronic toxicity test of the effluent exceeds 1.0 TUc.

4. Effluent Limitations at DPs 002, 003, and 004, Under Conditions <u>with</u> 20:1 or More Dilution

The discharge of treated and disinfected effluent when the creek flow[14] at monitoring locations R-002U, R-003U, and/or R-004U results in a dilution of 20:1 (receiving water flow : wastewater flow) or more shall maintain compliance with the following effluent limitations at DPs 002, 003, and/or 004 with compliance measured at Monitoring Locations M002, M003 and M-004, respectively, as described in the attached MRP.

a. Numeric Effluent Limitations

Table 10. Effluent Limitations Under 20:1 Dilution

Parameter	Units	Effluent Limitations			
		Average Monthly	Average Weekly	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	30	45	- -	- -
Total Suspended Solids	mg/L	30	45	- -	- -
Total Residual Chlorine	mg/L	-	-	-	2.1

b. Treated wastewater shall at all times be adequately oxidized and disinfected wastewater and shall meet the following limitations:

(1) The weekly average number of coliform bacteria does not exceed a median of 23 per 100 milliliters as determined from the daily coliform bacteria values for the last seven (7) days. (see also Compliance Determination VII.J.2., below)

[14] *Exclusive of discharges to surface waters from upstream publicly owned treatment works.*

(2) The discharge shall be considered adequately oxidized if the 5-day @ 20°C Biochemical Oxygen Demand and Total Suspended Solids constituent concentrations of the discharge are less than or equal to the limitations shown in IV.A.4.a., above.

c. The monthly average biochemical oxygen demand and suspended solids concentrations of the discharge shall not be greater than fifteen percent (15%) of the monthly average influent concentration.

d. The pH of the discharge shall be within 6.5 to 8.5 pH[15].

B. Land Discharge Specifications – Not Applicable

C. Reclamation Specifications – DP 005 through DP 008

1. Upon the effective date of this Order, the use of recycled water for parks, landscape irrigation, and/or other similar uses shall maintain compliance with the following effluent limitations at DP 005 through DP 008 with compliance measured at monitoring locations REC-001 through REC-004, respectively, and where representative samples of recycled water can be obtained for laboratory testing and analysis as described in the attached Monitoring and Reporting Program (Attachment E). The Discharger shall submit for approval by the Executive Officer a list of other monitoring location(s) not specified herein where representative samples of recycled water could be obtained for laboratory testing and analysis.

   a. Physical/Biological Limitations:

Table 11. Recycled Water Effluent Limitations

Parameter	Units	Effluent Limitations	
		Average Monthly	Average Weekly
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	20	30
Total Suspended Solids	mg/L	20	30

   b. TDS Limitations: The following TDS limitations apply to recycled water uses, except groundwater recharge, that would affect underlying local Groundwater Management Zone(s). These limitations may be met on an agency-wide basis using flow-weighted averages of the discharges from the Discharger's RP-1, RP-4, RP-5 and CCWRF.

[15] *See Section VII.K. Compliance Determination*

(1) If maximum benefit is demonstrated (see Provisions VI.C.6.), the 12-month flow weighted running average total dissolved solids concentration shall not exceed 550 mg/L.

(2) If maximum benefit is not demonstrated (see Provisions VI.C.6.), the 12-month flow weighted running average total dissolved solids concentration shall not exceed the following:

Table 12. Recycled Water Effluent TDS Limitations

Groundwater Management Zone	TDS limit, mg/L
Chino 1	280
Chino 2	250
Chino 3	260

c. Recycled water described in Section 60307(a) of Division 4, Chapter 3, Title 22, California Code of Regulations and for irrigation of food crops, parks and playground, school yards, residential landscaping and other irrigation uses not specified in Section 60304(a) of Division 4, Chapter 3, Title 22, California Code of Regulations or not prohibited in other Sections of the California Code of Regulations shall at all times be adequately oxidized, filtered, and disinfected tertiary treated wastewater and shall meet the following limitations:

(1) The turbidity of the filter effluent when filtration is through natural undisturbed soils or a bed of filter media shall not exceed any of the following:

(a) Average of 2 Nephelometric Turbidity Units (NTU) within any 24-hour period;
(b) 5 NTU more than 5 percent of the time in any 24-hour period; and
(c) 10 NTU at any time.

(2) The disinfected effluent shall meet the following:

(a) The weekly average total coliform bacteria[16] shall not exceed a Most Probable Number (MPN) of 2.2 total coliform bacteria per 100 milliliters (ml).
(b) The number of total coliform organism shall not exceed an MPN of 23 total coliform bacteria per 100 ml in more than one sample in any 30-day period.
(c) No total coliform sample shall exceed an MPN of 240 total coliform bacteria per 100 ml.

[16] *See Compliance Determination Section VII.J.1.*

(d) A chlorine disinfection process following filtration that provides a CT (the product of total chlorine residual and modal contact time[17] measured at the same point) value of not less than 450 milligram-minutes per liter at all times with a modal contact time of at least 90 minutes, based on peak dry weather design flow.

d. Recycled water used for irrigation of food crops where the edible portion is produced above ground and not contacted by the recycled water shall at all times be adequately oxidized and disinfected so that average weekly total coliform bacteria in the disinfected effluent does not exceed a most probable number (MPN) of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed, and the number of total coliform bacteria does not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30-day period.

e. Recycled water used for the uses listed below shall be an oxidized and disinfected water so that the average weekly total coliform bacteria[18] in the disinfected effluent does not exceed a most probable number (MPN) of 23 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed, and the number of total coliform bacteria does not exceed an MPN of 240 per 100 milliliters in more than one sample in any 30 day period.

(1) Industrial boiler feed, nonstructural fire fighting, backfill consolidation around nonpotable piping, soil compaction, mixing concrete, dust control on roads and streets, cleaning roads, sidewalks and outdoor work areas and industrial process water that will not come into contact with workers.
(2) Irrigation of cemeteries, freeway landscaping, restricted access golf courses, ornamental nursery stock and sod farms where access by the general public is not restricted, pasture for animals producing milk for human consumption, and any nonedible vegetation where access is controlled so that irrigated area cannot be used as if it were part of a park, playground or school yard.

f. For recycled water uses specified in Sections 60304 and 60307 of Title 22 where filtration is provided pursuant Section 60301.320(a) and coagulation is not used as part of the treatment process, the Discharger shall comply with the following:

(1) The turbidity of the influent to the filters is continuously measured and the influent turbidity does not exceed 5 NTU for more than 15 minutes and never exceeds 10 NTU;
(2) The filtered wastewater turbidity shall not exceed 2 NTU within any 24-hour period; and;

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[17] *Modal contact time and CT shall be calculated daily based on the minimum one-hour average value in a 24-hour period.*

[18] *See Compliance Determination Section VII.J.2.*

(3) Should the filter influent turbidity exceed 5 NTU for more than 15 minutes, chemical addition shall be automatically activated if available, if not, the wastewater shall be diverted.

2. For new reuse sites, the use of recycled water shall only commence after the California Department of Public Health (CDPH) grants final approval for such use. The Discharger shall provide the Regional Water Board with a copy of the CDPH approval letter within 30 days of the approval notice.

3. The Discharger shall be responsible for assuring that recycled water is delivered and utilized in conformance with this Order, the recycling criteria contained in Title 22, Division 4, Chapter 3, Sections 60301 through 60355, California Code of Regulations. The Discharger shall conduct periodic inspections of the facilities of the recycled water users to monitor compliance by the users with this Order.

4. The Discharger shall establish and enforce Rules and Regulations for Recycled Water users, governing the design and construction of recycled water use facilities and the use of recycled water in accordance with the uniform statewide recycling criteria established pursuant to the California Water Code Section 13521.

   a. Use of recycled water by the Discharger shall be consistent with its Rules and Regulations for Recycled Water Use.

   b. Any revisions made to the Rules and Regulations shall be subject to the review of the Regional Water Board, the California Department of Public Health, and the County Environmental Health Department. The revised Rules and Regulations or a letter certifying that the Discharger's Rules and Regulations contain the updated provisions in this Order, shall be submitted to the Regional Water Board within 60 days of adoption of this Order by the Regional Water Board.

5. The Discharger shall, within 60 days of the adoption of this Order, review and update as necessary its program to conduct compliance inspections of recycled water reuse sites. Inspections shall determine the status of compliance with the Discharger's Rules and Regulations for Recycled Water Use.

6. The storage, delivery, or use of recycled water shall not individually or collectively, directly or indirectly, result in a pollution or nuisance, or adversely affect water quality, as defined in the California Water Code.

7. Prior to delivering recycled water to any new user, the Discharger shall submit to the California Department of Public Health and the County Environmental Health Department a report containing the following information for review and approval:

   a. The average number of persons estimated to be served at each use site area on a daily basis.

b. The specific boundaries of the proposed use site area including a map showing the location of each facility, drinking water fountain, and impoundment to be used.

c. The person or persons responsible for operation of the recycled water system at each use area.

d. The specific use to be made of the recycled water at each use area.

e. The methods to be used to assure that the installation and operation of the recycled system will not result in cross connections between the recycled water and potable water piping systems. This shall include a description of the pressure, dye or other test methods to be used to test the system.

f. Plans and specifications which include following:
(1) Proposed piping system to be used.
(2) Pipe locations of both the recycled and potable systems.
(3) Type and location of the outlets and plumbing fixtures that will be accessible to the public.
(4) The methods and devices to be used to prevent backflow of recycled water into the potable water system.
(5) Plan notes relating to specific installation and use requirements.

8. The Discharger shall require the user(s) to designate an on-site supervisor responsible for the operation of the recycled water distribution system within the recycled water use area. The supervisor shall be responsible for enforcing this Order, prevention of potential hazards, the installation, operation and maintenance of the distribution system, maintenance of the distribution and irrigation system plans in "as-built" form, and for the distribution of the recycled wastewater in accordance with this Order.

9. Recycled water shall at all times be maintained within the property lines of any user. There shall be no direct or indirect discharge of recycled water into drainage systems that could affect surface water quality standards.

D. Stormwater Discharge Specifications – S-001 and S-002

1. Storm water[19] discharges shall maintain compliance with the following effluent limitations at S-001 and S-002 with compliance measured at monitoring locations STORM-001 and STORM-002 and shall not:

a. Cause or contribute to a violation of any applicable water quality standards contained in the Basin Plan or in the State or Federal regulations.

b. Cause or threaten to cause pollution, contamination, or nuisance.

[19] *Storm water means storm water runoff and surface runoff and drainage.*

c. Contain a hazardous substance equal to or in excess of a reportable quantity listed in 40 CFR Part 117 and/or 40 CFR Part 302.

d. Adversely impact human health or the environment.

e. Result in noncompliance with the lawful requirements of municipalities, counties, drainage districts, and other local agencies on storm water discharges into storm drain systems or other courses under their jurisdiction.

2. Stormwater discharges from this Facility shall comply with the Stormwater Requirements in Attachment J and K.

3. The Discharger must update and implement the Storm Water Pollution Prevention Plan for the Facility in accordance with Attachment J of this Order.

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

1. Receiving water limitations are based upon water quality objectives contained in the Basin Plan. As such, they are a required part of this Order. The discharge shall not cause the following in Prado Park Lake, Reach 1 of Cucamonga Creek, Reaches 1A, 1B and 2 of Chino Creek or Reach 3 of the Santa Ana River and downstream reaches:

   a. Coloration of the receiving waters, which causes a nuisance or adversely affects beneficial uses.

   b. Deposition of oil, grease, wax or other materials in the receiving waters in concentrations which result in a visible film or in coating objects in the water, or which cause a nuisance or affect beneficial uses.

   c. An increase in the amounts of suspended or settleable solids in the receiving waters, which will cause a nuisance or adversely affect beneficial uses as a result of controllable water quality factors.

   d. Taste or odor-producing substances in the receiving waters at concentrations, which cause a nuisance or adversely affect beneficial uses.

   e. The presence of radioactive materials in the receiving waters in concentrations, which are deleterious to human, plant or animal life.

   f. The depletion of the dissolved oxygen concentration below 5.0 mg/L.

   g. The temperature of the receiving waters to be raised above 90°F (32°C) during the period of June through October, or above 78°F (26°C) during the rest of the year.

h. The concentration of pollutants in the water column, sediments, or biota to adversely affect the beneficial uses of the receiving water. The discharge shall not result in the degradation of inland surface water communities and populations, including vertebrate, invertebrate, and plant species.

2. The discharge of wastes shall not cause a violation of any applicable water quality standards for receiving waters adopted by the Regional Water Board or State Water Board, as required by the Clean Water Act and regulations adopted thereunder.

3. Pollutants not specifically mentioned and limited in this Order shall not be discharged at levels that will bioaccumulate in aquatic resources to levels, which are harmful to human health or animal life.

4. The discharge shall not contain constituent concentrations of mercury that will result in the bioaccumulation of methylmercury in fish flesh tissue greater than 0.3 milligram methylmercury/kilogram. (See also Section VI.C.1.e. and VI.C.2.a., below).

B. Groundwater Limitations

The use of recycled water shall not cause the underlying groundwater to be degraded, to exceed water quality objectives, unreasonably affect beneficial uses, or cause a condition of pollution or nuisance.

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.

2. The Discharger shall comply with the following provisions:

   a. Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from this Facility, may subject the Discharger to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Discharger to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.

b. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, discharge limitations (e.g., maximum daily effluent limitation), or receiving water limitation of this Order, the Discharger shall notify the Regional Water Board by telephone (951) 782-4130 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Regional Water Board waives confirmation. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures being taken to remedy the current noncompliance and, prevent recurrence including, where applicable, a schedule of implementation. Other noncompliance requires written notification as above at the time of the normal monitoring report.

c. Neither the treatment nor the discharge of pollutants shall create a pollution, contamination, or nuisance as defined by Section 13050 of the CWC.

d. The Discharger shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this Order, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the noncomplying discharge.

e. This Order may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:

   (1) Violation of any terms or conditions of this Order;
   (2) Obtaining this Order by misrepresentation or failure to disclose fully all relevant facts, or;
   (3) In addition to any other grounds specified herein, this Order may be modified or revoked at any time if, on the basis of any data, the Regional Water Board determines that continued discharges may cause unreasonable degradation of the aquatic environment.

f. If an effluent standard or discharge prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307 (a) of the Clean Water Act for a toxic pollutant which is present in the discharge, and such standard or prohibition is more stringent than any limitation for that pollutant in this Order, this Order may be modified or revoked and reissued to conform to the effluent standard or discharge prohibition.

g. The Discharger shall file with the Regional Water Board a Report of Waste Discharge at least 180 days before making any material change in the character, location, or volume of the discharge. A material change includes, but is not limited to, the following:

   (1) Adding a major industrial waste discharge to a discharge of essentially domestic sewage, or adding a new process or product by an industrial facility resulting in a change in the character of the waste.
   (2) Significantly changing the disposal method or location, such as changing the disposal to another drainage area or water body.
   (3) Significantly changing the method of treatment.
   (4) Increasing the treatment plant design capacity beyond that specified in this Order.

h. The provisions of this Order are severable, and if any provision of this Order, or the application of any provision of this Order to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Order, shall not be affected thereby.

i. The Discharger shall maintain a copy of this Order at the site so that it is available to site operating personnel at all times. Key operating personnel shall be familiar with its content.

j. The Discharger shall optimize chemical additions needed in the treatment process to meet waste discharge requirements so as to minimize total dissolved solid increases in the treated wastewater.

k. Collected screenings, sludge, and other solids removed from liquid wastes shall be disposed of in a manner approved by the Regional Water Board's Executive Officer.

l. The Discharger has demonstrated a correlation between the biological oxygen demand (BOD_5) and total organic carbon (TOC) concentrations in the effluent to the satisfaction of the Executive Officer. Therefore, compliance with the BOD_5 limits and monitoring requirements contained in this Order may be determined based on analyses of the TOC of the effluent.

m. In the event of any change in control or ownership of land or waste discharge facility presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be forwarded to the Regional Water Board.

n. The treatment facilities shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.

B. Monitoring and Reporting Program (MRP) Requirements

The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E of this Order. This monitoring and reporting program may be modified by the Executive Officer at any time during the term of this Order, and may include an increase in the number of parameters to be monitored, the frequency of the monitoring or the number and size of samples to be collected. Any increase in the number of parameters to be monitored, the frequency of the monitoring or the number and size of samples to be collected may be reduced back to the levels specified in the original monitoring and reporting program at the discretion of the Executive Officer.

C. Special Provisions

1. Reopener Provisions

a. This Order will be reopened to address any changes in State or federal plans, policies or regulations that would affect the quality requirements for the discharges.

b. This Order may be reopened to include effluent limitations for pollutants determined to be present in the discharge in concentrations that pose a reasonable potential to cause or contribute to violations of water quality standards.

c. This Order may be reopened and modified in accordance with the requirements set forth at 40 CFR 122 and 124, to include the appropriate conditions or limits to address demonstrated effluent toxicity based on newly available information, or to implement any EPA-approved new State water quality standards applicable to effluent toxicity.

d. This Order may be reopened for modification, or revocation and reissuance, as a result of the detection of a reportable priority pollutant generated by special conditions included in this Order. These special conditions may be, but are not limited to, fish tissue sampling, whole effluent toxicity, monitoring requirements on internal waste stream(s), and monitoring for surrogate parameters. Additional requirements may be included in this Order as a result of the special condition monitoring data.

e. This Order may be reopened to include an appropriate bioaccumulation based effluent limit for mercury if test results (as required in Attachment E of this Order) show that the concentration levels of methylmercury in the fish tissue are at or above 0.3 milligrams per kilogram.

f. This Order may be reopened to incorporate appropriate biosolids requirements if the State Water Resources Control Board and the Regional Water Quality Control Board are given the authority to implement regulations contained in 40 CFR 503.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. By September 1, 2009, the Discharger shall notify the Executive Officer of its continuous involvement with the comprehensive mercury investigation program currently being conducted by a group of Santa Ana River system dischargers. If the Discharger discontinues its involvement with this comprehensive program, the Discharger shall, within 60 days of that date, submit for the approval of the Executive Officer its plan for the annual testing of mercury levels in fish flesh samples collected from the Santa Ana River, upstream of, at, and downstream of the point of the discharge point. Upon approval, the Discharger shall implement the plan.

b. Toxicity Reduction Requirements.

(1) The Discharger shall develop an Initial Investigation Toxicity Reduction Evaluation (IITRE) work plan that describes the steps the Discharger intends to follow if required by Toxicity Requirements b.(2), below. The work plan shall include at a minimum:

(a) A description of the investigation and evaluation techniques that will be used to identify potential causes/sources of the exceedance, effluent variability, and/or efficiency of the treatment system in removing toxic substances. This shall include a description of an accelerated chronic toxicity testing program.

(b) A description of the methods to be used for investigating and maximizing in-house treatment efficiency and good housekeeping practices.

(c) A description of the evaluation process to be used to determine if implementation of a more detailed TRE\TIE is necessary.

(2) The Discharger shall implement the IITRE work plan whenever the results of chronic toxicity tests of the effluent exceed:

(a) A two month median value of 1.0 TUc for survival or reproduction endpoint or,
(b) Any single test value of 1.7 TUc for survival endpoint.

(3) The Discharger shall develop a detailed Toxicity Reduction Evaluation and Toxicity Identification Evaluation (TRE/TIE) work plan that shall describe the steps the Discharger intends to follow if the implemented IITRE fails to identify the cause of, or to rectify, the toxicity.

(4) The Discharger shall use as guidance, at a minimum, EPA manuals EPA/600/2-88/070 (industrial), EPA/600/4-89-001A (municipal), EPA/600/6-91/005F (Phase I), EPA/600/R-92/080 (Phase II), and EPA-600/R-92/081 (Phase III) to identify the cause(s) of toxicity. If during the life of this Order the aforementioned EPA manuals are revised or updated, the revised/updated manuals may also be used as guidance. The detailed TRE/TIE work plan shall include:

(a) Further actions to investigate and identify the cause of toxicity;
(b) Actions the Discharger will take to mitigate the impact of the discharge and to prevent the recurrence of toxicity; and
(c) A schedule for these actions.

(5) The Discharger shall implement the TRE/TIE workplan if the IITRE fails to identify the cause of, or rectify, the toxicity, or if in the opinion of the Executive Officer the IITRE does not adequately address an identified toxicity problem.

(6) The Discharger shall assure that adequate resources are available to implement the required TRE/TIE.

3. Best Management Practices and Pollution Prevention

a. Pollutant Minimization Program

(1) The Discharger shall develop and conduct a Pollutant Minimization Program (PMP) as further described below when there is evidence (e.g., sample results reported as DNQ when the effluent limitation is less than the MDL, sample results from analytical methods more sensitive than those methods required by this Order, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling) that a priority pollutant is present in the effluent above an effluent limitation and either:

(a) A sample result is reported as DNQ and the effluent limitation is less than the RL; or
(b) A sample result is reported as ND and the effluent limitation is less than the MDL.

(2) The PMP shall include, but not be limited to, the following actions and submittals acceptable to the Regional Water Board:

(a) An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling;

(b) Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system;

(c) Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant(s) in the effluent at or below the effluent limitation;

(d) Implementation of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy; and

(e) An annual status report that shall be sent to the Regional Water Board including:

i. All PMP monitoring results for the previous year;
ii. A list of potential sources of the reportable priority pollutant(s);
iii. A summary of all actions undertaken pursuant to the control strategy; and
iv. A description of actions to be taken in the following year.

4. Construction, Operation and Maintenance Specifications

a. The Discharger's wastewater treatment plants shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to Title 23, Division 3, Chapter 14, California Code of Regulations.

b. The Discharger shall provide safeguards to assure that should there be reduction, loss, or failure of electric power, the Discharger will comply with the requirements of this Order.

c. The Discharger shall update as necessary, the "Operation and Maintenance Manual(s) (O&M Manual)" which it has developed for the treatment facilities to conform to latest plant changes and requirements. The O&M Manual(s) shall be readily available to operating personnel onsite. The O&M Manual(s) shall include the following:

(1) Description of the treatment plant table of organization showing the number of employees, duties and qualifications and plant attendance schedules (daily, weekends and holidays, part-time, etc). The description should include documentation that the personnel are knowledgeable and qualified to operate the treatment facility so as to achieve the required level of treatment at all times.
(2) Detailed description of safe and effective operation and maintenance of treatment processes, process control instrumentation and equipment.
(3) Description of laboratory and quality assurance procedures.
(4) Process and equipment inspection and maintenance schedules.
(5) Description of safeguards to assure that, should there be reduction, loss, or failure of electric power, the Discharger will be able to comply with requirements of this Order.
(6) Description of preventive (fail-safe) and contingency (response and cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. These plans shall identify the possible sources (such as loading and storage areas, power outage, waste treatment unit failure, process equipment failure, tank and piping failure) of accidental discharges, untreated or partially treated waste bypass, and polluted drainage.

5. Special Provisions for Municipal Facilities (POTWs Only)

a. Sewer Collection System Requirements: The Discharger's collection system is part of the system that is subject to this Order. As such, the Discharger must properly operate and maintain its collection system (40 C.F.R. § 122.41(e)). The Discharger must report any non-compliance (40 C.F.R. § 122.41(l)(6) and (7)) and mitigate any discharge from the collection system in violation of this Order (40 C.F.R. § 122.41(d)). See the Order at Standard Provision VI.A.2.b. and Attachment D, subsections I.D, V.E, V.H, and I.C.

Furthermore, the General Waste Discharge Requirements for Collection System Agencies (Order No. 2006-0003 DWQ) contains requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows. While the Discharger must comply with both Order No. 2006-0003 DWQ and this Order, the General Collection System WDR more clearly and specifically stipulates requirements for operation and maintenance and for reporting and mitigating sanitary sewer overflows. The Discharger and other governmental agencies that are discharging wastewater into the facility are required to obtain enrollment for regulation under Order No. 2006-0003-DWQ.

b. Sludge Disposal Requirements

(1) Collected screenings, sludge, and other solids removed from liquid wastes shall be disposed of in a manner that is consistent with State Water Board and Integrated Waste Management Board's joint regulations (Title 27) of the California Code of Regulations and approved by the Regional Water Board's Executive Officer.
(2) The use and disposal of biosolids shall comply with existing Federal and State laws and regulations, including permitting requirements and technical standards included in 40 CFR 503.
(3) Any proposed change in biosolids use or disposal practice from a previously approved practice should be reported to the Executive Officer and EPA Regional Administrator at least 90 days in advance of the change.
(4) The Discharger shall take all reasonable steps to minimize or prevent any discharge or biosolids use or disposal that has the potential of adversely affecting human health or the environment.

c. Pretreatment Program

(1) The Discharger shall update as necessary and implement an acceptable pretreatment program.

(2) The Discharger shall update as necessary the appropriate contractual agreements with all governmental agencies[20]. The contractual agreements shall give the Discharger the authority to implement and enforce the approved pretreatment program within the sewer service areas of the treatment Facility. The Discharger shall assure that any other steps necessary to provide this implementation and enforcement authority (e.g. adoption of ordinances, etc.) are taken by all governmental agencies. If a governmental agency has an EPA approved pretreatment program for any portion of the service area of the treatment facility, the Discharger's pretreatment program shall contain provisions ensuring that that governmental agency's program is implemented. In the event that any agency discharging to Discharger's facility fails to effectively implement its individual EPA approved pretreatment program, the Discharger shall implement and enforce its approved program within that agency's service area.

[20] *Member agencies and sewering agencies discharging wastewater into the Facility.*

(3) The Discharger shall ensure that the POTW[21] pretreatment program for all contributory agencies discharging to the Discharger's treatment facility are implemented and enforced. The Discharger shall be responsible and liable for the performance of all Control Authority pretreatment requirements contained in 40 CFR 403, including any subsequent regulatory revisions to Part 403. Where Part 403 or subsequent revisions place mandatory actions upon the Discharger as Control Authority but does not specify a timetable for completion of the actions, the Discharger shall submit for approval of the Regional Water Board's Executive Officer, a schedule for implementation of the required actions and shall implement the approved schedule. The schedule for implementation shall be submitted within six months from the date that such mandatory actions are established. For violations of pretreatment requirements, the Discharger shall be subject to enforcement actions, penalties, fines and other remedies by the EPA, or other appropriate parties, as provided in the CWA, as amended (33 USC 1351 et seq.). The EPA or the Regional Water Board may also initiate enforcement action against an industrial user (IU) for non-compliance with applicable standards and requirements as provided in the CWA.

(4) The Discharger shall perform the pretreatment functions as required in 40 CFR Part 403 including, but not limited to:

(a) Enforce the pretreatment requirements under 40 CFR 403.5 and 403.6;

(b) Implement the necessary legal authorities as provided in 40 CFR 403.8(f)(1);

(c) Implement the programmatic functions as provided in 40 CFR 403.8(f)(2);

(d) Publish a list of significant non-compliance as required by 40 CFR 403.8(f)(2)(vii); and

(e) Provide the requisite funding and personnel to implement the pretreatment program as provided in 40 CFR 403.8(f)(3).

(5) The following wastes shall not be introduced into the treatment works:

(a) Wastes which create a fire or explosion hazard in the treatment works;

(b) Wastes which will cause corrosive structural damage to treatment works, but, in no case, wastes with a pH lower than 5.0 unless the works are designed to accommodate such wastes;

[21] *Publicly owned treatment works.*

(c) Wastes at a flow rate and/or pollutant discharge rate which is excessive over relatively short time periods so that there is a treatment process upset and subsequent loss of treatment efficiency;

(d) Solid or viscous wastes in amounts that would cause obstruction to the flow in sewers or otherwise interfere with the proper operation of the treatment works.

(6) The Discharger shall ensure compliance with any existing or future pretreatment standard promulgated by EPA under Section 307 of the CWA or amendments thereto for any discharge to the municipal system.

(7) The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement.

(8) The Discharger shall require each user not in compliance with any pretreatment standard to submit periodic notice (over intervals not to exceed nine months) of progress toward compliance with applicable toxic and pretreatment standards developed pursuant to the CWA or amendments thereto. The Discharger shall forward a copy of such notice to the Regional Water Board and to the EPA Regional Administrator.

(9) The Discharger shall operate the wastewater collection system under a comprehensive industrial pretreatment and pollutant control program for the control of discharge of toxic wastes from point sources. If the California Department of Health Services identifies any contaminants that may pose a risk of contamination to a drinking water supply, it may designate those contaminants for inclusion in the pretreatment and source control program requirements for IEUA to minimize the possibility that the influent wastewater to RP-1 and RP-4 will be contaminated with such toxic chemicals. The source control program shall include:

(a) An assessment of the fate of the specified contaminant compounds through the wastewater and recycled water treatment systems.

(b) A source investigation and monitoring program focused on the specified contaminants.

(c) An outreach program to industrial, commercial and residential communities within the sewage collection agency's service area to manage and minimize the discharge of compounds of concern at the source.

(d) A proactive program for maintaining an inventory of compounds discharged into the wastewater collection system so that new compounds of concern can be evaluated rapidly.

6. Other Special Provisions

a. As necessary based on the consideration of evidence regarding the implementation of the maximum benefit commitments shown in Attachment L , the Regional Water Board will be asked to make a determination of whether those commitments are being satisfied. If the Regional Water Board finds that the maximum benefit commitments are not being satisfied, then the Discharger shall implement a mitigation program approved by the Regional Water Board for recycled water use in the Chino 1, 2 or 3 Groundwater Management Zones using recycled water in excess of the limitations applicable to the Groundwater Management Zones (Sections IV.A.1.c. and IV.A.1.d., and Sections IV.C.1.b.). A proposed mitigation plan and schedule shall be submitted within 60-days of notification by the Regional Water Board Executive Officer of the need to do so. The Discharger shall implement the plan and schedule upon approval by the Regional Water Board.

7. Compliance Schedules – Not Applicable

VII. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in section IV of this Order will be determined as specified below:

A. General.

Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined in the MRP and Attachment A of this Order. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

B. Multiple Sample Data.

When determining compliance with an AMEL or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of “Detected, but Not Quantified” (DNQ) or “Not Detected” (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

1. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

2. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

C. Average Monthly Effluent Limitation (AMEL).

If the average (or when applicable, the median determined by subsection B above for multiple sample data) of daily discharges over a calendar month exceeds the AMEL for a given parameter, this will represent a single violation, though the Discharger will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Discharger will be considered out of compliance for that calendar month. The Discharger will only be considered out of compliance for days when the discharge occurs. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month.

D. Average Weekly Effluent Limitation (AWEL).

If the average or when applicable, the median determined by subsection B above for multiple sample data of daily discharges over a calendar week exceeds the AWEL for a given parameter, this will represent a single violation, though the Discharger will be considered out of compliance for each day of that week for that parameter, resulting in 7 days of non-compliance. If only a single sample is taken during the calendar week and the analytical result for that sample exceeds the AWEL, the Discharger will be considered out of compliance for that calendar week. The Discharger will only be considered out of compliance for days when the discharge occurs. For any one calendar week during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar week.

E. Maximum Daily Effluent Limitation (MDEL).

If a daily discharge or when applicable, the median determined by subsection B above for multiple sample data of a daily discharge exceeds the MDEL for a given parameter, the Discharger will be considered out of compliance for that parameter for that 1 day only within the reporting period. For any 1 day during which no sample is taken, no compliance determination can be made for that day.

F. Instantaneous Minimum Effluent Limitation.

If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both are lower than the instantaneous minimum effluent limitation would result in two instances of non-compliance with the instantaneous minimum effluent limitation).

G. Instantaneous Maximum Effluent Limitation.

If the analytical result of a single grab sample is higher than the instantaneous maximum effluent limitation for a parameter, the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both exceed the instantaneous maximum effluent limitation would result in two instances of non-compliance with the instantaneous maximum effluent limitation).

H. 12-Month Running Average Effluent Limitation (12-MRAEL).

Compliance with the 12-month flow weighted running average limits under Discharge Specification IV.A.1.c., IV.A.1.d., and IV.C.1.b. shall be determined by the arithmetic mean of the last twelve monthly averages.

I. Turbidity Limitations.

The Discharger shall be considered in compliance with Discharge Specifications IV.A.1.e.(1) and IV.C.1.c.(1), if the following conditions are met. If the Discharger is using a properly operating backup turbidimeter, the reading of the backup turbidimeter shall be considered in determining whether there has been an actual noncompliance:

1. There are no excursions above the limits specified in Discharge Specifications IV.A.1.e.(1)(a) and (b) and IV.C.1.c.(1)(a) and (b);
2. Exceedances of the “10 NTU at any time” turbidity requirement do not exceed a duration of one minute.
3. The apparent exceedance was caused by interference with, or malfunction of, the monitoring instrument.

J. Coliform Organism Effluent Limitations.

1. Compliance with the average weekly total coliform limit expressed in Discharge Specification IV.A.1.e.(2)(b), IV.C.1.c.(2)(a), and IV.C.1.d. shall be based on a median of test results from the previous 7 days. To comply with the limit, the 7-day median MPN must not exceed 2.2 per 100 milliliters on any day during the week. However, only one violation is recorded for each calendar week, even if the 7-day median MPN value is greater than 2.2 for more than one day in the week.

2. Compliance with the average weekly total coliform limit expressed in Discharge Specification IV.C.1.e. shall be based on a median of test results from the previous 7 days. To comply with the limit, the 7-day median MPN must not exceed 23 per 100 milliliters on any day during the week. However, only one violation is recorded for each calendar week, even if the 7-day median MPN value is greater than 23 for more than one day in the week.

K. pH Effluent Limitations.

Pursuant to 40 CFR 401.17, the Discharger shall be in compliance with the pH limitations specified in the Discharge Specification IV.A.1.g., IV.A.4.d., above, provided that both of the following conditions are satisfied:

1. The total time during which the pH values are outside the required range of 6.5-8.5 pH values shall not exceed 7 hours and 26 minutes in any calendar month; and
2. No individual excursion from the range of pH values shall exceed 60 minutes.

L. TDS Increment Limit.

Compliance with Discharge Specifications IV.A.1.c.(2) shall be based on IEUA's (RP-1, RP- 4, RP-5, and CCWRF) agency-wide flow weighted TDS water supply quality and shall be determined from TDS analysis of secondary treated wastewater. The Discharger shall provide the necessary calculations showing the overall TDS water supply quality.

M. Total Chlorine Residual Limitation (TCR)

Compliance determinations for total chlorine residual shall be based on 99% compliance. To determine 99% compliance with the effluent limitation for total chlorine residual, the following conditions shall be satisfied:

1. For TCR Limit specified in Section IV.A.1. :
   a The total time during which the total chlorine residual values are above 0.1 mg/L (instantaneous maximum value) shall not exceed 7 hours and 26 minutes in any calendar month;
   b No individual excursion from 0.1 mg/L value shall exceed 5 minutes; and
   c No individual excursion shall exceed 5.0 mg/L.

2. For TCR Limit specified in Section IV.A.4.:
   a The total time during which the total chlorine residual values are above 2.1 mg/L (instantaneous maximum value) shall not exceed 7 hours and 26 minutes in any calendar month;
   b No individual excursion from 2.1 mg/L value shall exceed 5 minutes; and
   c No individual excursion shall exceed 10.5 mg/L.

N. Percent Removal

Compliance with the 85 percent average monthly removal requirement (See Effluent Limitations and Discharge Specifications Section IV.A.1.b.)shall be determined for each individual facility (RP-1, RP-4, RP- 5, and CCWRF).

O. Priority Pollutants.

The Discharger shall be deemed out of compliance with an effluent limitation if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation.

1. Compliance determination shall be based on the reporting level selected from minimum level (ML)[22] specified in Attachment H of this Order, unless an alternative reporting level is approved by the Regional Water Board's Executive Officer. When there is more than one ML value for a given substance, the Discharger shall select the ML value that is below the calculated effluent limitation, and use its associated analytical method, listed in Attachment H of this Order. If no ML value is below the effluent limitation, then the Regional Water Board will select as the reporting level the lowest ML value and its associated analytical method.

2. When determining compliance with an average monthly limit and more than one sample result is available in a month, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of detected but not quantified (DNQ) or not detected (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

   a. The data set shall be ranked from low to high, reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

   b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ. If a sample result, or the arithmetic mean or median of multiple sample results, is below the reporting level, and there is evidence that the priority pollutant is present in the effluent above an effluent limitation and the Discharger conducts a pollutant minimization program (PMP)[23] the Discharger shall not be deemed out of compliance.

P. Non-Priority Pollutants.

The discharge shall be considered to be in compliance with an effluent limitation that is less than or equal to the method detection limit (MDL) specified in 40 CFR 136 if the arithmetic mean of all test results for the monitoring period is less than the constituent effluent limitation. Analytical results that are less than the specified MDL shall be assigned a value of zero.

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[22] *Minimum level is the concentration at which the entire analytical system must give a recognizable signal and acceptable point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.*

[23] *The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation.*

Q. Compliance Determination

Compliance determinations shall be based on available analyses for the time interval associated with the effluent limitation. Where only one sample analysis is available in a specified time interval (e. g., monthly or weekly average), that sample shall serve to characterize the discharge for the entire interval. If quarterly sample results show noncompliance with the average monthly limit and that sample result is used for compliance determinations for each month of the quarter, then three separate violations of the average monthly limit shall be deemed to have occurred.

Compliance with a single effluent limitation which applies to a group of chemicals (e.g., PCBs), based on a single sample shall be determined by considering the concentrations of individual members of the group to be zero if the analytical response for the individual chemical falls below the method detection limit (MDL) for that chemical.

ATTACHMENT A – DEFINITIONS

Arithmetic Mean (μ), also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

Arithmetic mean = $\mu = \Sigma x / n$ where: Σx is the sum of the measured ambient water concentrations, and n is the number of samples.

Average Monthly Effluent Limitation (AMEL): the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL): the highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Best Management Practices (BMPs) are methods, measures, or practices designed and selected to reduce or eliminate the discharge of pollutants to surface waters from point and nonpoint source discharges including storm water. BMPs include structural and non-structural controls, and operation and maintenance procedures, which can be applied before, during, and/or after pollution producing activities.

Bioaccumulative pollutants are those substances taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

Carcinogenic pollutants are substances that are known to cause cancer in living organisms.

Coefficient of Variation (CV) is a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

Criteria Continuous Concentration (CCC) equals the highest concentration of a pollutant to which aquatic life can be exposed for an extended period of time (4 days) without deleterious effects.

Criteria Maximum Concentration (CMC) equals the highest concentration of a pollutant to which aquatic life can be exposed for a short period of time without deleterious effects.

Daily Discharge: Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

Detected, but Not Quantified (DNQ) are those sample results less than the RL, but greater than or equal to the laboratory's MDL.

Effluent Concentration Allowance (ECA) is a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA) as used in USEPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

Estimated Chemical Concentration is the estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

Existing Discharger means any discharger that is not a new discharger. An existing discharger includes an "increasing discharger" (i.e., an existing facility with treatment systems in place for its current discharge that is or will be expanding, upgrading, or modifying its existing permitted discharge after the effective date of the State Implementation Policy).

Infeasible means not capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.

Inland Surface Waters are all surface waters of the State that do not include the ocean, enclosed bays, or estuaries.

Instantaneous Maximum Effluent Limitation: the highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

Instantaneous Minimum Effluent Limitation: the lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

Load Allocation (LA) is the portion of receiving water's total maximum daily load that is allocated to one of its non-point sources of pollution or to natural background sources.

Maximum Daily Effluent Limitation (MDEL) means the highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

Maximum Daily Flow is the maximum flow sample of all samples collected in a calendar day.

MEC: Maximum Effluent Concentration is the observed maximum pollutant concentration for the effluent.

Median is the middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements (*n*) is odd, then the median = $X_{(n+1)/2}$. If *n* is even, then the median = $(X_{n/2} + X_{(n/2)+1})/2$ (i.e., the midpoint between the *n*/2 and *n*/2+1).

Method Detection Limit (MDL) is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in title 40 of the Code of Federal Regulations, Part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (ML) is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

Mixing Zone is a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

Not Detected (ND) are those sample results less than the laboratory's MDL.

Objectionable Bottom Deposits are an accumulation of materials or substances on or near the bottom of a water body, which creates conditions that adversely impact aquatic life, human health, beneficial uses, or aesthetics. These conditions include, but are not limited to, the accumulation of pollutants in the sediments and other conditions that result in harm to benthic organisms, production of food chain organisms, or fish egg development. The presence of such deposits shall be determined by RWQCB(s) on a case-by-case basis.

Persistent pollutants are substances for which degradation or decomposition in the environment is nonexistent or very slow.

Pollutant Minimization Program (PMP) means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Regional Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

Pollution Prevention means any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State or Regional Water Board.

Reporting Level (RL) is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board either from Appendix 4 of the SIP[1] in accordance with section 2.4.2 of the SIP or established in accordance with section 2.4.3 of the SIP. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the RL.

Satellite Collection System is the portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility that a sanitary sewer system is tributary to.

Source of Drinking Water is any water designated as municipal or domestic supply (MUN) in a Regional Water Board Basin Plan.

[1] *SIP refers to the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California.*

Standard Deviation (σ) is a measure of variability that is calculated as follows:

$$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$$

where:

x is the observed value;

μ is the arithmetic mean of the observed values; and

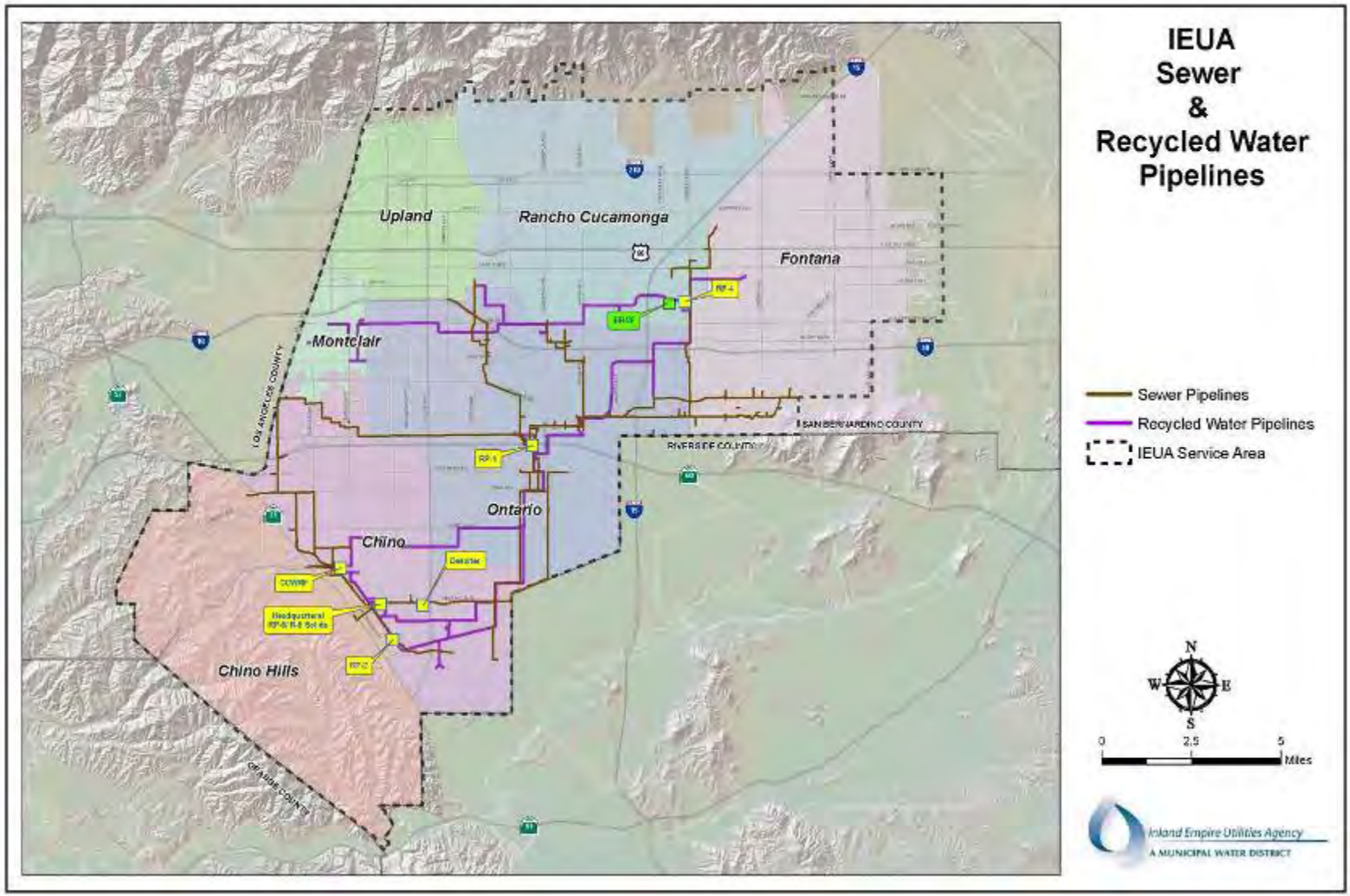
n is the number of samples.

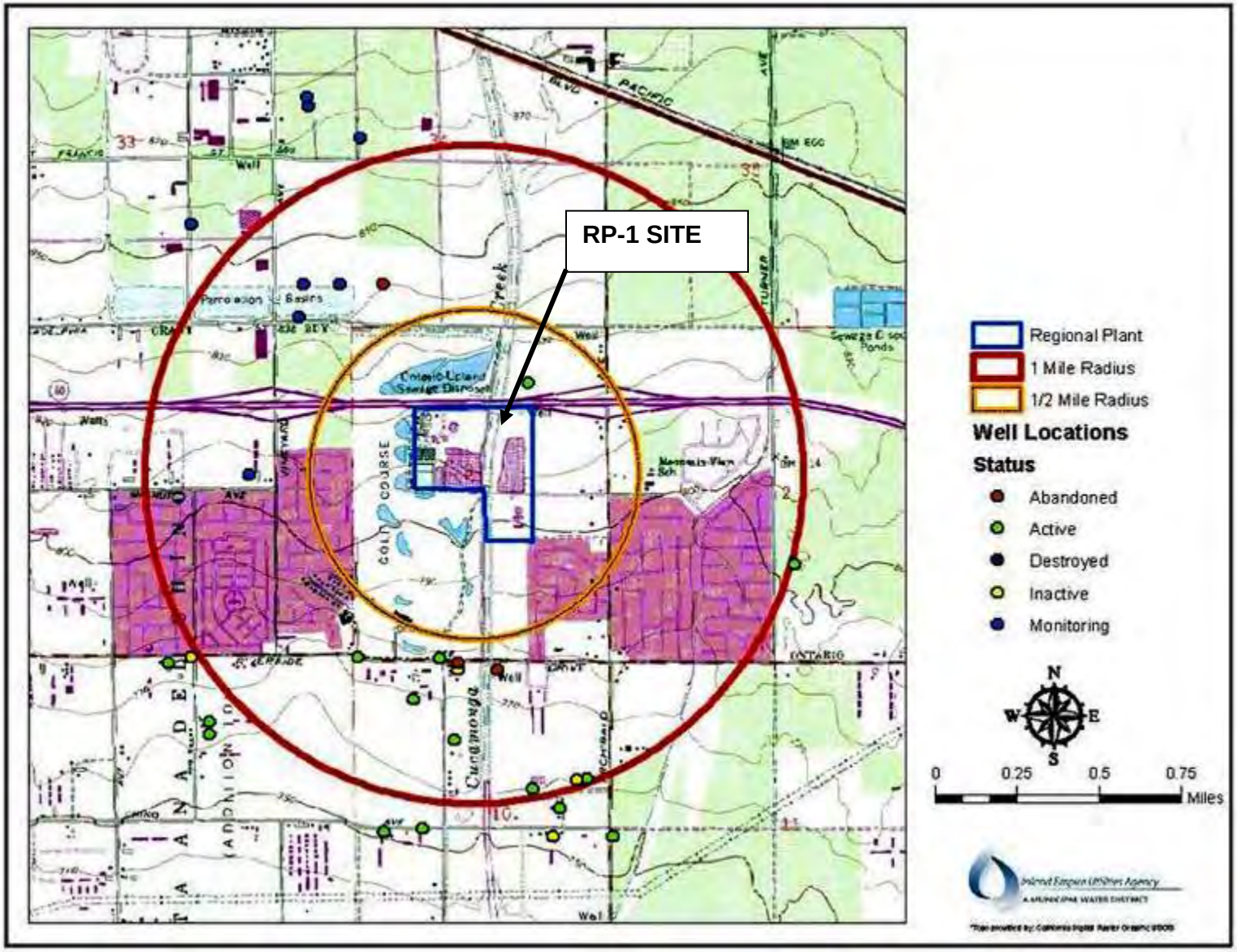
Toxicity Reduction Evaluation (TRE) is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

Water Effect Ratio (WER) is an appropriate measure of the toxicity of a material obtained in a site water divided by the same measure of the toxicity of the same material obtained simultaneously in a laboratory dilution water.

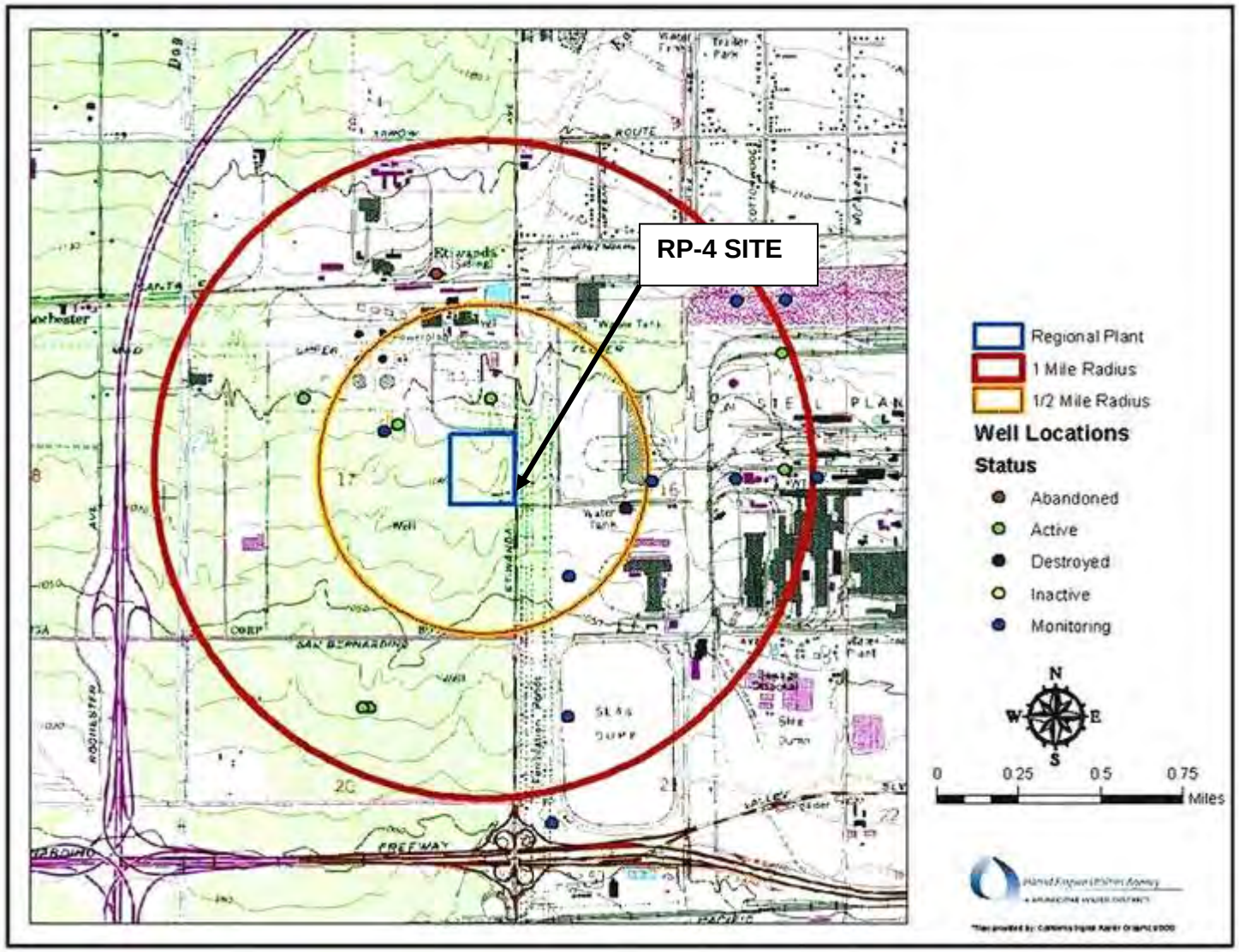
12-Month Running Average Effluent Limitation (12-MRAEL): the highest allowable average of monthly discharges over last twelve months, calculated as the sum of all monthly discharges measured during last twelve months divided by the number of monthly discharges measured during that time period.

ATTACHMENT B – LOCATION

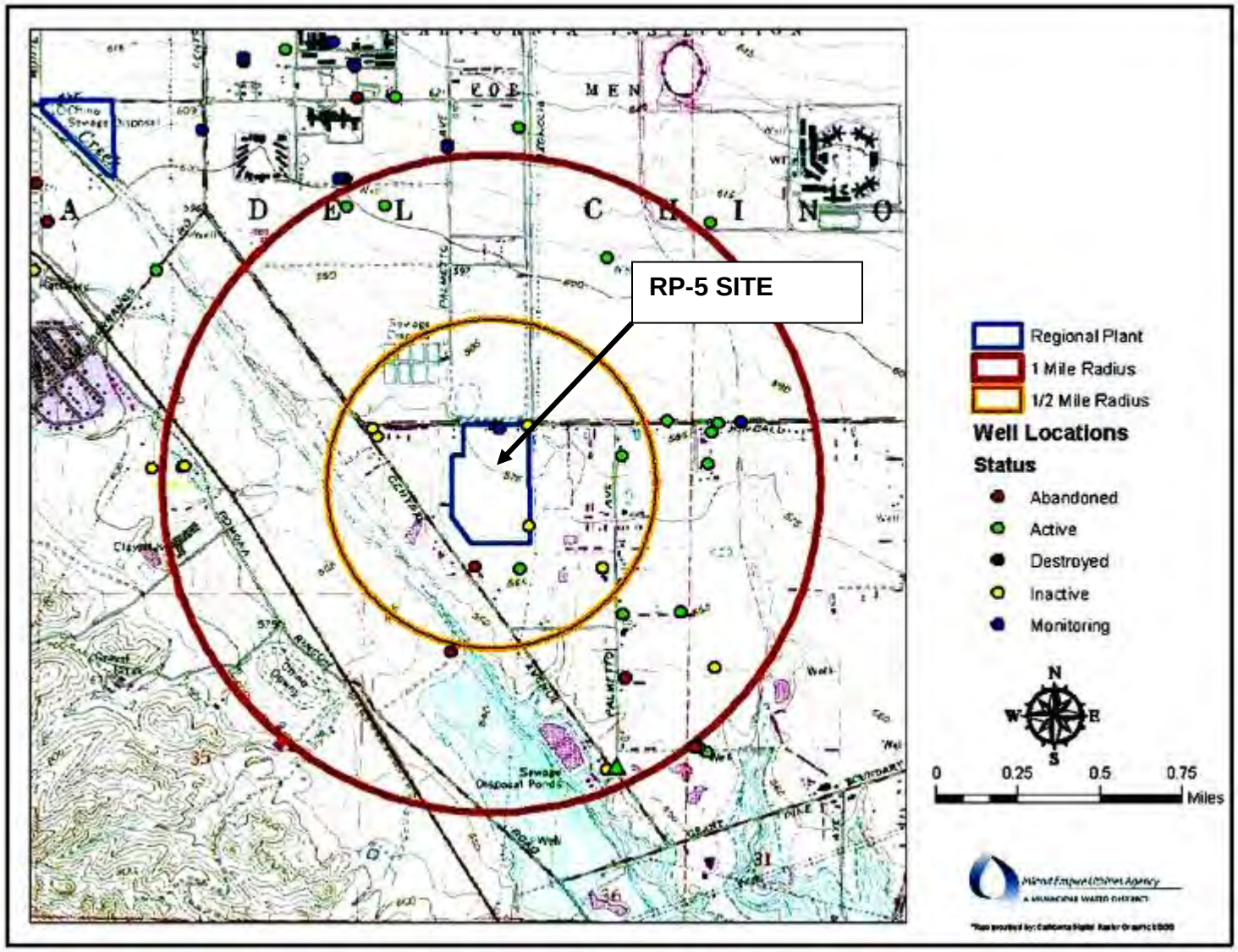




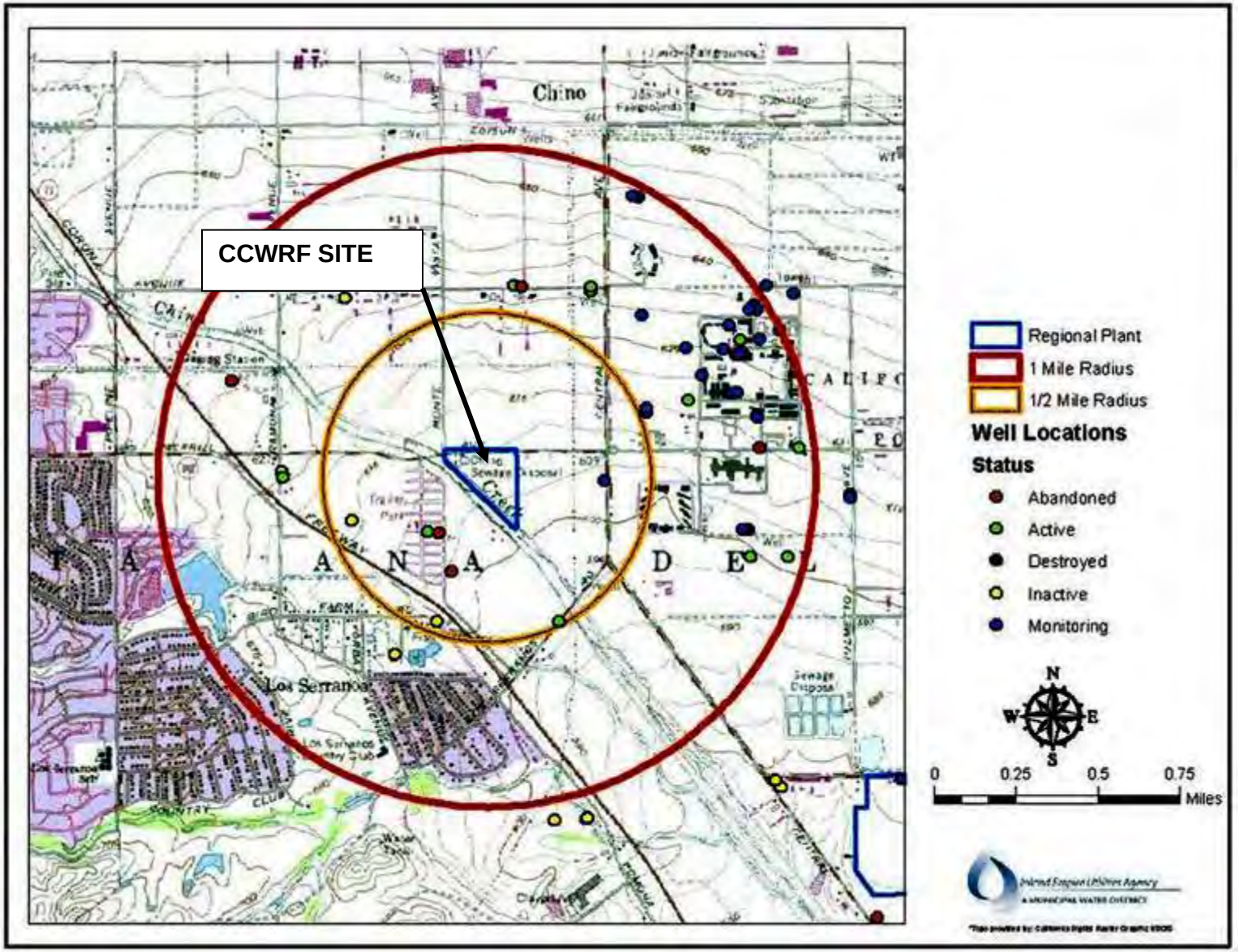
RP-1 LOCATION MAP



RP-4 LOCATION MAP

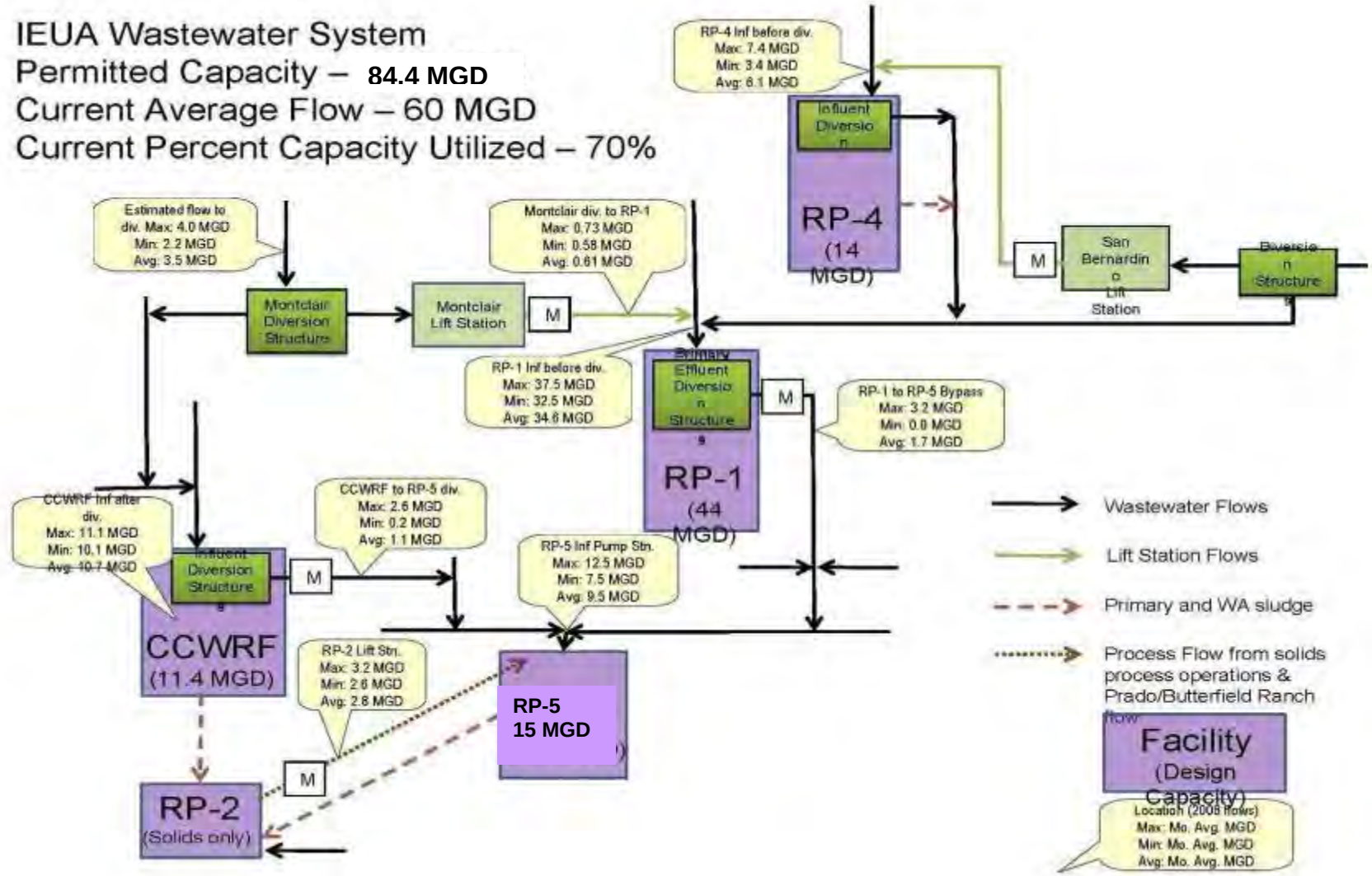


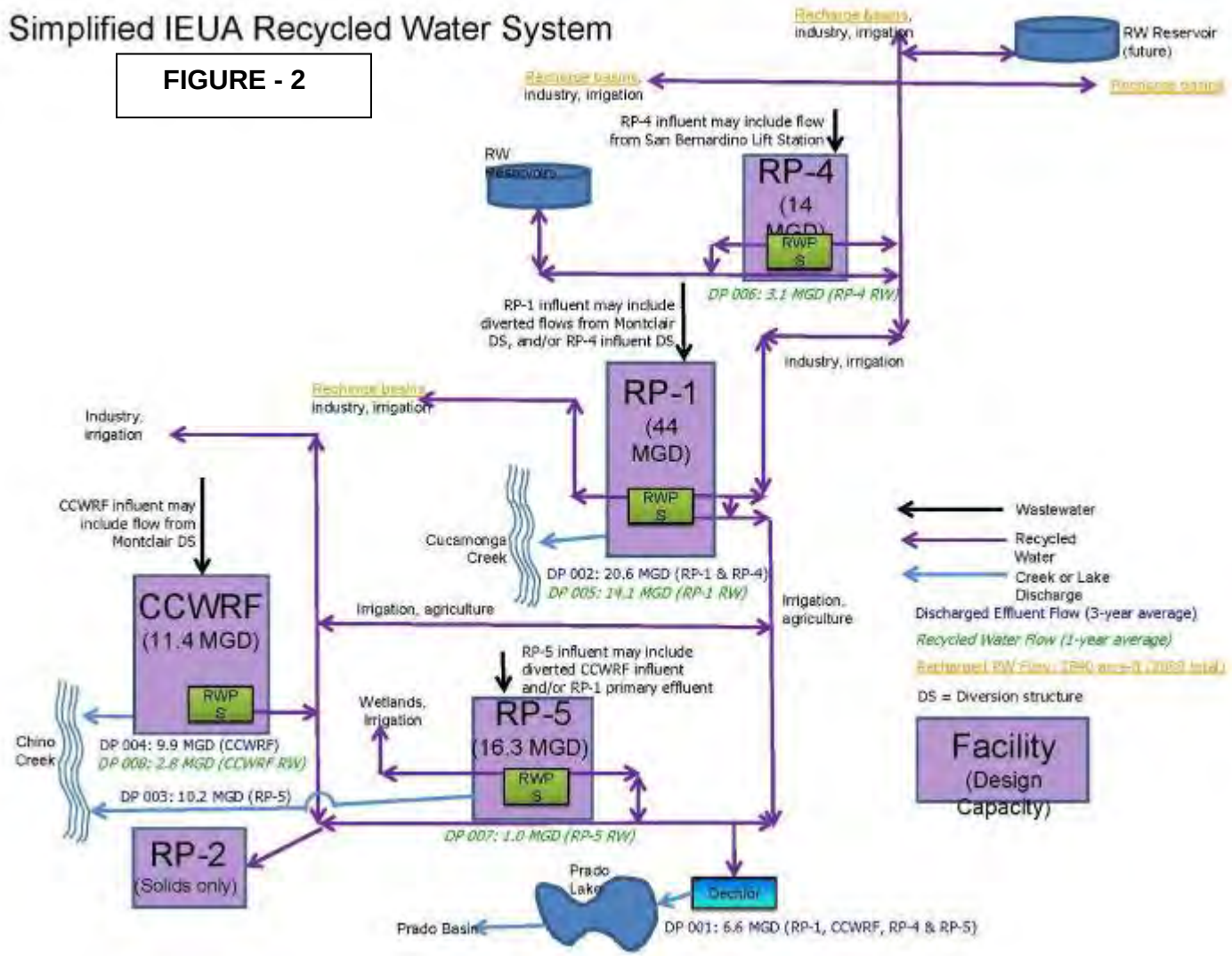
RP-5 LOCATION MAP

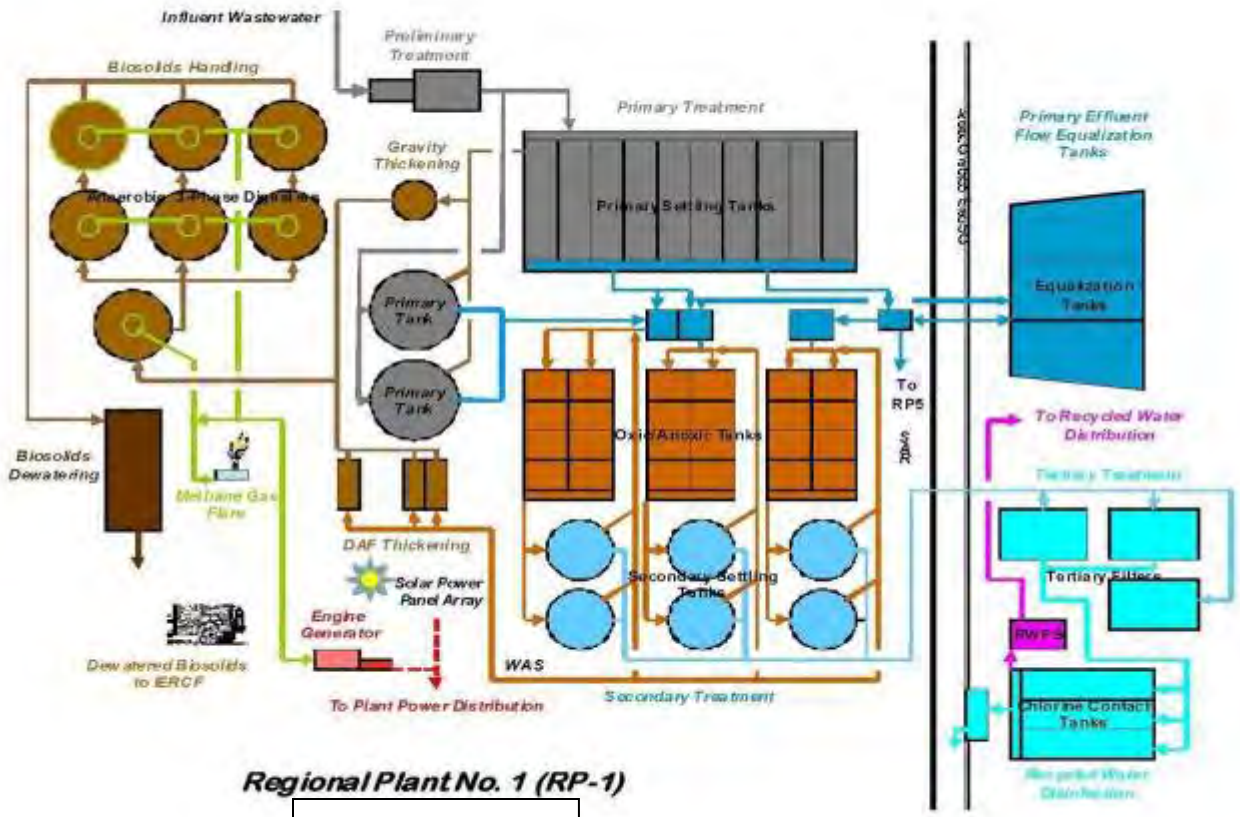


CCWRF LOCATION MAP

ATTACHMENT C – FIGURE 1




Simplified IEUA Recycled Water System
FIGURE - 2
Recharge basins, industry, irrigation
RW Reservoir (future)
Recharge basins, industry, irrigation
RP-4 influent may include flow from San Bernardino Lift Station
RW Reservoir
RP-4
(14 MGD)
RWPS
DP 006: 3.1 MGD (RP-4 RW)
RP-1 influent may include diverted flows from Montclair DS, and/or RP-4 influent DS
industry, irrigation
Recharge basins industry, irrigation
RP-1
(44 MGD)
RWPS
Industry, irrigation
CCWRF influent may include flow from Montclair DS
Cucamonga Creek
DP 002: 20.6 MGD (RP-1 & RP-4)
DP 005: 14.1 MGD (RP-1 RW)
Irrigation, agriculture
Irrigation, agriculture
CCWRF
(11.4 MGD)
RWPS
RP-5 influent may include diverted CCWRF influent and/or RP-1 primary effluent
Wetlands, irrigation
RP-5
(16.3 MGD)
RWPS
Chino Creek
DP 004: 9.9 MGD (CCWRF)
DP 008: 2.8 MGD (CCWRF RW)
DP 003: 10.2 MGD (RP-5)
DP 007: 1.0 MGD (RP-5 RW)
RP-2
(Solids only)
Prado Lake
Dechlor
Prado Basin
DP 001: 6.6 MGD (RP-1, CCWRF, RP-4 & RP-5)
Wastewater
Recycled Water
Creek or Lake Discharge
Discharged Effluent Flow (3-year average)
Recycled Water Flow (1-year average)
Recharged RW Flow: 1840 acre-ft (2003 total)
DS = Diversion structure
Facility
(Design Capacity)



Regional Plant No. 1 (RP-1)

FIGURE - 3

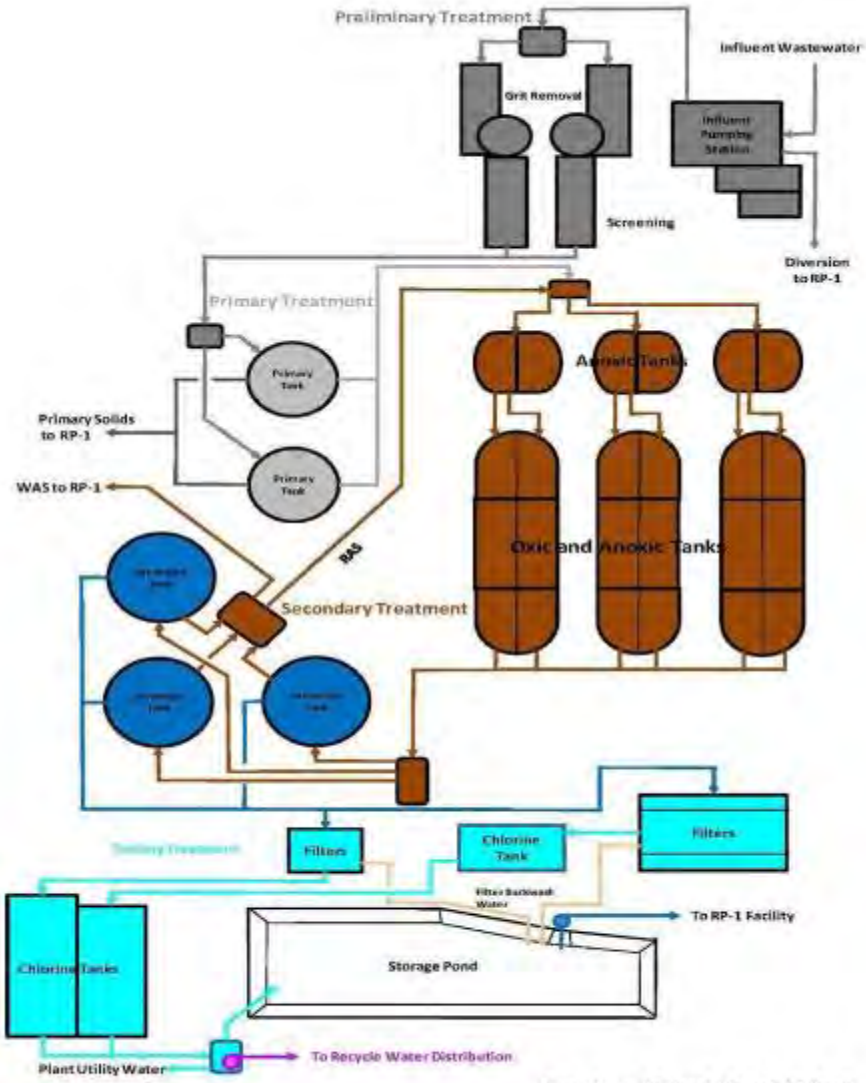
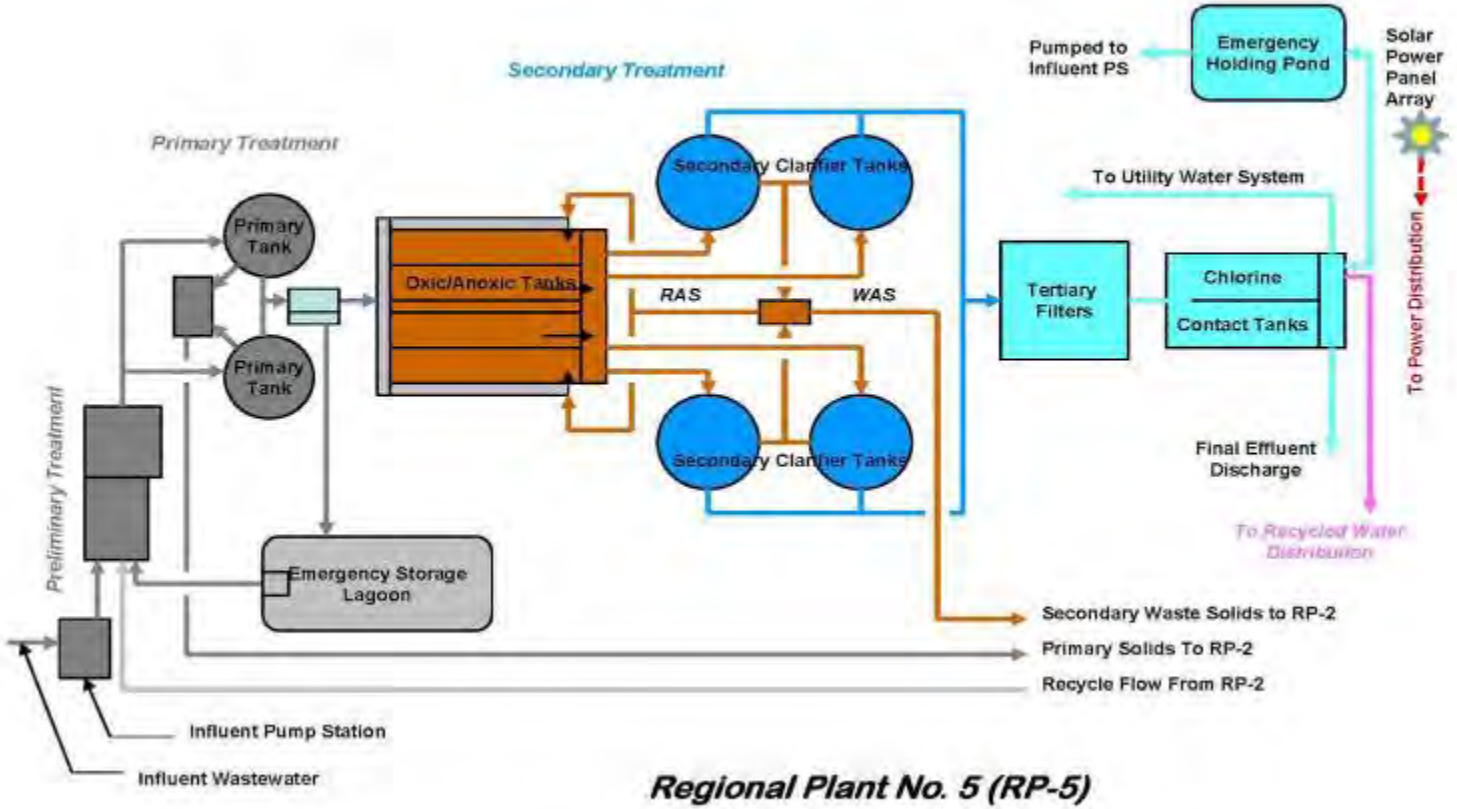
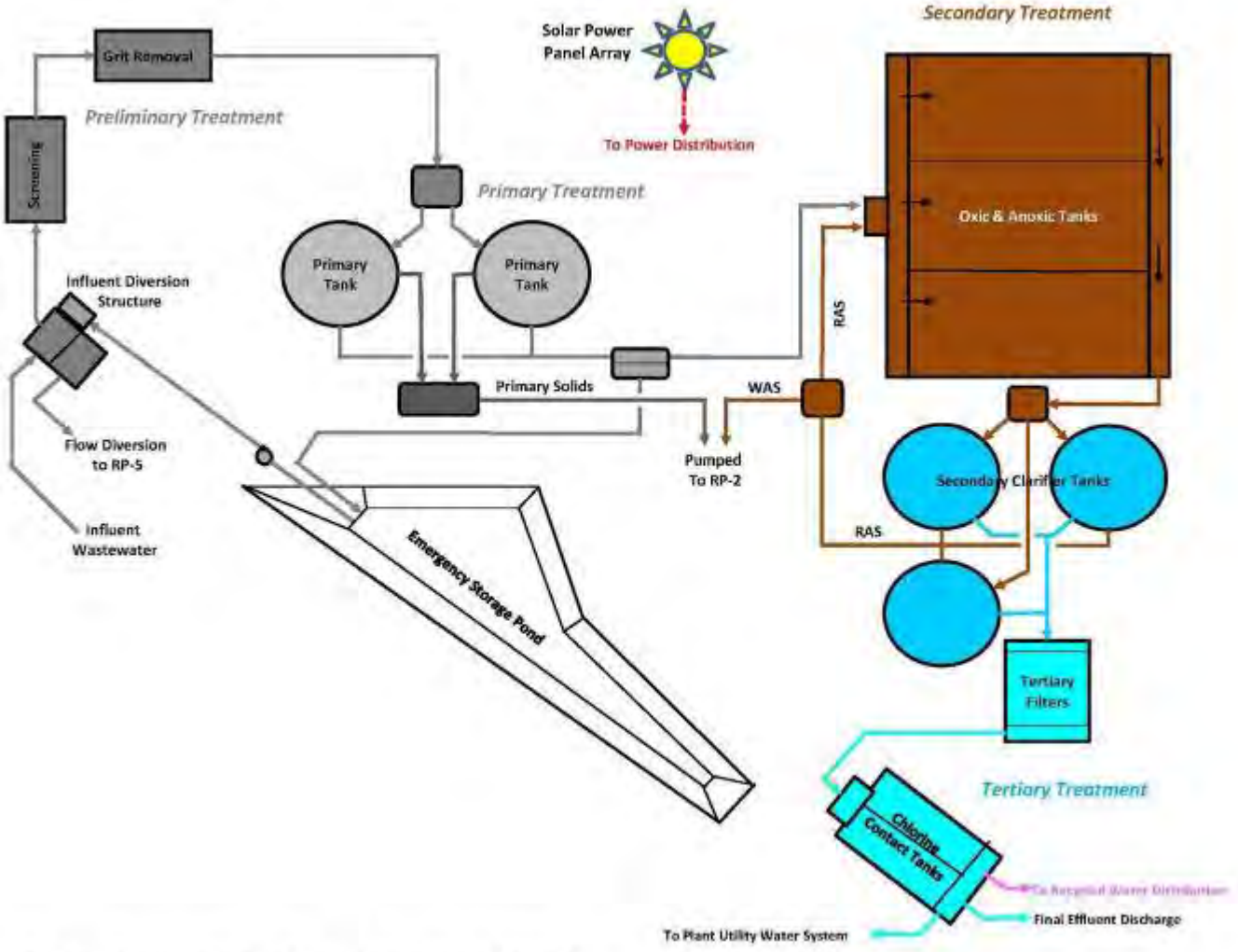

Preliminary Treatment
Influent Wastewater
Grit Removal
Screening
Diversion to RP-1
Primary Treatment
Primary Tank
Primary Tank
Primary Solids to RP-1
WAS to RP-1
RAS
Secondary Treatment
Aeration Tanks
Oxic and Anoxic Tanks
Filters
Chlorine Tank
Filters
To RP-1 Facility
Storage Pond
Chlorine Tanks
Plant Utility Water
To Recycle Water Distribution
Regional Plant No. 4 (RP-4)

FIGURE - 4



Regional Plant No. 5 (RP-5)

FIGURE - 5



Carbon Canyon Water Recycle Facility (CCWRF)

FIGURE - 6

ATTACHMENT D –STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 C.F.R. § 122.41(a).)

2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. § 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 C.F.R. § 122.41(c).)

C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 C.F.R. § 122.41(d).)

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order. (40 C.F.R. § 122.41(e).)

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 122.41(g).)

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 C.F.R. § 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the Regional Water Board, State Water Board, United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (40 C.F.R. § 122.41(i); Wat. Code, § 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (40 C.F.R. § 122.41(i)(1));

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 C.F.R. § 122.41(i)(2));

3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 C.F.R. § 122.41(i)(3)); and

4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (40 C.F.R. § 122.41(i)(4).)

G. Bypass

1. Definitions

   a. “Bypass” means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 122.41(m)(1)(i).)

   b. “Severe property damage” means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. § 122.41(m)(1)(ii).)

2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. § 122.41(m)(2).)

3. Prohibition of bypass. Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless (40 C.F.R. § 122.41(m)(4)(i)):

   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));

   b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and

   c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)

4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)

5. Notice

   a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 C.F.R. § 122.41(m)(3)(i).)

   b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 C.F.R. § 122.41(m)(3)(ii).)

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 C.F.R. § 122.41(n)(1).)

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. § 122.41(n)(2).).

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 C.F.R. § 122.41(n)(3)):

   a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));

   b. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));

   c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and

   d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. § 122.41(n)(3)(iv).)

3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. § 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 C.F.R. § 122.41(f).)

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (40 C.F.R. § 122.41(b).)

C. Transfers

This Order is not transferable to any person except after notice to the Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 C.F.R. § 122.41(l)(3); § 122.61.)

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. § 122.41(j)(1).)

B. Monitoring results must be conducted according to test procedures under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503 unless other test procedures have been specified in this Order. (40 C.F.R. § 122.41(j)(4); § 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by Part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time. (40 C.F.R. § 122.41(j)(2).)

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));

2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));

3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));

4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));

5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and

6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)

C. Claims of confidentiality for the following information will be denied (40 C.F.R. § 122.7(b)):

1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and

2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or USEPA within a reasonable time, any information which the Regional Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Regional Water Board, State Water Board, or USEPA copies of records required to be kept by this Order. (40 C.F.R. § 122.41(h); Wat. Code, § 13267.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 C.F.R. § 122.41(k).)

2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). (40 C.F.R. § 122.22(a)(3).).

3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 C.F.R. § 122.22(b)(1));

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and

c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)

5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

   "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." (40 C.F.R. § 122.22(d).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.22(l)(4).)

2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 C.F.R. § 122.41(l)(4)(i).)

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503, or as specified in this Order, the results of this monitoring shall be included in the

calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 C.F.R. § 122.41(l)(5).)

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 C.F.R. § 122.41(l)(6)(i).)

2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):

   a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)

   b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)

3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 C.F.R. § 122.41(l)(6)(iii).)

F. Planned Changes

The Discharger shall give notice to the Regional Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 C.F.R. § 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 C.F.R. § 122.41(l)(1)(ii).)

3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 C.F.R.§ 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Regional Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements. (40 C.F.R. § 122.41(l)(2).)

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 C.F.R. § 122.41(l)(7).)

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information. (40 C.F.R. § 122.41(l)(8).)

VI. STANDARD PROVISIONS – ENFORCEMENT

A. The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Publicly-Owned Treatment Works (POTWs)

All POTWs shall provide adequate notice to the Regional Water Board of the following (40 C.F.R. § 122.42(b)):

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to sections 301 or 306 of the CWA if it were directly discharging those pollutants (40 C.F.R. § 122.42(b)(1)); and

2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of the Order. (40 C.F.R. § 122.42(b)(2).)

3. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. (40 C.F.R. § 122.42(b)(3).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations section 122.48 requires that all NPDES permits specify monitoring and reporting requirements. Water Code Sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

A. General Monitoring Provision

1. All sampling and sample preservation shall be in accordance with the current edition of “Standard Methods for the Examination of Water and Wastewater” (American Public Health Association) or 40CFR136. (revised as of April 11, 2007) "Guidelines Establishing Test Procedures for the Analysis of Pollutants," promulgated by the United States Environmental Protection Agency (EPA).

2. All laboratory analyses shall be performed in accordance with test procedures under 40 CFR 136 (revised as of April 11, 2007) "Guidelines Establishing Test Procedures for the Analysis of Pollutants," promulgated by the United States Environmental Protection Agency (EPA), unless otherwise specified in this MRP. In addition, the Regional Water Board and/or EPA, at their discretion, may specify test methods that are more sensitive than those specified in 40 CFR 136.

3. Chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the California Department of Public Health in accordance with the provision of Water Code Section 13176, or conducted at a laboratory certified for such analyses by the EPA or at laboratories approved by the Regional Water Board's Executive Officer.

4. In conformance with federal regulations 40 CFR 122.45(c), analyses to determine compliance with the effluent limitations for metals shall be conducted using the total recoverable method. For Chromium (VI), the dissolved method in conformance with 40 CFR 136 may be used to measure compliance with the Chromium (VI) limitation.

5. The Discharger shall have, and implement an acceptable written quality assurance (QA) plan for laboratory analyses. Duplicate chemical analyses must be conducted on a minimum of ten percent (10%) of the samples, or at least one sample per month, whichever is greater. A similar frequency shall be maintained for analyzing spiked samples. When requested by the Regional Water Board or EPA, the Discharger will participate in the NPDES discharge monitoring report QA performance study.

6. For every item of monitoring data where the requirements are not met, the monitoring report shall include a statement discussing the reasons for noncompliance, the actions undertaken or proposed that will bring the discharge into full compliance with requirements at the earliest time, and an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Regional Water Board by letter when compliance with the time schedule has been achieved.

7. The Discharger shall assure that records of all monitoring information are maintained and accessible for a period of at least five years (this retention period supersedes the retention period specified in Section IV.A. of Attachment D) from the date of the sample, report, or application. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or by the request of the Regional Water Board at any time. Records of monitoring information shall include:

   a. The information listed in Attachment D- IV Standard Provisions – Records, subparagraph B. of this Order;
   b. The laboratory which performed the analyses;
   c. The date(s) analyses were performed;
   d. The individual(s) who performed the analyses;
   e. The modification(s) to analytical techniques or methods used;
   f. All sampling and analytical results, including
      (1) Units of measurement used;
      (2) Minimum reporting level for the analysis (minimum level);
      (3) Results less than the reporting level but above the method detection limit (MDL);
      (4) Data qualifiers and a description of the qualifiers;
      (5) Quality control test results (and a written copy of the laboratory quality assurance plan);
      (6) Dilution factors, if used; and
      (7) Sample matrix type.
   g. All monitoring equipment calibration and maintenance records;
   h. All original strip charts from continuous monitoring devices;
   i. All data used to complete the application for this Order; and,
   j. Copies of all reports required by this Order.
   k. Electronic data and information generated by the Supervisory Control And Data Acquisition (SCADA) System.

8. The flow measurement system shall be calibrated at least once per year or more frequently, to ensure continued accuracy.

9. Monitoring and reporting shall be in accordance with the following:

   a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

   b. The monitoring and reporting of influent, effluent, and sludge shall be done more frequently as necessary to maintain compliance with this Order and or as specified in this Order.

   c. Whenever the Discharger monitors any pollutant more frequently than is required by this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the discharge monitoring report specified by the Executive Officer.

   d. A "grab" sample is defined as any individual sample collected in less than 15 minutes.

   e. A composite sample is defined as a combination of no fewer than eight individual grab samples obtained over the specified sampling period. The volume of each individual grab sample shall be proportional to the discharge flow rate at the time of sampling. The compositing period shall equal the specific sampling period, or 24 hours, if no period is specified.

   f. Daily samples shall be collected on each day of the week.

   g. Monthly samples shall be collected on any representative day of each month.

   h. Quarterly samples shall be taken on any representative day of January, April, July, and October.

   i. Semi-annual samples shall be collected in January and July.

   j. Annual samples shall be collected in accordance with the following schedule:

Table 1 Annual Sampling Schedule

Year	Annual Samples
2010	July
2011	October
2012	January
2013	April
2014	July
2015	October

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Table 2 Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description	Latitude and Longitude
001/002	M-INF 1A	RP-1 influent line, before Headworks	34°01'48"N, 117°36'07"W
001/002	M-INF 1B	RP-4 influent line, before Headworks	34°05'09"N, 117°31'28"W
001	M-001A	RP-1 effluent Outfall to Prado Park Lake	33°56'39"N, 117°38'34"W
001	M-001B	At the RP-1splitter box	34°01'29"N, 117°35'57"W
002	M-002A	RP-1 and RP-4 Effluent outfall to Reach 1 of Cucamonga Creek	34°01'31"N, 117°35'56"W
002	M-002B	RP-1 at the end of CCB 3 (Chlorine Contact Basin) before outfall discharge to Reach 1 of Cucamonga Creek	34°01'28"N, 117°35'57"W
003	M-INF 3A	RP-5 influent upstream of any in-plant return flows (theoretical point of combined M-INFB & M-INFD flows)	33°58'04"N, 117°40'28"W
003	M-INF 3B	RP-5 Influent Pump Station	33°57'38"N, 117°40'16"W
003	M-INF 3C	RP-2 Recycle Flow	33°57'29"N, 117°40'23"W
003	M-INF 3D	RP-2 Lift Station	33°57.08"N, 117°40'00"W
003	M-003	RP-5 Effluent to Reach 2 of Chino Creek	33°57'44"N, 117°40'41"W
004	M-INF 4	Influent sampling at CCWRF	33°58'56"N, 117°41'48"W
004	M-004	CCWRF Effluent to Reach 2 of Chino Creek	33°58'47"N, 117°41'39"W
005	REC-001	RP-1 Effluent to recycled water use area, same as M-001B	34°01'29"N, 117°35'57"W
006	REC-002	RP-4 Effluent to recycled water use area	34°04'59"N, 117°31'35"W
007	REC-003	RP-5 Effluent to recycled water use area - Same as M-003	33°57'44"N, 117°40'41"W
008	REC-004	CCWRF Effluent to recycled water use area – Same as M-004	33°58'47"N, 117°41'39"W
002	R-002U	Cucamonga Creek within 100 feet upstream of the DP 002	34°01'29"N, 117°35'58"W
002	R-002D	Cucamonga Creek within 500 feet downstream of DP 002 after blending	34°00'43"N, 117°35'59"W
003	R-003U	Chino Creek within 100 feet upstream of DP 003	33º57'45"N, 117º40'41"W
003	R-003D	Chino Creek within 500 feet downstream of DP 003 in	33º57'45"N, 117º40'41"W
004	R-004U	Chino Creek within 100 feet upstream of DP 004	33º58'47"N, 117º40'41"W
004	R-004D	Chino Creek within 500 feet downstream of DP 004 in	33º58'46"N, 117º40'38"W
S-001	STORM-001	Storm water runoff from RP-1, west	34°01'36"N, 117°35'59"W

Table 2 Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description	Latitude and Longitude
S-002	STORM-002	Storm water runoff from RP-1, east	34°01'28"N, 117°35'58"W

Note: RP-5 influent consists of RP-5 Influent Pump Station flows and RP-2 Lift Station flows, which include RP-2 Recycle Flow and Prado/Butterfield Ranch flows. Therefore, values reported for M-INF3A are flow-weighted values based on flows from RP-5 Pump Station and RP-2 Lift Station.

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Locations M-INFs 1A, 1B, 3A, 3B, 3C, 3D, and M-INF 4

1. Sampling stations shall be established for the points of inflow to each treatment plant. The sampling stations shall be located upstream of any in-plant return flows and where representative samples of the influent of the treatment plant can be obtained.

2. The Discharger shall monitor the influent to the Facility at Monitoring Locations M-INFs 1A, 1B, 3A, 3B, 3C, 3D, and M-INF 4 as follows. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level:

Table 3 Influent Monitoring M-INFs 1A, 1B, 3A, 3B, 3C, 3D, and M-INF 4

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Recorder/Totalizer	Continuous	--
pH	pH Units	Recorder	Continuous	--
Specific Conductance	µmhos/cm	Recorder	Continuous	--
TOC	mg/L	Composite	Weekly	See Section I.A.2 & 3, above, of this MRP
BOD_5 [1]	mg/L	Composite	Weekly	"
Total Suspended Solids	mg/L	Composite	Weekly	"
Total Dissolved Solids	mg/L	Composite	Weekly	"
Ammonia-Nitrogen	mg/L	Grab	Weekly	"
Total Nitrogen	mg/L	Composite	Weekly	"
Total Inorganic Nitrogen	mg/L	Composite	Weekly	"
Cyanide (Free)[2]	µg/l	Grab	Monthly	"

1 *BOD_5 is calculated based on a BOD_5/TOC correlation approved by the Regional Water Board.*

2 *Free cyanide is measured as aquatic free cyanide (ASTM Method D7237) without sodium hydroxide (NaOH) preservation.*

Table 3 Influent Monitoring M-INFs 1A, 1B, 3A, 3B, 3C, 3D, and M-INF 4

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total Hardness	mg/L	Composite	Quarterly	"
Boron	mg/L	Composite	Quarterly	"
Chloride	mg/L	Composite	Quarterly	"
Fluoride	mg/L	Composite	Quarterly	"
Sodium	mg/L	Composite	Quarterly	"
Sulfate	mg/L	Composite	Quarterly	See Section I.A.3. above, of this MRP
Arsenic	µg/L	Composite	Quarterly	See Section I.A.2. above, of this MRP
Cadmium	µg/L	Composite	Quarterly	"
Total Chromium or Chromium VI	µg/L	Composite	Quarterly	See Section I.A.2. above, of this MRP
Total Recoverable Copper	µg/L	Composite	Quarterly	"
Total Recoverable Lead	µg/L	Composite	Quarterly	"
Total Recoverable Mercury	µg/L	Composite	Quarterly	"
Total Recoverable Nickel	µg/L	Composite	Quarterly	"
Selenium	µg/L	Composite	Quarterly	"
Total Recoverable Silver	µg/L	Composite	Quarterly	"
Total Recoverable Zinc	µg/L	Composite	Quarterly	"
Bis (2-ethylhexyl) phthalate	µg/L	Grab	Quarterly	See Sections I.A.2., I.A.3., above of this MRP
2,3,7,8-TCDD (Dioxin)[3]	µg/L	Composite	Semi-Annually	See Section I.A.3. above, RL 1 pg/L
Volatile organic portion of EPA Priority Pollutants[4] (See Attachment G)	µg/L	Grab	Annually	See Section I.A.2. above, of this MRP
Remaining EPA Priority Pollutants[5] (See Attachment G)	µg/L	Composite	Annually	"

[3] *Applies at M-INF 3B & 3D and M-INF 4 only.*

[4] *EPA priority pollutants are those remaining volatile organic pollutants listed in Attachment "G" which are not specifically listed in this monitoring program table.*

[5] *Remaining EPA priority pollutants are those pollutants listed in Attachment "G" which are not volatile organics and pollutants not specifically listed in this monitoring program table.*

IV. EFFLUENT MONITORING REQUIREMENTS TO SURFACE WATER

The Discharger shall monitor tertiary effluent at monitoring locations M-001, M-002, M-003, and M-004 as follows. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level.

A. Effluent Monitoring Locations M-001 to M-004

1. The Discharger shall monitor tertiary treated effluent for DP 001, DP 002, DP 003, and DP 004 at Monitoring Locations M-001B, M-002A, M-003, and M-004 as follows.

Table 4 Tertiary Effluent Monitoring at M-001B, M-002A, M-003, and M-004

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and Minimum Level, units, respectively
Flow	mgd	Recorder/ Totalizer	Continuous	--
Specific Conductance[6]	µmhos/cm	Recorder	Continuous	--
pH	pH units	Recorder	Continuous	--
Turbidity[7]	NTU	Recorder	Continuous	--
Total Chlorine Residual[8]	mg/L	Recorder	Continuous	--
Coliform Organisms[9], [10]	MPN per 100 ml[11]	Grab	Daily	See Section I.A.3., above of this MRP
CT	mg-minutes/L	Recorder	Continuous[12]	--
Total Organic Carbon (TOC)	mg/L	Composite	Daily	See Section I.A.3. above, of this MRP
BOD_5[13]	mg/L	Composite	Daily	See Section I.A.3. above, of

6 *Except M-001B.*

7 *Turbidity analysis shall be continuous, performed by a continuous recording turbidimeter. Compliance with the daily average operating filter effluent turbidity shall be determined by averaging the levels of recorded turbidity taken at a minimum of four-hour intervals over a 24-hour period. The results of the daily average turbidity determinations shall be reported monthly.*

8 *Except M-001B.*

9 *Samples for total coliform bacteria shall be collected daily. Samples shall be taken from the disinfected effluent.*

10 *M-001B is the coliform monitoring location for DP 001 & DP 002. Alternative monitoring at M-002B is available if gate is closed between Chlorine Contact Basin 2 and 3.*

11 *MPN/100mL = Most Probable Number per 100 milliliters.*

12 *The CT and modal contact time shall be continuously calculated and recorded. The minimum daily value shall be reported monthly. Modal contact time and CT shall be calculated based on the minimum one-hour average value in a 24-hr period.*

Table 4 Tertiary Effluent Monitoring at M-001B, M-002A, M-003, and M-004

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and Minimum Level, units, respectively
				this MRP
Total Suspended Solids	mg/L	Composite	Daily	See Section I.A.3. above
Ammonia-Nitrogen	mg/L	Grab	Weekly	See Section I.A.3. above, of this MRP
Temperature	°C	Grab	Weekly	--
Total Dissolved Solids[14]	mg/L	Composite	Monthly	See Section I.A.3. above
Total Inorganic Nitrogen	mg/L	Composite	Monthly	See Section I.A.3. above
Total Nitrogen	mg/L	Composite	Monthly	See Section I.A.3. above
Cyanide, free[15]	µg/L	Grab	Monthly	See Sections I.A.2., I.A.3., above of this MRP and RL 5 µg/L
Total Recoverable Copper	µg/L	Composite	Monthly	See Sections I.A.2., I.A.3. above of this MRP and RL 0.5 µg/L
Toxicity[16]	TUc	See Section V.A, Below	Monthly	See Section V, Below
Total Hardness	mg/L	Composite	Monthly	See Section I.A.3. above
Bicarbonate	mg/L	Composite	Monthly	See Section I.A.3. above, of this MRP
Boron	mg/L	Composite	Monthly	See Section I.A.3. above
Calcium	mg/L	Composite	Monthly	See Section I.A.3. above
Carbonate	mg/L	Composite	Monthly	See Section I.A.3. above
Chloride	mg/L	Composite	Monthly	See Section I.A.3. above
Fluoride	mg/L	Composite	Monthly	See Section I.A.3. above, of this MRP
Magnesium	mg/L	Composite	Monthly	See Section I.A.3. above
Sodium	mg/L	Composite	Monthly	See Section I.A.3. above
Sulfate	mg/L	Composite	Monthly	See Section I.A.3. above
Total Recoverable Cadmium	µg/L	Composite	Monthly	See Sections I.A.2., I.A.3., above of this MRP and RL 0.5 µg/L

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13 *BOD_5 is calculated daily based on a BOD_5/TOC correlation approved by the Regional Water Board.*

14 *Except M-001B.*

15 *Free cyanide is measured as aquatic free cyanide (ASTM Method D7237) without NaOH preservation.*

16 *Except M-001B.*

Table 4 Tertiary Effluent Monitoring at M-001B, M-002A, M-003, and M-004

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and Minimum Level, units, respectively
Chromium (VI) or Total Chromium[17]	µg/L	Composite	Monthly	See Sections I.A.2., I.A.3. above of this MRP and RL 5 µg/L, Total Cr, RL 2 µg/L
Total Recoverable Lead	µg/L	Composite	Monthly	See Sections I.A.2., I.A.3. above of this MRP and RL 2 µg/L
Total Recoverable Mercury	µg/L	Composite	Monthly	See Sections I.A.2., I.A.3. above of this MRP and RL 0.05 µg/L
Total Recoverable Selenium	µg/L	Composite	Monthly	See Sections I.A.2., I.A.3. above of this MRP and RL 2 µg/L
Total Recoverable Silver	µg/L	Composite	Monthly	See Sections I.A.2., I.A.3., above of this MRP and RL 1 µg/L
Total Recoverable Zinc	µg/L	Composite	Monthly	See Sections I.A.2., I.A.3., above of this MRP
Bis (2-ethylhexyl) phthalate	µg/L	Grab	Monthly	See Sections I.A.2., I.A.3., above of this MRP
Bromodichloromethane[18]	µg/L	Grab	Monthly	See Sections I.A.2., I.A.3., above of this MRP, ML 5 µg/L
Aluminum	mg/L	Composite	Quarterly	See Section I.A.3. above
Antimony	mg/L	Composite	Quarterly	See Sections I.A.2., I.A.3., above of this MRP
Arsenic	µg/L	Composite	Quarterly, (See IV.A.3., below)	See Section I.A.3. above
Barium	µg/L	Composite	Quarterly, (See IV. A.3., below)	See Section I.A.3. above
Cobalt	µg/L	Composite	Quarterly (See IV.A.3., below)	See Section I.A.3. above,
Total Recoverable Nickel	µg/L	Composite	Quarterly (See IV.A.3., below)	See Section I.A.3. above,
2,3,7,8-TCDD (Dioxin)[19]	µg/L	Composite	Quarterly (See IV.A.5., below)	See Section I.A.3. above, RL 1 pg/L
Volatile organic portion of remaining EPA Priority Pollutants (See Attachment G)	µg/L	Grab	Annually (See IV.A.4., below)	See Sections I.A.2., I.A.3., above of this MRP
Remaining EPA Priority Pollutants (See Attachment G)	µg/L	Composite	Annually (See IV.A.4., below)	See Sections I.A.2., I.A.3., above of this MRP

[17] *If Total Chromium test result is greater than 11 µg/L, the following sample shall be tested for Chromium VI, until directed otherwise.*

[18] *Applies at M-003 only.*

[19] *Applies at M-003 and M-004 only.*

2. The Discharger shall monitor tertiary treated effluent for DPs 001 and 002 at M-001A as follows:

Table 5 Effluent Monitoring Requirements at M-001A

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Test Method
Turbidity	NTU	Recorder	Continuous	--
Total Chlorine Residual	mg/l	Recorder	Continuous	--
Specific Conductance	µmhos/cm	Recorder	Continuous	--
Total Dissolved Solids	mg/l	Composite	Monthly	See Sections I.A.2., I.A.3., above of this MRP
Toxicity	TUc	See Section V.A, Below	Monthly	See Section V, Below

3. The monitoring frequency for those priority pollutants that are detected during the required quarterly monitoring at a concentration greater than the concentration specified for that pollutant[20] in Attachment I - Triggers for Monitoring Priority Pollutants shall be accelerated to monthly. To return to the monitoring frequency specified, the Discharger shall request and receive approval from the Regional Water Board's Executive Officer or designee.

4. The monitoring frequency for those priority pollutants that are detected during the required semi-annual or annual monitoring at a concentration greater than the concentration specified for that pollutant in Attachment I shall be accelerated to quarterly for one year. To return to the specified monitoring frequency, the Discharger shall request and receive approval from the Regional Water Board's Executive Officer or designee.

5. The Discharger is required to conduct quarterly monitoring for Dioxin for one year. After one year, if quarterly monitoring result show non-detect values at acceptable reporting levels, the Discharger may reduce the frequency of monitoring for Dioxin from quarterly to semi-annual monitoring upon approval by the Regional Water Board Executive Officer or designee.

B. Secondary Effluent Monitoring at M-002, M-003 and M-004 with 20:1 Dilution

1. The Discharger shall monitor secondary treated effluent at M-002B, M-003 and M-004 when 20:1 dilution is provided by the receiving surface water at the time of the discharge, as follows:

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[20] *For those priority pollutants without specified criteria values, accelerated monitoring is not required.*

Table 6 Secondary Effluent Monitoring at M-002B to M-004 w/ 20:1 Dilution

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Test Method
Flow	mgd	Grab	Daily (when discharging)	--
pH	pH units	Recorder/Totalizer	Continuous	--
Total Chlorine Residual	mg/L	Recorder	Continuous	--
BOD_5	mg/L	Grab	Daily (when discharging)	See Section I.A.3., above, of this MRP
Total Dissolved Solids	mg/L	Grab	when discharging	"
Coliform Organisms	MPN per 100 ml[21]	Grab	Daily (when discharging)	See Sections I.A.2., I.A.3., above of this MRP
Suspended Solids	mg/L	Grab	Daily (when discharging)	See Sections I.A.2., I.A.3., above of this MRP
Total Hardness	mg/L	Grab	When discharge	See Section I.A.3., above, of this MRP
EPA Priority Pollutants	µg/L	Grab	Annually[22] (See IV.A.3., above)	See Sections I.A.2., I.A.3., above of this MRP

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Toxicity Monitoring Requirements at M-001A, M-002A, M-003, and M-004

1. The Discharger shall conduct critical life stage chronic toxicity testing in accordance with Method 1002.0 - Survival and Reproduction test for water flea, *Ceriodaphnia dubia* as specified in "Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms", Fourth Edition, Environmental Monitoring Systems Laboratory, U.S. Environmental Protection Agency 2002, Cincinnati, Ohio (October 2002, EPA-821-R-02-013).

2. The Discharger shall establish procedures to ensure that the toxicity testing laboratory notifies the Discharger of the results of toxicity testing by the end of the next business day following the completion of such tests.

3. A minimum of one monthly chronic toxicity test shall be conducted on representative composite samples.

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[21] *MPN/100mL = Most Probable Number per 100 milliliters*

[22] *Sample is collected from the first discharge, once a year.*

4. The Discharger shall increase the frequency of chronic toxicity testing to every two weeks whenever any test result exceeds 1.0 TUc. The first test under the accelerated schedule shall be conducted within two weeks of receiving notice of the test that exceeds 1.0 TUc, and every two weeks thereafter. The Discharger may resume the regular test schedule when two consecutive chronic toxicity tests result in 1.0 TUc, or when the results of the Initial Investigation Reduction Evaluation conducted by the Discharger have adequately addressed the identified toxicity problem.

5. The presence of chronic toxicity shall be estimated as specified in Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. Fourth Edition. EPA-821-R-02-013.

6. Results for both survival and reproduction endpoints shall be reported in TUc, where TUc = 100/NOEC or 100/ICp or ECp (p is the percent effluent). The no observed effect concentration (NOEC) is the highest concentration of toxicant to which organisms are exposed in a chronic test, that causes no observable adverse effect on the tests organisms (e.g., the highest concentration of toxicant to which the values for the observed responses are not statistically significant different from the controls). The inhibition concentration (IC) is a point estimate of the toxicant concentration that causes a given percent reduction in a non-quantal biological measurement (e.g., reproduction or growth) calculated from a continuous model (the EPA Interpolation Method). The effective concentration (EC) is a point estimate of the toxicant concentration that would cause a given percent reduction in quantal biological measurement (e.g., larval development, survival) calculated from a continuous model (e.g., probit).

7. Additional Testing Requirements

    a. A series of at least five dilutions and a control will be tested. Five dilutions of the series shall be within 60% to 100% effluent concentration.
    b. If organisms are not cultured in-house, concurrent testing with reference toxicants shall be conducted. Where organisms are cultured in-house, monthly reference toxicant testing is sufficient. Reference toxicants shall also be conducted using the same test conditions as the effluent toxicity test (e.g., same test duration, etc).
    c. If either of the reference toxicant test or the effluent tests do not meet all test acceptability criteria as specified in the manual[23], then the Discharger must re-sample and re-test within 14 days or as soon as the Discharger receives notification of failed tests.
    d. Control and dilution water should be receiving water or lab water, as appropriate, as described in the manual. If the dilution water used is different from the culture water, a second control, using culture water shall also be used.

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[23] *Refers to USEPA Manual "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. - 4th Ed., October 2002, EPA-821-R-02-013.*

8. Quality Assurance/Control:

   a. A quality assurance/quality control (QA/QC) program shall be instituted to verify the results of the effluent toxicity monitoring program. The QA/QC program shall include but shall not be limited to the following: (1) Selection of an independent testing laboratory; (2) Approval by the Regional Water Board's Executive Officer or Executive Officer's designee of the independent testing laboratory; (3) Once during the year, the Discharger shall split samples with the independent laboratory for conducting chronic toxicity testing; (4) Results from the independent laboratory shall be submitted to the Regional Water Board and the Discharger for evaluation; (5) The Discharger shall review the test acceptability criteria in accordance with the EPA test protocols, Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. Fourth Edition. EPA-821-R-02-013.

   b. Results from the independent laboratory of the annual QA/QC split samples are to be used for Quality Assurance/Quality Control (QA/QC) purposes only and not for purposes of determining compliance with other requirements of this Order.

9. The use of alternative methods for measuring chronic toxicity may be considered by the Executive Officer on a case–by-case basis. The use of a different test species, in lieu of conducting the required test species may be considered and approved by the Executive Officer on a case-by case basis upon submittal of the documentation supporting Discharger’s determination that a different species is more sensitive and appropriate.

10. Reporting: Results of all toxicity testing conducted within the month following the reporting period shall be submitted monthly in accordance with "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. Fourth Edition. EPA-821-R-02-013.” The report shall include a determination of the median value of all chronic toxicity testing results conducted during the two previous months.

11. Whenever an Initial Investigation Reduction Evaluation is conducted, the results of the evaluation shall be submitted upon completion. In addition, monthly status reports shall be submitted as part of the Discharger’s monitoring report for the previous month.

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VII. RECLAMATION MONITORING REQUIREMENTS

A. Monitoring Locations REC-001 to REC-004

1. The Discharger shall monitor recycled water at REC-001, REC-002, REC-003 and REC-004 as follows:

Table 7 Reclamation Monitoring at REC-001 to REC-004

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Recorder/Totalizer	Continuous	--
pH	Standard units	Recorder/Totalizer	Continuous	--
Turbidity[24]	NTU	Recorder	Continuous	--
CT	mg-minutes/L	Recorder	Continuous[25]	--
Coliform Organisms	MPN per 100 mL	Grab	Daily	See Section I.A.3., above, of this MRP
BOD_5	mg/L	Composite	Daily	See Section I.A.3., above, of this MRP
Total Suspended Solids	mg/L	Composite	Daily	See Section I.A.3., above, of this MRP
TDS	mg/L	Composite	Monthly	See Section I.A.3., above, of this MRP

B. Monitoring Users

Whenever recycled water is supplied to a user, the Discharger shall record on a permanent log: the volume of recycled water supplied; the user of recycled water; the locations of those sites including the names of the groundwater management zones underlying the recycled water use sites; type of use (e.g. irrigation, industrial, etc); and the dates at which water is supplied. The Discharger shall submit annually a summary report of the recorded information by groundwater management zone to the Regional Water Board.

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[24] *Turbidity samples shall be collected at M-001A, M-002A, M-003, and M-004, respectively.*

[25] *The CT and modal contact time shall be continuously calculated and recorded. Modal contact time and CT shall be calculated based on the minimum one-hour average value in a 24-hr period.*

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

A. Flow Measurements at Monitoring Locations R-002U, R-003U, and R-004U During 20:1 Dilution.

The Discharger shall make provisions for the measurement of the receiving water flow at a suitable location in the creek and determine whether a 20:1 dilution exists at DP 002, DP 003, or DP 004, before discharging secondary treated effluent. A dilution of 20:1 or more exclusive of discharges to surface waters from upstream publicly owned treatment works is required at the point of discharge for the discharge of secondary effluent. Flow measurements shall be made prior to any direct discharge to the creeks and shall continue on a daily basis until the discharge is terminated.

B. Monitoring Locations R-002U, R-003U, and R-004U

1. The Discharger shall monitor the receiving water at R-002U, R-003U, and R-004U for the following parameters/constituents when there is flowing water:

Table 8 Receiving Water Monitoring at R-002U, R-003U, and R-004U

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	estimate	Weekly	--
Dissolved Oxygen	mg/L	Grab	Weekly	--
Temperature	^{0}C	"	Weekly	--
pH	pH unit	Grab	Weekly	--
Total Dissolved Solids	mg/L	Grab	Monthly	See Sections I.A.3. above of this MRP
Total Inorganic Nitrogen	mg/L	Grab	Monthly	See Sections I.A.3. above of this MRP
Total Hardness	mg/L	Grab	Quarterly	See Sections I.A.3. above of this MRP
Total Suspended Solids	mg/L	Grab	Quarterly	See Sections I.A.3. above of this MRP
EPA Priority Pollutants (see VIII.C.2., below)	µg/L	Grab	Annually	See Sections I.A.2., 3. above of this MRP

C. Monitoring Locations R-002D & R-003D

1. The Discharger shall monitor the receiving water at R-002D, R-003D, when there is flowing water upstream of the discharge point for the following constituents:

Table 9 Receiving Water Monitoring at R-002D & R-003D

Parameter	Units	Sample Type	Minimum Sampling & Testing Frequency	Required Analytical Test Method
Dissolved Oxygen	mg/L	Grab	Weekly	--
Temperature	^{0}C	Grab	Weekly	--
pH	pH unit	Grab	Weekly	--
Color change, foam, deposition of material, odor	--	Observe	Weekly	See Section I.A.3., above, of this MRP
Total Hardness	mg/L	Grab	Quarterly	See Sections I.A.3. above of this MRP
Total Suspended Solids	mg/L	Grab	Quarterly	"
EPA Priority Pollutants (see VIII.C.2., below)	µg/L	Grab	Annually	See Sections I.A.2., 3. above of this MRP

2. For the annual monitoring of the heavy metals EPA Priority Pollutants, the total recoverable and total dissolved metal concentrations shall be determined.

D. Regional Monitoring for Fish Flesh Testing:

Unless otherwise directed by the Regional Water Board Executive Officer, the Discharger shall implement the approved plan for the annual sampling and testing of mercury levels in fish flesh samples collected from the Santa Ana River. The frequency of monitoring and submission of reports shall be as stipulated in the approved plan.

E. Monitoring Requirements for Groundwater – Not Applicable

Monitoring of groundwater by the Discharger is addressed in Order No.R8-2007-0039.

IX. OTHER MONITORING REQUIREMENTS

A. Biosolids Monitoring

1. Biosolids monitoring shall be conducted as follows:

Table 10 Biosolids Monitoring Requirements

Biosolids Monitoring	Units	Type of Sample	Minimum Frequency of Sampling & Testing
Priority Pollutants	mg/kg	Grab	Semi-annually
Moisture Content (% solid)	mg/kg	Grab	Quarterly

2. The Discharger shall maintain a permanent log of solids hauled away from the treatment facilities for use/disposal elsewhere, including the date hauled, the volume or weight (in dry tons), type (screening, grit, raw sludge, biosolids), application (agricultural, composting, etc), and destination. This information shall be reported quarterly.

B. Stormwater Monitoring

The Discharger shall monitor discharges at Discharge Points S-001 to S-002 (as specified in Table 2 of this MRP) and submit monitoring reports in accordance with Attachments J and K - Stormwater Monitoring and Reporting Requirements.

C. Water Supply Monitoring

1. In August of each year, a sample of each source of the water supplied to the sewered area shall be obtained and analyzed for total dissolved solids concentration expressed in "mg/L".

2. Monthly reports shall be submitted stating the amount (in percentage or acre-feet) supplied to the sewered area from each source of water and the resulting flow-weighted water supply quality for total dissolved solids.

D. Pretreatment Monitoring and Reporting

1. The Discharger shall submit to the Regional Water Board and the EPA Region 9, a quarterly compliance status report. The quarterly compliance status reports shall cover the periods January 1 - March 31, April 1 - June 30, July 1 - September 30, and October 1 -December 31. Each report shall be submitted by the end of the month following the quarter, except that the report for April 1 - June 30 may be included in the annual report. This quarterly reporting requirement shall commence for the first full quarter following issuance of this Order. The reports shall identify:

   a. All significant industrial users (SIUs) which violated any standards or reporting requirements during that quarter;

   b. The violations committed (distinguish between categorical and local limits);

   c. The enforcement actions undertaken; and

d. The status of active enforcement actions from previous periods, including closeouts (facilities under previous enforcement actions which attained compliance during the quarter).

2. Annually, the Discharger shall submit a report to the Regional Water Board, the State Water Resources Control Board and the EPA Region 9 describing the pretreatment activities within the service area during the previous year. In the event that any control authority within the service area is not in compliance with any conditions or requirements of this Order or their approved pretreatment program (such as due to industrial user discharges, interjurisdictional agency agreement implementation issues, or other causes,) then the Discharger shall also include the reasons for non-compliance and state how and when the Discharger and the control authority shall comply with such conditions and requirements. This annual report shall cover operations from July 1 through June 30 of each fiscal year and is due on September 30 of each year. The report shall contain, but not be limited to, the following information:

   a. A summary of analytical results from representative, flow-proportioned, 24-hour composite sampling of the POTWs' influent and effluent wastewaters for those pollutants which are known or suspected to be discharged by industrial users (IUs) as identified by EPA under Section 307(a) of the CWA. The summary will include the result of annual full priority pollutant scan, with quarterly samples analyzed only for those pollutants[26] detected in the full scan. The Discharger shall also provide any influent or effluent monitoring data for non-priority pollutants which the Discharger believes may be causing or contributing to Interference, Pass Through or adversely impacting sludge quality. Sampling and analysis shall be performed in accordance with the techniques prescribed in 40 CFR 136 and amendments thereto.

   b. A discussion of any upset, interference, or pass-through incidents at the treatment plants (if any), which the Discharger knows or suspects were caused by IUs of the POTW system. The discussion shall include the following:

      (1) The reasons why the incidents occurred, the corrective actions taken, and, if known, the name and address of the IU(s) responsible.

      (2) A review of the applicable pollutant limitations to determine whether any additional limitations, or changes to existing requirements, may be necessary to prevent pass through, interference or noncompliance with sludge disposal requirements.

[26] *The Discharger is not required to analyze for asbestos.*

c. A complete and updated list of the Discharger's significant industrial users (SIUs), including names, Standard Industrial Classification (SIC) code(s) and addresses, and a list of any SIU deletions and/or additions. The Discharger shall provide a brief explanation for each deletion. The SIU list shall identify the SIUs subject to Federal Categorical Standards by specifying which set(s) of standards are applicable to each SIU. The list shall also indicate which SIUs are subject to local limitations more stringent than Federal Categorical Standards and those, which are not subject to local limits.

d. A list or table characterizing the industrial compliance status of each SIU, including:

(1) SIU name;
(2) Industrial category;
(3) The type (processes) of wastewater treatment in place;
(4) Number of samples taken by the POTW during the year;
(5) Number of samples taken by the SIU during the year;
(6) Whether all needed certifications (if allowed) were provided by SIUs which have limits for total toxic organics;
(7) Federal and Regional Standards violated during the year, reported separately;
(8) Whether the SIU at any time in the year was in Significant Noncompliance (SNC)[27], as defined by 40 CFR 403.12 (f)(2)(vii); and
(9) A summary of enforcement actions against the SIU taken during the year, including the type of action, final compliance date, and amount of fines assessed/collected (if any). Proposed actions, if known, should be included.
(10) Number of inspections conducted at each SIU during the year.

e. A compliance summary table which includes:

(1) SIU's which were in SNC at any time during the year;
(2) The total number of SIUs which are in SNC with pretreatment compliance schedules during the year;
(3) The total number of notices of violation and administrative orders issued against SIUs during the year;
(4) The total number of civil and criminal judicial actions filed against SIUs during the year;
(5) The number of SIUs which were published as being in SNC during the year; and
(6) The number of IUs from which penalties were collected during the year.

[27] *SNC is determined at the beginning of each quarter based on data of the previous six months.*

f. A short description of any significant changes in operating the pretreatment program which differ from the previous year including, but not limited to changes concerning:

(1) The program's administrative structure;
(2) Local industrial discharge limitations;
(3) Monitoring program or monitoring frequencies;
(4) Legal authority or enforcement policy;
(5) Funding mechanisms; and
(6) Resource requirements and/or staffing levels.

g. A summary of the annual pretreatment budget, including the cost of pretreatment program functions and equipment purchases.

h. A summary of public participation activities to involve and inform the public.

i. A description of any changes in sludge disposal methods and a discussion of any concerns not described elsewhere in the report.

3. The cumulative number of industrial users that the Discharger has notified regarding Baseline Monitoring Reports and the cumulative number of industrial user responses.

4. The Discharger shall submit the quarterly compliance status reports and the annual pretreatment report to EPA Region 9, the State Board and the Regional Water Board.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.
2. All analytical data shall be reported with method detection limit[28] (MDLs) and with identification of either reporting level or limits of quantitation (LOQs). Quality assurance/quality control data shall be submitted upon request. Test results shall be reported in either milligrams/liter (mg/L) or micrograms/liter (µg/L), or picograms/L (pg/L), as appropriate.
3. For effluent wastewater monitoring:

[28] *The standardized test procedure to be used to determine the method detection limit (MDL) is given at Appendix B, 'Definition and Procedure for the Determination of the Method Detection Limit' of 40 CFR 136.*

a. The Discharger shall require its testing laboratory to calibrate the analytical system down to the minimum level (ML)[29] specified in Attachment H for priority pollutants with effluent limitations in this Order, unless an alternative minimum level is approved by the Regional Water Board's Executive Officer. When there is more than one ML value for a given substance, the Discharger shall use the ML values, and their associated analytical methods, listed in Attachment H that are below the calculated effluent limitation. The Discharger may select any one of those cited analytical methods for compliance determination. If no ML value is below the effluent limitation, then the lowest ML value and its associated analytical method, listed in Attachment H shall be used. Any internal quality control data associated with the sample must be reported when requested by the Executive Officer. The Regional Water Board will reject the quantified laboratory data if quality control data is unavailable or unacceptable.

b. The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

(1) Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

(2) Sample results less than the reported ML, but greater than or equal to the laboratory's current Method Detection Limit (MDL)[30], shall be reported as "Detected, but Not Quantified," or "DNQ." The estimated chemical concentration of the sample shall also be reported.

(3) Sample results not detected above the laboratory's MDL shall be reported as "not detected" or "ND."

4. For receiving water monitoring and for those priority pollutants without effluent limitations, the Discharger shall require its testing laboratory to quantify constituent concentrations to the lowest achievable MDL as determined by the procedure found in 40 CFR 136 (revised as of April 11, 2007). In situations where the most stringent applicable receiving water objective (freshwater or human health (consumption of organisms only), as specified for that pollutant in 40 CFR 131.38[31] is below the minimum level value specified in Attachment H and the Discharger cannot achieve an MDL value for that pollutant below the ML value, the Discharger shall submit justification why a lower MDL value cannot be achieved. Justification shall be submitted together with monthly monitoring reports.

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29 *Minimum level is the concentration at which the entire analytical system must give a recognizable signal and acceptable point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.*

30 *MDL is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analytical concentration is greater than zero, as defined in 40 CFR 136, Appendix B, revised as of April 11, 2007.*

31 *See Federal Register/ Vol. 65, No. 97 / Thursday, May 18, 2000 / Rules and Regulations.*

5. For non-priority pollutants monitoring, all analytical data shall be reported with method detection limits, as determined by the procedure found in 40 CFR 136 (revised as of April 11, 2007).
6. Any internal quality control data associated with the sample must be reported when requested by the Executive Officer. The Regional Water Board will reject the quantified laboratory data if quality control data is unavailable or unacceptable.
7. Discharge monitoring data shall be submitted in a format acceptable by the Regional Water Board. Specific reporting format may include preprinted forms and/or electronic media. The results of all monitoring required by this Order shall be reported to the Regional Water Board, and shall be submitted in such a format as to allow direct comparison with the limitations and requirements of this Order.
8. The Discharger shall tabulate the monitoring data to clearly illustrate compliance and/or noncompliance with the requirements of the Order.
9. The Discharger shall submit to the Regional Water Board reports necessary to determine compliance with effluent limitations in this Order and shall follow the chemical nomenclature and sequential order of priority pollutant constituents shown in Attachment G – Priority Pollutant Lists for reporting the required annual priority pollutant monitoring.
10. The reports for June and December shall include a roster of plant personnel, including job titles, duties, and level of State certification for each individual.
11. The Discharger shall report monitoring results for specific parameters in accordance with the following table:

Table 11 Reporting Requirements

Parameter	Measurement
Flow	Daily total flow
pH	Daily High and daily low
Total Residual Chlorine	Daily Maximum
Electrical Conductivity	Daily High
Turbidity	Daily maximum

12. The Discharger shall file a written report with the Regional Water Board within ninety (90) days after the average dry-weather waste flow for any month equals or exceeds 75 percent of the design capacity of the waste treatment and/or disposal facilities. The Discharger's senior administrative officer shall sign a letter which transmits that report and certifies that the policy making body is adequately informed about it. The report shall include:

    a. Average daily flow for the month, the date on which the instantaneous peak flow occurred, the rate of that peak flow, and the total flow for the day.

    b. The Discharger's best estimate of when the average daily dry-weather flow rate will equal or exceed the design capacity of the treatment facilities.

c. The Discharger's intended schedule for studies, design, and other steps needed to provide additional capacity for the waste treatment and/or disposal facilities before the waste flow rate equals the capacity of present units.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). Until such notification is given, the Discharger shall submit hard copy SMRs. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.

2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under Sections III through IX. Additionally, the Discharger shall report in the SMR the results of any special studies, acute and chronic toxicity testing, TRE/TIE, PMP, and Pollution Prevention Plan required by Special Provisions – VI.C. of this Order. The Discharger shall submit monthly, quarterly, and annual SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table 12 Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On	Monitoring Period	SMR Due Date
Continuous	The effective day of this Order	All	Submit with monthly SMR
Daily	The effective day of this Order	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	Submit with monthly SMR
Weekly	The effective day of this Order	Sunday through Saturday	Submit with monthly SMR
Monthly	First day of calendar month following permit effective date or on permit date if that date is first day of the month	1st day of calendar month through last day of calendar month	First day of the second month following the reporting period, submit as monthly SMR

Table 12 Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On	Monitoring Period	SMR Due Date
Quarterly[32]	Closest of January 1, April 1, July 1, or October 1 following permit effective date	January 1 through March 31, samples are collected in January; April 1 through June 30; samples are collected in April; July 1 through September 30; samples are collected in July; October 1 through December 31; samples are collected in October	First day of the second month following the reporting period, submit with monthly SMR
Semi-annually	Closest of January 1 or July 1 following permit effective date	January 1 through June 30, samples are collected in January. July 1 through December 31, samples are collected in July.	first day of the second month following the reporting period, submit with monthly SMR
Annually	The effective day of this Order	January 1 through December 31, see Table 1.	April 1 each year including report requirements in Attachments Pretreatment report due to September, 1

4. Reporting Protocols. The Discharger shall report with each sample result the applicable reported Minimum Level (ML) and the current Method Detection Limit (MDL), as determined by the procedure in Part 136.

   The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

   a. Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

   b. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

   c. For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (+ a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

[32] *Quarterly monitoring result for certain constituents may be used to satisfy the annual monitoring for the same constituents.*

d. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.

e. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

5. The Discharger shall submit hard copy SMRs (with an original signature) when required by subsection B.1 above in accordance with the following requirements:

   a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations.

   b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

   c. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the address listed below:

      California Regional Water Quality Control Board
      Santa Ana Region
      3737 Main Street, Suite 500
      Riverside, CA 92501-3348

6. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

7. By April 1 of each year, the Discharger shall submit an annual report to the Regional Water Board. The annual report shall include the following:

   a. Tabular and graphical summaries of the monitoring data obtained during the previous year;

   b. A discussion of the compliance record and the corrective actions taken or planned, which may be needed to bring the discharge into full compliance with the waste discharge requirements;

   c. A summary of the quality assurance (QA) activities for the previous year; and

d. For priority pollutant constituents that do not have effluent limitations but are required to be monitored, the Discharger shall evaluate the monitoring data obtained during the previous year and determine whether detected constituents are at levels that would warrant reopening the permit to include effluent limitations for such constituent(s). To conduct this evaluation, the concentration of detected constituents shall be compared to the most stringent applicable receiving water objectives (freshwater or human health (consumption of organisms only) as specified for that pollutant in 40 CFR 131.3833). The Discharger shall include a discussion of the corrective actions taken or planned to address values above receiving water objectives.

C. Discharge Monitoring Reports (DMRs)

1. As described in Section X.B.1 above, at any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of Discharge Monitoring Reports (DMRs). Until such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below.

2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharger shall submit the original DMR and one copy of the DMR to the address listed below:

Table 13 Monitoring Reporting Submittal

Standard Mail	FedEx/UPS/ Other Private Carriers
State Water Resources Control Board Division of Water Quality c/o DMR Processing Center PO Box 100 Sacramento, CA 95812-1000	State Water Resources Control Board Division of Water Quality c/o DMR Processing Center 1001 I Street, 15th Floor Sacramento, CA 95814

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated will not be accepted unless they follow the exact same format of EPA Form 3320-1.

   Regional Administrator
   U. S. Environmental Protection Agency
   Region 9 – Attention WTR – 7
   75 Hawthorne Street
   San Francisco, CA 94105

[33] *See Federal Register/ Vol. 65, No. 97 / Thursday, May 18, 2000 / Rules and Regulations.*

D. Other Reports

1. The Discharger shall report the results of any special studies, acute and chronic toxicity testing, TRE/TIE, PMP, and Pollution Prevention Plan required by Special Provisions – VI.C. of this Order. The Discharger shall submit reports with the first monthly SMR scheduled to be submitted on or immediately following the report due date in compliance with SMR reporting requirements described in subsection X.B.5 above.

2. Site Spills

a. In accordance with the requirements of Health and Safety Code section 5411.5, the Discharger shall provide notification to the local health officer or the director of environmental health with jurisdiction over the affected water body of any unauthorized release of sewage or other waste that causes, or probably will cause, a discharge to any waters of the state.

b. In accordance with the requirements of Water Code section 13271, the Discharger shall provide notification to the Office of Emergency Services of the release of reportable amounts of hazardous substances or sewage that causes, or probably will cause, a discharge to any waters of the state. The California Code of Regulations, Title 23, section 2250, defines a reportable amount of sewage as being 1,000 gallons. The phone number for reporting these releases to the Office of Emergency Services is (800) 852-7550.

c. The Discharger shall notify the Regional Water Board of any unauthorized release of sewage from its wastewater treatment plant that causes, or probably will cause, a discharge to a water of the state as soon as possible, but not later than two (2) hours after becoming aware of the release. This notification does not need to be made if the Discharger has notified the Office of Emergency Services. The phone number for reporting these releases of sewage to the Regional Water Board is (951) 782-4130. At a minimum, the following information shall be provided:

(1) The location, date, and time of the release.

(2) The water body that received or will receive the discharge.

(3) An estimate of the amount of sewage or other waste released and the amount that reached a surface water at the time of notification.

(4) If ongoing, the estimated flow rate of the release at the time of the notification.

(5) The name, organization, phone number and email address of the reporting representative.

d. As soon as possible, but not later than twenty four (24) hours after becoming aware of an unauthorized discharge of sewage or other waste from its wastewater treatment plant to a water of the state, the Discharger shall submit a statement to the Regional Water Board by email at spillreportR8@waterboards.ca.gov. If the discharge is 1,000 gallons or more, this statement shall certify that the State Office of Emergency Services has been notified of the discharge in accordance with Water Code section 13271. The statement shall also certify that the local health officer or director of environmental health with jurisdiction over the affected water bodies has been notified of the discharge in accordance with Health and Safety Code section 5411.5. The statement shall also include at a minimum the following information:

(1) Agency and Order No.

(2) The location, date, and time of the discharge.

(3) The water body that received the discharge.

(4) A description of the level of treatment of the sewage or other waste discharged.

(5) An initial estimate of the amount of sewage or other waste released and the amount that reached a surface water.

(6) The Office of Emergency Services control number and the date and time that notification of the incident was provided to the Office of Emergency Services.

(7) The name of the local health officer or director of environmental health representative notified (if contacted directly); the date and time of notification; and the method of notification (e.g., phone, fax, email).

Attachment F – Fact Sheet

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List of Tables

ATTACHMENT F – FACT SHEET

As described in Section II of this Order, this Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for Dischargers in California. Only those sections or subsections of this Order that are specifically identified as "not applicable" have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as "not applicable" are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table 1. Facility Information

WDID		**8 332818001**			
Discharger/Operator		Inland Empire Utilities Agency			
Name of Facility		Regional Water Recycling Plant No. 1 (RP-1)	Regional Water Recycling Plant No. 4 (RP-4)	Regional Water Recycling Plant No. 5 (RP-5)	Carbon Canyon Water Reclamation Facility (CCWRF)
Address		2450 East Philadelphia Street.	12811 Sixth Street	6068 Kimball Avenue, Building "C"	14950 Telephone Avenue
		Ontario, CA 91761	Rancho Cucamonga, CA 91729	Chino, CA 91708	Chino, CA 91710
		San Bernardino County			
Facility Contact, Title and Phone		Patrick O. Sheilds, Executive Manager of Operations, (909) 993-1806			
Authorized Person to Sign and Submit Reports		Patrick O. Sheilds, Executive Manager of Operations, (909) 993-1806			
Address		6075 Kimball Avenue, Chino, CA 91708			
Mailing/Billing Address		P.O. Box 9020, Chino Hills, CA 91709			
Major or Minor Facility		Major			
Type of Facility		POTW			
Threat to Water Quality		1			
Complexity		A			
Pretreatment Program		Y			
Reclamation Requirements		Y			
Facilities Permitted Flow		84.4 million gallons per day (mgd)			
Facility Design Flow		44 mgd	14 mgd	15 mgd (and 1.3 mgd flow from sludge treatment system at Regional Water Recycling Plant No.2 (RP-2))	11.4 mgd
Watershed		Santa Ana River watershed			
Receiving Water	**Surface Waters**	Prado Park Lake, Reach 1A of Chino Creek, Reach 1 of Cucamonga Creek, Mill Creek, and Reach 3 of Santa Ana River		Reach 1B of Chino Creek and Reach 3 of Santa Ana River	Reach 2 of Chino Creek and Reach 3 of Santa Ana River
	Groundwater	Chino North "Maximum Benefit" Groundwater Management Zone/Chino 1, 2, and 3 "Antidegradation" Groundwater Management Zones			
Receiving Water Type		Inland surface water and groundwater			

A. Inland Empire Utilities Agency (hereinafter Discharger, or IEUA) is the owner and operator of four regional water recycling facilities, appurtenant structures[1], sewer pipeline system, and recycled water distribution system (hereinafter Facilities). The four Facilities are linked as shown in Figures 1 and 2 of Attachment C.

For the purposes of this Order, references to the "discharger" or "permittee" in applicable federal and State laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

B. The Discharger produces tertiary treated wastewater and discharges to surface waters at different locations, including discharges into Reaches IA, IB and 2 of Chino Creek, Reach 1 of Cucamonga Creek, Prado Park Lake, and Reach 3 of the Santa Ana River. Chino Creek, Reach 1 of Cucamonga Creek, Prado Park Lake, and the Santa Ana River are waters of the United States. Discharges from the Facilities are regulated pursuant to the following Orders tabulated below for each facility:

Table 2. List of Orders adopted for each Facility

Facility	Order No.	Order Adoption Date	Expiration Date	WDR Regulatory Scope
RP-1 & RP-4	R8-2006-0010, amended by R8-2007-0045 and R8-2007-0078	May 19, 2006	May 1, 2011	Regulates discharges to Prado Park Lake and Reach 1 of Cucamonga Creek, tributaries to Reach 3 of Santa Ana River and recycled water use.
RP-5	R8-2008-0028	Sept. 5, 2008	Sept. 1, 2013	Regulates discharges to Reach 1B of Chino Creek, a tributary to Reach 3 of Santa Ana River and recycled water use.
CCWRF	R8-2004-0020, amended by R8-2006-0038 and R8-2007-0078	August 13, 2004	August 1, 2009	Regulates discharges to Reach 2 of Chino Creek, a tributary to Reach 3 of Santa Ana River and recycled water use.

The terms and conditions of the current Orders remain in effect until new Waste Discharge Requirements and NPDES permit are adopted pursuant to this Order.

[1] *Appurtenant structures among other things include the Regional Water Recycling Plant No.2 (RP-2) facility. RP-2 is an existing tertiary wastewater treatment plant owned by the Discharger. Cease and Desist Order No. 94-74 required the Discharger to relocate the liquid treatment facilities at RP-2 to a site not subject to flooding. Consequently, RP-5 replaced RP-2. Only the sludge treatment systems at RP-2 are operational and there are no longer surface water discharges from RP-2. Primary and waste activated sludge from RP-5 and CCWRF are piped to the regional solids handling facility at RP-2 for sludge treatment. Dewatered wastewater from RP-2 is pumped back to the headworks of RP-5.*

C. The Discharger filed a report of waste discharge and submitted an application for a new Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit on January 27, 2009. The Discharger requests consolidation of all three permits into one permit for the Discharger's Facilities. This request is consistent with the interconnected nature of the facilities and the approach specified in the individual Orders to regulate certain constituents (TDS and TIN) on an agency-wide, flow-weighted average basis. This new permit will regulate the discharges from the Facilities to surface waters and will also regulate recycled water use. Supplemental information was requested starting February 13, 2009. The latest supplemental information was received on May 21, 2009. A site visit was conducted on May 19, 2009, to observe operations and collect additional data to develop permit limitations and conditions. The application was deemed complete on May 21, 2009.

II. FACILITY DESCRIPTION

A. Description of Wastewater and Biosolids Treatment or Controls

1. Discharger and Service Area

Inland Empire Utilities Agency (IEUA) is a municipal water supply and wastewater treatment agency. IEUA owns and operates a regional wastewater collection system and water recycling plants, including RP-1, RP-4, RP-5, and CCWRF. The treatment Facilities receive domestic, commercial, and industrial waste waters generated within the IEUA service areas. Wastewater can be diverted to different plants via available routing options built into the regional system (see Figure 1 of Attachment C for further detail). After treatment, recycled water can be discharged to nearby outfall(s) or recycled for industrial uses, irrigation and groundwater recharge. The following table summarizes the service areas and the population served by each Facility.

Table 3. Summary of Service Areas & Population Served

Facility	Population Served	Cities/Agency Served
RP-1 & RP-4	602,000	Chino, Fontana, Montclair, Upland, Ontario, and Cucamonga Valley Water District
RP-5	104,000	Chino, Chino Hills, and Ontario; Montclair and Upland via CCWRF
CCWRF	126,400	Chino, Chino Hills, Montclair, and Upland

Attachment B provides a map of the area at each water recycling Facility.

Attachment C provides the IEUA System-Wide influent flow interrelationship diagram, IEUA System-Wide Water Recycling Distribution System and treatment flow schematic for each Facility.

2. Design Characteristics and Biosolids Treatment

The treatment processes at each Facility are tabulated as follows:

Table 4. Plant Treatment Processes

Facility	RP-1	RP-4	RP-5	CCWRF
Preliminary & Primary Treatment	Mechanical bar screens, grit chambers, chemical addition, primary clarifiers, flow equalization /emergency storage basins	Mechanical bar screens, grit chambers, chemical addition, primary clarifiers	Mechanical bar screen, grit chambers, one storage basin (, primary clarifiers	Mechanical bar screen, grit removal, chemical addition, primary clarifiers, emergency storage basin
Secondary Treatment	Aeration trains with oxic/anoxic zones, secondary clarifiers	Aeration basins with oxic /anoxic zones, secondary clarifiers	Aeration basins with anoxic/oxic zones, secondary clarifiers	Aeration basins with anoxic/oxic zones, secondary clarifiers
Tertiary Treatment	Coagulation/Flocculation, sedimentation, filtration, chlorination, dechlorination	Coagulation/Flocculation, filtration, chlorination, de-chlorination (not used), emergency diversion pond	Coagulation/Flocculation, filtration, chlorination, de-chlorination, emergency overflow pond	Coagulation/flocculation, filtration, chlorination, dechlorination
Design Capacity, mgd	44	14	15 (and 1.3 mgd RP-2 sludge treatment system wastewater flows)	11.4
Solids Handling	The solids handling for these facilities takes place at RP-1. RP-4 primary sludge and waste activated sludge are conveyed through the sewer system and enter RP-1 as influent. Solids treatment includes gravity thickener and dissolved air flotation thickeners, anaerobic digestion, digester gas utilization, and belt press dewatering. Belt press wash water is pumped to the DAFT units where the solids can be recovered and the remaining liquid is returned to the activated sludge process.[2] Belt press filtrate is pumped to the Non-Reclaimable Waste System (NRWS) line and is ultimately treated by the County Sanitation Districts of Los Angeles County.		Primary and waste activated sludge wastes from RP-5 and CCWRF are piped to the regional solids handling facility at RP-2 for sludge treatment. The solids treatment system at RP-2 includes gravity thickeners; dissolved air flotation thickeners; anaerobic digestion; aerobic digestion; belt press, and centrifuge dewatering. Dewatered biosolids are hauled away to approved disposal sites Sludge treatment system wastewater from RP-2 is pumped back to headworks of RP-5.	

[2] *IEUA plans to construct a building to house four new centrifuges for dewatering digested sludge. This will replace the belt press dewatering. The tentative project completion and start-up date is 2012.*

3. Recycled Water Uses

The Discharger delivers tertiary treated wastewater through the regional recycled water system at various locations for recycling use. The recycled water is used for landscape irrigation by public and private users, for agricultural irrigation by farmers, for dust control at construction sites and for industrial purposes, including equipment/machinery cooling. Total average flow for recycled water use has increased significantly in recent years, with a peak annual average usage of approximately 20 mgd in 2008. This Order also regulates the recycled water use within the Discharger's service area.

Recycled water from RP-1 and RP- 4 is also used for groundwater recharge in areas overlying the Chino North Groundwater Management Zone. This groundwater recharge is regulated under a separate Order (Order No. R8-2007-0039). Order No. R8-2007-0039 was issued to the Discharger and the Chino Basin Watermaster to regulate the use of recycled water for the Chino Basin Recycled Water Groundwater Recharge Project, Phase I and Phase II. Order No. R8-2009-0021 does not regulate the use of recycled water for groundwater recharge.

B. Discharge Points and Receiving Waters

1. Discharge Points to Surface Water

Tertiary treated wastewater from each of the four Facilities is discharged at different Discharge Points (DPs 001, 002, 003, & 004) to surface waters that include Reaches 1A, 1B and 2 of Chino Creek, Reach 1 of Cucamonga Creek, and Prado Park Lake. These waterbodies are tributary to Reach 3 of the Santa Ana River within the Prado Basin Management Zone.

2. Stormwater Discharge points

Stormwater flows generated on site at RP-1 are collected and pumped to a liquid process stream for treatment. In the event that stormwater flows exceed the capacity to store and/or pump to a liquid process stream, stormwater may enter Reach 1 of Cucamonga Creek via S-001 or S-002.

Stormwater flows generated on site at RP- 4 are fully contained in an onsite, 4 million gallon capacity storage basin. All water captured in this basin is then pumped to a liquid process stream for treatment.

Stormwater flows generated on site at RP-5 and CCWRF plant are collected and pumped to the liquid process stream for treatment.

3. Recycled Water Use Area

Recycled water for irrigation is delivered to IEUA's service area through Discharge Points (DP) 005 through DP 008.

4. Receiving Water

Surface water. Tertiary treated wastewater discharges from the Facilities are either into Reaches 1A, 1B and 2 of Chino Creek, Reach 1 of Cucamonga Creek, and Prado Park Lake, tributaries of Reach 3 of the Santa Ana River within the Prado Basin Management Zone (PBMZ).

Groundwater. The Discharger distributes recycled water throughout its service area. The current recycled water use area overlies the Chino North "Maximum Benefit" Groundwater Management Zone (or Chino 1, 2, and 3 "Antidegradation" groundwater management zones).

There is little or no groundwater storage within the PBMZ.

Table 5 shows a summary of the discharge points, discharge coordinates (longitude and latitude), affected receiving waters, and estimated volume of discharge:

Table 5. Summary of Discharge Points and Receiving Waters

Discharge Point	Latitude	Longitude	Discharging Facility	Effluent Description and Receiving Water	Flow (MGD) & Frequency
001	N33°56'39"	W117°38'34"	RP-1	Tertiary treated effluent into Prado Park Lake. Overflow from the lake to an unnamed creek, then to Reach 1A of Chino Creek, a tributary to Reach 3 of Santa Ana River in Prado Basin	6.6 mgd 3-year average Continuous discharge
002	N34°1'31"	W117°33'56"	RP-1 & RP-4	Reach 1 of Cucamonga Creek, then to Mill Creek, then Reach 1A of Chino Creek, a tributary to Reach 3 of Santa Ana River in Prado Basin	20.6 mgd 3-year average Continuous discharge
003	N33°57'44"	W117°40'41"	RP-5	Reach 1B of Chino Creek, a tributary to Reach 3 of Santa Ana River	10.2 mgd 3-year average Continuous discharge
004	N33°58'56	W117°41'48"	CCWRF	Reach 2 of Chino Creek, a tributary to Reach 3 of Santa Ana River	9.9 mgd 3-year average Continuous discharge

Table 5. Summary of Discharge Points and Receiving Waters					
Discharge Point	Latitude	Longitude	Discharging Facility	Effluent Description and Receiving Water	Flow (MGD) & Frequency
005	N34°01'29"	W117°35'57"	RP-1	Recycled water use in areas overlying Chino North "Max Benefit" GMZ	14.1 mgd 1-year average - intermittent
006	N34°04'59"	W117°31'35"	RP-4	Recycled water use in areas overlying Chino North "Max Benefit" GMZ	3.1 mgd 1-year average (2007) - intermittent
007	N33°57'51"	W117°40'24"	RP-5	Recycled water use in areas overlying Chino North "Max Benefit" GMZ	1.0 MGD 1-year average - intermittent
008	N33°58'47"	W117°41'37"	CCWRF	Recycled water use in areas overlying Chino North "Max Benefit" GMZ	2.8 mgd 1-year average - intermittent
S-001	N34°01'36"	W117°35'59"	RP-1	Stormwater runoff to Reach 1 of Cucamonga Creek	Varies during storm event
S-002	N34°01'28"	W117°35'58"	RP-1	Stormwater runoff to Reach 1 of Cucamonga Creek	Varies during storm event

C. Summary of Previous Requirements and Self-Monitoring Report (SMR) Data

1. Effluent Limitations/Discharge Specifications contained in the previous Order No. R8-2006-0010 for discharges from RP-1 & RP-4 at Discharge Point 001 and DP002 and representative monitoring data from the term of the previous Order are as follows:

Table 6. RP-1 Historic Effluent Limitations and Monitoring Data at M-001A and M-001B

Parameter (units)	Effluent Limitation			Monitoring Data (From Aug. 2004 to December 2008)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge	Highest 12-Month Average
Flow (mgd) (Jan 06 to Dec 08)				11.1		11.7	Avg: 6.5
pH Daily Average (SU)			Range 6.5-8.5			Range 6.7-8.4	
BOD5 (mg/L)	20	30		2	3		
Suspended Solids (mg/L)	20	30		2	3		
Coliform Organisms (MPN/100 mL)	23 (1/mo.)	2.2			2		
Ammonia-Nitrogen (mg/L)	4.5			2.9			

Table 6. RP-1 Historic Effluent Limitations and Monitoring Data at M-001A and M-001B

Parameter (units)	Effluent Limitation			Monitoring Data (From Aug. 2004 to December 2008)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge	Highest 12-Month Average
Total Residual Chlorine (mg/L)			0.1 Instant. Max			0.0	
TDS (mg/L)	12-M, 550 agency-wide[3]			543			505 combined M-001 and M-002
Total Hardness (mg/L)					5th percentile 123	159	
Toxicity, TUc				1.7 Reproductio n			
TIN[4] (mg/L)	12-M, 8 agency-wide						9.8 Note: combined RP-1 and RP-4
Arsenic(µg/L)				6		6	
Cadmium(µg/L)				<0.25		<0.25	
Total recoverable Chromium (VI) (µg/L)				4.6		4.6	
Copper (µg/L)				7		7	
Free Cyanide (µg/L)[5]	4.2		8.5	24		24	
Lead (µg/L)				<0.5		<0.5	
Mercury (µg/L)				<0.05		<0.05	
Nickel (µg/L)				16		16	
Total recoverable Selenium (µg/L)	4.1		8.2	7		7	
Silver (µg/L)				0.7		0.7	
Zinc (µg/L)				122		122	
Bis(2-Ethylhexyl) Phthalate (µg/L)	5.9		11.8	9		9	
Bromodichloro Methane (µg/L)				34		34	
Chlorodibromo Methane (µg/L)				13		13	

[3] *This limitation may be met on an agency-wide basis using flow weighted averages of the discharges from all treatment plants operated by the Discharger*

[4] *Agency wide, the Discharger currently complies with the total inorganic nitrogen limitations in the Orders for RP-1, RP-4, RP-5 and CCWRF.*

[5] *Prior to January 2008, "Available cyanide" was measured rather than just "Free Cyanide". Available cyanide encompasses weak-acid dissociable cyanide compounds (that can release free cyanide) and free cyanide.*

Table 6. RP-1 Historic Effluent Limitations and Monitoring Data at M-001A and M-001B

Parameter (units)	Effluent Limitation			Monitoring Data (From Aug. 2004 to December 2008)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge	Highest 12-Month Average
Turbidity, NTU			2			>2	

Table 7. RP-1 & RP-4 Historic Effluent Limitations and Monitoring Data at M-002A and M-002B

Parameter (units)	Effluent Limitation			Monitoring Data (From Aug 2004 to December 2008)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge	Highest 12-Month Average
Flow (mgd) (Jan 06 to Dec 08)				28.5		40.9	Avg: 20.4
pH Daily Average (SU)			Range 6.5-8.5			Range 6.5-8.0	
BOD5 (mg/L)	20	30		2	3		
Suspended Solids (mg/L)	20	30		5	12		
Coliform Organisms (MPN/100 mL)	23 (1/mo.)	2.2	240		2		
Ammonia-Nitrogen (mg/L)	4.5			3.0			
Total Residual Chlorine (mg/L)			0.1 instant. Max			4.8	
TDS (mg/L)	12-M, 550 agency-wide			534			505 Note: combined RP-1 and RP-4
Total Hardness (mg/L)					5^{th} percentile 120	162	
Toxicity, TUc				1.3 Reproduction			
TIN (mg/L)	12-M, 8 agency-wide						9.8 combined M-001 and M-002 only
Arsenic(µg/L)				6		6	
Cadmium(µg/L)				<0.25		<0.25	
Total recoverable Chromium (VI) (µg/L)				4.3		4.3	
Copper (µg/L)				8		8	
Free Cyanide (µg/L)[6]	4.2		8.5	15		15	
Lead (µg/L)				5		5	
Mercury (µg/L)				<0.05		<0.05	
Nickel (µg/L)				4		4	

[6] *Prior to January 2008, "Available" cyanide was measured rather than "Free Cyanide".*

Table 7. RP-1 & RP-4 Historic Effluent Limitations and Monitoring Data at M-002A and M-002B

Parameter (units)	Effluent Limitation			Monitoring Data (From Aug 2004 to December 2008)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge	Highest 12-Month Average
Total recoverable Selenium (µg/L)	4.1		8.2	8		8	
Silver (µg/L)				0.37		0.37	
Zinc (µg/L)				59		59	
Bis(2-Ethylhexyl) Phthalate (µg/L)	5.9		11.8	7		7	
Bromodichloro Methane (µg/L)				31		31	
Chlorodibromo Methane (µg/L)				13		13	

2. Effluent limitations/Discharge Specifications contained in the previous Order No. R8-2008-0028 for discharges from RP-5 at discharge Point 003 and representative monitoring data from the term of the previous Order are as follows:

Table 8. RP-5 Historic Effluent Limitations and Monitoring Data at M-003

Parameter (units)	Effluent Limitation			Monitoring Data (From Aug 2004 to December 2008)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge	Highest 12-Month Average
Flow (mgd) (Jan 06 to Dec 08)				13.0		15.4	Avg: 10.3
pH Daily Average (SU)			Range 6.5-8.5			Range 6.5-8.1	
BOD5 (mg/L)	20	30		<2	<3		
Suspended Solids (mg/L)	20	30		4	7		
Coliform Organisms (MPN/100 mL)	23 (1/mo.)	2.2	240		2		
Ammonia-Nitrogen (mg/L)	4.5			0.4			
Total Residual Chlorine (mg/L)			0.1 Instant. Max.			0.0	
TDS (mg/L)	12-M, 550 agency-wide			557			533
Total Hardness (mg/L)					5^{th} percentile 148	215	
Toxicity, TUc				>1.7 Reproduction			
TIN (mg/L)	12-M, 8 agency-wide						6.5
Arsenic (µg/L)				7		7	
Cadmium (µg/L)				1.7		1.7	

Table 8. RP-5 Historic Effluent Limitations and Monitoring Data at M-003

Parameter (units)	Effluent Limitation			Monitoring Data (From Aug 2004 to December 2008)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge	Highest 12-Month Average
Total recoverable Chromium (VI) (µg/L)				9		9	
Copper (µg/L)				13		13	
Free Cyanide (µg/L) [7]	4.6		7.3	8		8	
Lead (µg/L)				3		3	
Mercury (µg/L)				<0.05		<0.05	
Nickel (µg/L)				7		7	
Total recoverable Selenium (µg/L)				3		3	
Silver (µg/L)				0.5		0.5	
Zinc (µg/L)				69		69	
Bis(2-Ethylhexyl) Phthalate (µg/L)				3		3	
Bromodichloro Methane (µg/L)				48		48	
Chlorodibromo Methane (µg/L)				21		21	
2,3,7,8-TCDD (Dioxin), (µg/L)						0.0000035	

3. Effluent limitations/Discharge Specifications contained in the previous Order No. R8-2004-0020 for discharges from CCWRF at Discharge Point 004 and representative monitoring data from the term of the previous Order are as follows:

Table 9. CCWRF Historic Effluent Limitations and Monitoring Data at M-004

Parameter (units)	Effluent Limitation			Monitoring Data (From Aug 2004 to December 2008)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge	Highest 12-Month Average
Flow (mgd) (Jan 06 to Dec 08)	11.4			10.0		13.2	Avg: 6.9
pH Daily Average (SU)			Range 6.5-8.5			Range 6.6-7.7	
BOD5 (mg/L)	20	30		2	3		
Suspended Solids (mg/L)	20	30		2	8		
Coliform Organisms (MPN/100 mL)	23 (1/mo.)	2.2	240		2		
Ammonia-Nitrogen (mg/L)	4.5			0.2			

[7] *Prior to January 2008, "Available cyanide" was measured rather than "Free Cyanide".*

Table 9. CCWRF Historic Effluent Limitations and Monitoring Data at M-004

Parameter (units)	Effluent Limitation			Monitoring Data (From Aug 2004 to December 2008)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge	Highest 12-Month Average
Total Residual Chlorine (mg/L)			0.1 instant. Max			0.0	
TDS (mg/L)	12M, 550 agency-wide			554			537
Total Hardness (mg/L)					5th percentile 130		
Toxicity, TUc				1.7 Reproduction			
TIN (mg/L)	12M, 8						7.5
Arsenic(µg/L)				7		7	
Cadmium(µg/L)				<0.25		<0.25	
Total recoverable Chromium (VI) (µg/L)	8.2		16.3	4.1		4.1	
Copper (µg/L)				12		12	
Free Cyanide (µg/L)[8]	4.1		8.2	8		8	
Lead (µg/L)				0.5		0.5	
Mercury (µg/L)				<0.05		<0.05	
Nickel (µg/L)				20		20	
Total recoverable Selenium (µg/L)	4.1		8.2	<2		<2	
Silver (µg/L)				0.9		0.9	
Zinc (µg/L)				57		57	
Bis(2-Ethylhexyl) Phthalate(µg/L)	5.9		11.8	25		25	
Bromodichloro Methane (µg/L)				33		33	
Chlorodibromo Methane (µg/L)				10		10	
2,3,7,8-TCDD (Dioxin) (µg/L)						0.00000026	

D. Compliance Summary

Based on a review of effluent monitoring data submitted by the Discharger for the period from 2004 through 2008, the following Table shows the compliance summary for each Facility:

[8] *Prior to January 2008, "Available cyanide" was measured rather than Free Cyanide.*

Table 10. Compliance Status RP-1, RP-5 and CCWRF

Date	Plant	Parameter	Value	Permit Limit	Reason for Violation	Corrective Measures
01/02/04	RP-1 (001)	Chlorine Residual	4.6 mg/L	0.1mg/L	Sodium Bisulfite (SBS) crystallized due to low temps	Heat tape installed to the SBS piping distribution system to prevent crystallization of SBS in the line
10/17/04	RP-1 (001)	Chlorine Residual	6.5 mg/L	0.1mg/L or not exceed 5 mg/L	Dechlor Station power failure	Monthly standby generator testing and automated V-1 valve closure
03/14/05	RP-1 (001)	Turbidity	>2 NTU	2 NTU	Plant upset, unstable activated sludge system , and one activated sludge train was in repair	Placed train back into service, reseeded one activated sludge system, polymer addition, chlorinated RAS.
03/14/05 - 03/16/05	RP-1 (002)	Turbidity	>2 NTU	2 NTU, 5 NTU 5%		
07/24/06	RP-1 (002)	Chlorine Residual	4.8 mg/L	0.1mg/L	Stage 2 Power Alert. Standby generator at pump stations and Dechlor stn power failure	Preventative maintenance procedures reviewed, revised, and implemented.
10/01/06	RP-1 (002)	Coliform	900 MPN/100 mL	240 MPN/ 100mL	Sample contamination	Staff retrained in sample collection and handling techniques
09/05/07	RP-1 (001)	Coliform	500 MPN/100 mL	240 MPN/ 100mL	Sample contamination	Staff retrained in sample collection and handling techniques
11/22/07	RP-1 (002)	Coliform	>1600 MPN/100 mL	240 MPN/ 100mL	Metal tip at sampling point contaminated sample	Discontinued use of metal tip at sampling point
03/06/07	CCWRF	Bis(2-ethylhexyl phthalate	25 µg/L	5.9 µg/L avg; 11.8 µg/L max	Sample contamination	Compound commonly used in the manufacturing of plastics. Influent concentration was “non-detect”
01/04/05	RP-5	Chlorine Residual	5.29 mg/L	0.1mg/L or not exceed 5 mg/L	Sodium Bisulfite (SBS) crystallized due to low temps	Heat tape installed to the SBS piping distribution system to prevent crystallization of SBS in the line.
01/09/05	RP-5	Chlorine Residual	>5.0 mg/L	0.1mg/L or not exceed 5 mg/L	Control analyzer failure	Allow effluent gate to close automatically as designed.

E. Planned Changes – Not Applicable

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

A. Legal Authorities

This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and Chapter 5.5, Division 7 of the California Water Code (commencing with Section 13370). It shall serve as a NPDES permit for point source discharges from the Regional Water Recycling Facilities to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, Chapter 4, Division 7 of the Water Code (commencing with Section 13260). This Order also includes Producer/User Recycling Requirements to regulate recycled water use for irrigation and other industrial uses.

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code section 21000 et seq. (*County of Los Angeles v. California State Water Resources Control Board* (2006) 143 Cal.App.4th 985, mod. (Nov. 6, 2006, B184034) 50 Cal.Rptr.3d 619, 632-636.)

This action also involves the re-issuance of waste discharge requirements for an existing Facility that discharges treated wastewater to land and as such, is exempt from the provisions of California Environmental Quality Act (commencing with Section 21100) in that the activity is exempt pursuant to Title 14 of the California Code of Regulations Section 15301.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The Regional Water Board adopted an updated Water Quality Control Plan for the Santa Ana Basin (hereinafter Basin Plan) that became effective on January 24, 1995. The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, State Water Resources Control Board (State Water Board) Resolution No. 88-63 (Sources of Drinking Water Policy) requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic water supply use to water bodies. Based on the exception criteria specified in Resolution No. 88-63, the Regional Water Board excepted certain waters from the municipal and domestic supply beneficial use.

   On January 22, 2004, the Regional Water Board adopted Resolution No. R8-2004-0001, amending the Basin Plan to incorporate revised boundaries for groundwater subbasins, now termed “management zones”, new nitrate-nitrogen and TDS objectives for the new management zones, and new nitrogen and TDS management strategies applicable to both surface and ground waters. The State Water Board and Office of Administrative Law (OAL) approved the N/TDS

Amendment on September 30, 2004 and December 23, 2004, respectively. EPA approved the surface water standards components of the N/TDS Amendment on June 20, 2007. Effluent limitations in this Order for TDS and TIN discharges to Chino Creek, Reach 1 of Cucamonga Creek, Prado Park Lake, and Reach 3 of the Santa Ana River are based on applicable wasteload allocations specified in the Basin Plan as amended.

The designated beneficial uses of receiving waters affected by the discharge from the Facility are as follows:

Table 11. Basin Plan Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
001	Prado Park Lake, overflow from the lake to an unnamed creek, then to Reach 1A of Chino Creek	Present or Potential: Water contact recreation (REC-1), non-contact water recreation (REC-2), warm freshwater habitat, wildlife habitat (WILD), and rare, threatened and endangered species. Recreational use at Prado Park Lake is restricted to fishing and boating. Excepted from Municipal and Domestic Supply.
002	Reach 1 of Cucamonga Creek, to Mill Creek, then Reach 1A of Chino Creek	Present or Potential: Groundwater Recharge, Water contact recreation (REC-1), non-contact water recreation (REC-2), Limited warm freshwater habitat, and wildlife habitat (WILD). Excepted from Municipal and Domestic Supply.
003	Reach 1B of Chino Creek	Present or Potential: Water contact recreation (REC-1), non-contact water recreation (REC-2), warm freshwater habitat, wildlife habitat (WILD), and rare, threatened and endangered species. Excepted from Municipal and Domestic Supply.
004	Reach 2 of Chino Creek	Present or Potential: Groundwater Recharge, Water contact recreation (REC-1), non-contact water recreation (REC-2), Cold freshwater habitat, and wildlife habitat (WILD). Excepted from Municipal and Domestic Supply.
001, 002, 003, 004, S-001, & S-002	Reach 3 of Santa Ana River within Prado Basin Management Zone	Present or Potential: Agricultural supply, groundwater recharge, water contact recreation, non-contact water recreation, warm freshwater habitat, wildlife habitat, rare, threatened or endangered species, and spawning, reproduction, and development waters supporting high quality aquatic habitats. Excepted from Municipal and Domestic Supply.

Table 11. Basin Plan Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
001, 002, 003, 004, 005, 006, 007, 008, S-001, & S-002	Chino North "Max Benefit" GMZ / Chino 1, 2 and 3 "antidegradation" GMZs	Present or Potential: Municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.
	Orange GMZ (affected GMZ downstream of discharge points)	Present or Potential: Municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.

Requirements of this Order implement the Basin Plan.

2. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.

3. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

4. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes (40 C.F.R. § 131.21, 65 Fed. Reg. 24641 (April 27, 2000)). Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

5. **Antidegradation Policy.** 40 CFR § 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. As discussed in Section IV. E. 2 of this Fact Sheet, the permitted discharges are consistent with the antidegradation provisions of § 131.12 and State Water Board Resolution No. 68-16.

6. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations[9] section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. All effluent limitations in the Order are at least as stringent as the effluent limitations in the previous Orders for each Facility.

7. **Monitoring and Reporting Requirements.** Section 122.48 of 40 CFR requires that all NPDES permits specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of the CWC authorize the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP) establishes monitoring and reporting requirements to implement federal and State requirements. This MRP is provided in Attachment E.

D. Impaired Water Bodies on CWA 303(d) List

Reach 1 of Chino Creek, Mill Creek (Prado Area) and Prado Park Lake are included in the USEPA approved 2006 CWA 303(d) list due to nutrients resulting principally from agricultural and dairy operations inputs during storm events. Reaches 1 & 2 of Mill Creek are also listed due to pathogen indicators, also resulting principally from dairy operations inputs during storm events. This Order requires that the wastewater discharged from the Facilities be essentially free of pathogens/pathogen indicators and that the wastewaters comply with the applicable Basin Plan wasteload allocation for total inorganic nitrogen (8 mg/L) for surface water discharges.

E. Other Plans, Polices and Regulations-Not Applicable

[9] *All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.*

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source Dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: section 122.44(a) requires that permits include applicable technology-based limitations and standards; and section 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water

A. Discharge Prohibitions

The discharge prohibitions are based on the Federal Clean Water Act, Basin Plan, State Water Board's plans and policies, U.S. Environmental Protection Agency guidance and regulations, and previous permit provisions in Orders No. R8-2006-0010, R8-2008-0028, and R8-2004-0020 and are consistent with the requirements set for other discharges regulated by NPDES permits adopted by the Regional Water Board.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations, require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at Part 133 and/or Best Professional Judgment (BPJ) in accordance with Part 125, section 125.3.

Regulations promulgated in 40 CFR §125.3(a)(1) require technology-based effluent limitations for municipal dischargers to be placed in waste discharge requirements based on Secondary Treatment Standards or Equivalent to Secondary Treatment Standards.

The Federal Water Pollution Control Act Amendments of 1972 (PL 92-500) established the minimum performance requirements for POTWs [defined in Section 304(d)(1)]. Section 301(b)(1)(B) of that Act requires that such treatment works must, as a minimum, meet effluent limitations based on secondary treatment as defined by the USEPA Administrator.

Based on this statutory requirement, USEPA developed secondary treatment regulations, which are specified in 40 CFR Part 133. These technology-based regulations apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of biochemical oxygen demand (BOD_5), total suspended solids (TSS), and pH.

2. Applicable Technology-Based Effluent Limitations for 20:1 dilution

This Facility meets the technology-based regulations for the minimum level of effluent quality attainable by secondary treatment in terms of BOD_5, total suspended solids and removal rate as summarized in the Table below. These effluent limitations have been set for secondary treated wastewater discharges at Discharge Points (DPs) 002, 003, and 004 under 20:1 dilution conditions.

Table 12. Summary of Technology-Based Effluent Limits for Secondary Treatment

Constituent	Average Weekly (mg/L)	Average Monthly (mg/L)	Average Monthly Removal Rate %
Biochemical Oxygen Demand, 5-day 20^0C	45	30	85
Total Suspended Solids	45	30	85

DP 001 discharges to Prado Park Lake. This lake is a property of the County of San Bernardino. The County and the Discharger agreed that the Discharger will provide up to 6.6 mgd of tertiary treated recycled water to the lake for recreation and fishing. There are no other discharges into the lake except stormwater from the tributary drainage area. Overflow from this lake discharges continuously to an unnamed creek, then to Reach 1A of Chino Creek. Consequently, discharges of secondary treated wastewater under 20:1 dilution condition into the lake is not allowed.

C. WQBEL-Based Effluent Limitations for DP 001 through DP 004

1. Scope and Authority

Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

Section 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the

pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

a. The Basin Plan specifies narrative and numeric water quality objectives applicable to surface water as follows.

Table 13. Applicable Basin Plan Surface Water Quality Objectives

Constituents	Basis for Limitations
Ammonia Nitrogen	Dissociates under certain conditions to the toxic un-ionized form. Thus, nitrogen discharges to surface water pose a threat to aquatic life and instream beneficial uses, as well as to the beneficial uses of affected groundwater. The Basin Plan specifies total ammonia and un-ionized ammonia objectives and an effluent limit of 4.5 mg/L for discharges to surface waters--Chino Creek and Mill Creek.
Hydrogen Ion (pH)	Hydrogen Ion (pH) is a measure of Hydrogen Ion concentration in the water. A pH range of 6.5 to 8.5 for surface water discharges is specified.
Oil & Grease	Oil and related materials have a high surface tension and are not soluble in water, resulting in odors and visual impacts.
Total Dissolved Solids	High levels of TDS can adversely impact groundwater affected by recharge of the affected receiving waters, as well as the use of that groundwater for supply purposes. The TDS limit for surface water discharges is based on the amended Basin Plan wasteload allocation for the discharger of 550 mg/L[10] and 80 mgd flow.
Total Inorganic Nitrogen	Nitrogen discharges to the Santa Ana River pose a threat to aquatic life and instream beneficial uses, as well as to the beneficial uses of affected groundwater. The TIN limit for surface water discharges is based on the amended Basin Plan wasteload allocation of 8.0 mg/L and 80 mgd flow .
Total Chlorine Residual	Wastewater disinfection with chlorine usually produces chlorine residual. Chlorine and its reaction products are toxic to aquatic life. To protect aquatic life, the chlorine residual in wastewater discharged to inland surface waters shall not exceed 0.1 mg/L.

10 *The Basin Plan specifies in Table 5-5 that TDS and TIN discharges to surface waters from the Discharger's wastewater treatment facilities are to be regulated pursuant to a single wasteload allocation, applied as a flow-weighted average of the discharges from the facilities. The TDS and TIN wasteload allocations are not contingent on "maximum benefit" objectives or implementation.*

(1) TDS and TIN: TDS and TIN limitations are specified in the Order for discharges of tertiary treated effluent at DPs 001, 002, 003, and 004. These TDS/TIN limits are based on the waste load allocation specified in Table 5-5 of the amended Basin Plan.

(2) TDS: This Order also includes a TDS limit based on the flow weighted running average quality of the water supplied to the service area plus a reasonable use increment of 250 mg/L. This reasonable use increment addition is discussed and authorized in the Basin Plan.

(3) For surface water discharges, the more restrictive of the TDS limit based on the wasteload allocation or the TDS limit based on water supply quality plus the reasonable use increment applies to discharges from the Facilities.

(4) In accordance with 40 CFR Section 122.45(d), there may be instances in which the basis for a limit for a particular continuous discharge may be impracticable to be stated as a maximum daily, average weekly, or average monthly effluent limitation. The Regional Water Board has determined that it is not practicable to express TDS and TIN effluent limitations as average weekly and average monthly effluent limitations because the TDS and TIN objectives in the Basin Plan were established primarily to protect the underlying groundwater. Consequently, a 12-month average period is more appropriate.

b. NTR, CTR and SIP. The National Toxics Rule, California Toxics Rule (CTR) and State Implementation Policy specify numeric objectives for toxic substances and the procedures whereby these objectives are to be implemented. The procedures include those used to conduct reasonable potential analysis to determine the need for effluent limitations for priority and non-priority pollutants.

c. Requirement to meet 2.2 total coliform bacteria limit in the effluent. Article 3, Section 60305 of Title 22, Chapter 3, "Use of Recycled water for impoundments" of the California Code of Regulations specifies that recycled water used as a source of supply in a nonrestricted recreational impoundment shall be at all times an adequately disinfected, oxidized, coagulated, clarified, filtered wastewater (tertiary treated). The degree of treatment specified represents an approximately 5-log reduction in the virus content of the water. The California State Department of Public Health (CDPH) has determined that this degree of virus removal is necessary to protect the health of people using these impoundments for water contact recreation. The CDPH has developed wastewater disinfection guidelines ("Wastewater Disinfection for Health Protection", Department of Health Services, Sanitary Engineering Branch, February 1987) for discharges of wastewater to surface waters where water contact recreation (REC-1) is a beneficial use. The disinfection guidelines recommend the same treatment requirements for wastewater discharges to REC-1 waters as those stipulated in Title 22 for supply of recycled water to nonrestricted recreational impoundments, since the public health risks under both

scenarios are analogous. The disinfection guidelines are based on sound science and are widely used as guidance to assure public health and beneficial use protection.

None of the surface waters to which the discharges regulated under this Order occur are considered to be "nonrestricted recreational impoundments", nor is "recycled water[11]" being used as a supply source pursuant to the definitions in Title 22. However, to protect the water contact recreation beneficial use and to prevent nuisance and health risk, it is necessary and appropriate to require the same degree of treatment for wastewater discharges to the affected waterbodies as would be required for the use of recycled water in a nonrestricted recreational impoundment. Thus, this Order specifies requirements based on tertiary or equivalent treatment.

d. Requirement to meet disinfection CT limit in the effluent. The Board has consulted with the CDPH regarding the applicability of the process design standards (specifically filter rates, CT, and modal contact) for discharges of waste to flowing streams. CDPH has determined that although compliance with these standards is necessary to protect public health when recycled water is used, compliance with these standards is not necessary to protect public health for discharges into waterbodies that provide dilution of the wastewater, provided the performance standards are consistently met. During periods when the receiving water can provide a 1:1 dilution of the wastewater discharge, the Order provides that the specified filter rates, CT, and modal contact time do not apply to wastewater discharges to surface water. The specified filter rates, CT, and modal contact time applies to recycled water use.

3. Determining the Need for WQBELs

In accordance with Section 1.3 of the SIP, the Regional Water Board conducted a reasonable potential analysis (RPA) for each priority pollutant with an applicable criterion or objective to determine if a WQBEL is required in the Order. The Regional Water Board analyzed effluent data to determine if a pollutant in a discharge has the reasonable potential to cause or contribute to an excursion above a state water quality standard. For all parameters that have the reasonable potential to cause or contribute to an excursion above a water quality standard, numeric WQBELs are required. The RPA considers criteria from the CTR, and when applicable, water quality objectives specified in the Basin Plan. For hardness dependent metals, a fixed hardness value for each outfall, based on the lowest 5th percentile of effluent hardness measurements from each plant, is used to facilitate the determination of compliance. The decision to use the 5th percentile of effluent hardness measurements is based on previous practice resulting from the Santa Ana River Use Attainability Analysis conducted in 1994 and a 2008 special study conducted by the State Water Board staff.

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11 *As defined in the Reclamation Criteria, recycled water means water which, as a result of treatment of domestic wastewater, is suitable for a direct beneficial use or a controlled use that would not otherwise occur.*

Sufficient data are needed to conduct a complete RPA. If data are not sufficient, the Discharger will be required to gather the appropriate data for the Regional Water Board to conduct the RPA. Upon review of the data, and if the Regional Water Board determines that WQBELs are needed to protect the beneficial uses, the permit will be reopened for appropriate modification.

The RPA was performed by reviewing the data provided by the Discharger in accordance with the SIP. Total recoverable selenium, and bis(2-ethylhexyl) phthalate were determined to have reasonable potential to cause an excursion above applicable pollutant criteria or objectives for discharges at DP 001 and DP 002. For discharges at DP 003, cyanide, selenium, bis(2-ethylhexyl) phthalate, and Bromodichloromethane were determined to have reasonable potential to cause an excursion above applicable pollutant criteria or objectives. For discharges at DP 004, bis(2-ethylhexyl) phthalate was determined to have reasonable potential to cause an excursion above applicable pollutant criteria or objectives. For CCWRF, the RPA also determined that total recoverable chromium (VI) does not have the reasonable potential to cause an excursion above applicable pollutant criteria or objectives. Consequently, effluent limitations for this constituent are not included in this Order.

The December 2007 monitoring data for 2,3,7,8-TCDD (Dioxin) at DP 003 and DP 004 showed one detected value each at 0.0000035 µg/L and 0.00000026 µg/L, respectively. These values are above the water quality criteria for Dioxin. However, the prior monitoring results before detection showed non-detect values and subsequent to detection, three monitoring data for each outfall also showed non-detect values. Considering the previous and subsequent monitoring results, it is determined that there is no reasonable potential for Dioxin to exceed applicable pollutant criteria. Consequently, no effluent limitation for Dioxin is included in the Order. However, the Order requires the Discharger to conduct quarterly monitoring for Dioxin for one year. The monitoring frequency is reduced to semi-annual if quarterly monitoring results show non-detect values at acceptable reporting levels.

For free cyanide, the RPA was based on the previous RPA that was done for each facility because the EPA approved test method for free cyanide is in question and the Discharger is using a test method that is currently being verified for accuracy and repeatability. This test method will be submitted to EPA for approval. Meanwhile, this Order retains the current effluent limits for free cyanide for RP-1, RP-4, RP-5 and CCWRF.

The following tables show the RPA study results for each Facility. Effluent limitations are established in this Order for those parameters with “yes” in the RPA column of the tables.

Table 14. RP-1 - Comparing DP 001 Effluent Data with WQOs

Parameter	unit	Effluent MEC[12]	CTR-Fresh water			Basin Plan	RPA
		Fresh water	CMC/CCC	WQO	Human Health Organisms Only	WQO	
Cyanide, Free	µg/L	24	22/5.2				yes
Bis(2-ethylhexyl) Phthalate	µg/L	9			5.9		yes
Total recoverable selenium	µg/L	7.0	0/5.0				yes

*: 5th percentile of effluent hardness of 124 mg/l is used to calculate metals criteria with hardness related.

Table 15. RP-1 & RP-4 - Comparing DP 001 & DP 002 Effluent Data with WQOs

Parameter	unit	Effluent MEC	CTR-Fresh water			Basin Plan	RPA
		Fresh water	CMC/CCC	WQO	Human Health	WQO	
Cyanide, Free	µg/L	15	22/5.2				yes
Bis(2-ethylhexyl) Phthalate	µg/L	7			5.9		yes
Total recoverable selenium	µg/L	8.0	0/5.0				yes

*: 5th percentile of effluent hardness of 122 mg/l is used to calculate metals criteria with hardness related.

Table 16. RP-5 - Comparing DP 003 Effluent Data with WQOs

Parameter	unit	Effluent MEC	CTR-Fresh water			Basin Plan	RPA
		Fresh water	CMC/CCC	WQO	Human Health	WQO	
Cyanide, Free	µg/L	8	22/5.2				yes
Bis(2-ethylhexyl) Phthalate	µg/L	4			5.9		no
Total recoverable Selenium	µg/L	3	0/5.0				No
2,3,7,8-TCDD (Dioxin)	µg/L	0.0000035			0.000000014		No, see Section IV.C.3., above
Bromodichloromethane	µg/L	48			46		yes

*: 5th percentile of effluent hardness of 148 mg/l is used to calculate metals criteria with hardness related.

[12] *MEC, CMC, CCC are defined in Attachment A.*

Table 17. CCWRF - Comparing DP 004 Effluent Data with WQOs

Parameter	unit	Effluent MEC	CTR-Fresh water			Basin Plan	RPA
		Fresh water	CMC/CCC	WQO	Human Health	WQO	
Cyanide, Free	µg/L	8	22/5.2				yes
Bis(2-ethylhexyl) Phthalate	µg/L	25			5.9		yes
Total recoverable chromium (VI)	µg/L	4.1	16/11				No
Total recoverable Selenium	µg/L	<2	0/5.0				No
2,3,7,8-TCDD (Dioxin)	µg/L	0.00000026			0.000000014		No, see Section IV.C.3., above

*: 5th percentile of effluent hardness of 130 mg/l is used to calculate metals criteria with hardness related.

4. WQBEL Calculations

No mixing zone allowance is included in the calculation of effluent limits in this Order. Consequently, compliance with the effluent limits is required to be determined at the end of the discharge pipe for freshwater discharge.

a. For priority pollutants, water quality based effluent limits based on monitoring results and the calculation process outlined in Section 1.4 of the California Toxic Rule and the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays and Estuaries of California are summarized in the following Tables 19, 20 and 21. The criteria calculation is based on CTR criteria for freshwater.

The calculated coefficients of variation (CVs) for data sets of total recoverable selenium and cyanide are based on standard deviation, number of samples and mean of the data set.

This Order retains the free cyanide limits in the prior permits. The following table shows the free cyanide limits.

Table 18. Cyanide Limits in prior Orders

Discharge Point	Order	Facility	Effluent Limitations, µg/L	
			Average Monthly	Maximum Daily
DP 001&DP 002	R8-2006-0010	RP-1/RP-4	4.2	8.5
DP 003	R8-2008-0028	RP-5	4.6	7.3
DP 004	R8-2004-0020	CCWRF	4.3	8.5

Table 19. Calculation of Effluent Limits at DP 001 and DP002

				CV = 0.6, long-term average			Aquatic Life		Human		Permit Limit	
	CTR Criteria			Acute M	Chronic M	LTA	Objective/limits		Health Limits		Concentration Limit	
	Fresh water		Human Health	0.321	0.527		**3.11**	**1.55**	**2.01**			
Constituent	CMC	CCC		Acute LTA	Chronic LTA		MDEL	AMEL	MDEL	AMEL	MDEL	AMEL
Bis(2-ethylhexyl) Phthalate			5.9						11.9	5.9	**11.9**	**5.9**
Total recoverable selenium		5.0			2.6	***2.6***	8.2	4.1			**8.2**	**4.1**

Table 20. Calculation of Effluent Limits at DP 003

Bromodichloromethane			46						92.5	46.0	**92**	**46**

Table 21. Calculation of Effluent Limits at DP 004

Constituent	CMC	CCC		Acute LTA	Chronic LTA		MDEL	AMEL	MDEL	AMEL	MDEL	AMEL
Bis(2-ethylhexyl) Phthalate			5.9						11.9	5.9	**11.9**	**5.9**

5. Whole Effluent Toxicity (WET)

This Order does not specify WET limits but requires chronic toxicity monitoring. This Order, as in the previous Orders, also requires the Discharger to conduct the accelerated monitoring as specified in Attachment E when the result of any single chronic toxicity test of the effluent exceeds 1.0 TUc. The monitoring data for all the Facilities during the past three years (2005-2008) indicated that the monthly trigger of 1 TUc has not been exceeded.

D. BPJ - Based Effluent Specifications for DP 001 through DP 004

For tertiary treated wastewater, the BOD_5 and TSS concentration limits are based on Best Professional Judgment. The technology-based secondary treatment standards specify BOD_5 and TSS concentration limits that are less stringent.

Table 22. Tertiary Effluent BOD_5 and TSS Limits

Constituent	Average Weekly	Average Monthly
Biochemical Oxygen Demand	30 mg/L	20 mg/L
Suspended Solids	30 mg/L	20 mg/L

E. Summary of Final Effluent Limitations

1. Satisfaction of Anti-Backsliding Requirements

All effluent limitations in this Order are at least as stringent as the effluent limitations in previous Orders.

2. Satisfaction of Antidegradation Policy

The discharges addressed in this Order are existing discharges regulated under waste discharge requirements issued for each of the Facilities. This Order consolidates those requirements. The effluent limitations in this Order are at least as stringent as those specified in the prior individual waste discharge requirements. No increases in the regulated discharge flows are proposed. Therefore, discharges conducted in conformance with the requirements of this Order will not result in a lowering of water quality. The discharges therefore conform to antidegradation requirements specified in Resolution No. 68-16, which incorporates the federal antidegradation policy at 40 CFR 131.12 where, as here, is it applicable.

3. Stringency of Requirements for Individual Pollutants

Water quality-based effluent limitations have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to section 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations for priority pollutants are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. Apart from certain surface water standards changes resulting from the N/TDS Basin Plan amendment that do not materially affect the quality requirements for the discharges regulated by this Order, all beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to section 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

4. Summary of Final Effluent Limitations

Table 23. Summary of Water Quality-Based Effluent Limits at all DPs

Parameter	Units	Effluent Limitations					Basis
		Average Monthly	Average Weekly	Max Daily	Instant. Max.	Range	
BOD_5	mg/L	20	30	--	--	--	Basin Plan
Total Suspended Solids	mg/L	20	30	--	--	--	BP
pH	Std. unit	--	--	--		6.5-8.5	BP
Total Residual Chlorine	mg/L				0.1		BP
Coliform	MPN	--		2.2 MPN	--	--	Title 22
Ammonia Nitrogen	mg/L	4.5					BP
Free Cyanide	µg/L	4.0		9.2			CTR
Bis (2-Ethylhexyl) Phthalate at DPs 001, 002, & 004	µg/L	5.9		12			CTR
Total recoverable selenium at DPs 001 & 002	µg/L						CTR
Bromodichloromethane At DP 003	µg/L	46		92	µg/L		CTR

F. Interim Effluent Limitations - Not Applicable

G. Land Discharge Specifications – Not Applicable

H. Reclamation Specifications

1. Section 13523 of the California Water Code provides that a Regional Water Board, after consulting with and receiving the recommendations from the CDPH and any party who has requested in writing to be consulted, and after any necessary hearing, shall prescribe water reclamation requirements for water which is used or proposed to be used as recycled water, if, in the judgment of the Board, such requirements are necessary to protect the public health, safety, or welfare. Section 13523 further provides that such requirements shall include, or be in conformance with, the statewide uniform water recycling criteria established by the CDPH pursuant to California Water Code Section 13521.

2. Reclamation specifications in the proposed Order are based upon the recycling criteria contained in Title 22, Division 4, Chapter 3, Sections 60301 through 60355, California Code of Regulations, and the California Water Code Section 13521.

3. As shown in Chapter 4 of the Basin Plan as amended by the N/TDS Amendment, Resolution No. R8-2004-0001, two sets of groundwater management zones (GMZs) and respective TDS objectives have been adopted for a portion of the Chino Basin. "Maximum benefit" objectives are established for the Chino North GMZ, while "antidegradation" objectives are set for the Chino 1, 2 and 3 GMZs. Order Nos. R8-2004-0020, R8-2006-0010, and R8-2008-0028 include TDS limits for recycled water use that implement the Chino North and Chino 1, 2, and 3 TDS objectives. Provided that applicable maximum benefit commitments specified in Chapter 5 of the amended Basin Plan (and shown in Attachment J of this Order) are satisfied by the Discharger and the Chino Basin Watermaster, the TDS discharges from the combined effluent quality from the Discharger's treatment plants will be limited to 550 mg/L. Note that the "maximum benefit" objective for the Chino North GMZ is 420 mg/L. The basis for the TDS limit of 550 mg/L is as follows. The TDS value of 550 mg/L for recycled water use was assumed as part of the development of the maximum benefit objective for the Chino North GMZ and the maximum benefit program. Implementation of that program, which entails blending of recycled water with other sources of supply (stormwater, imported State Project Water) will assure that the TDS objective of the Chino North GMZ is achieved and maintained. If the Regional Board finds that thee maximum benefit commitments are not satisfied, then the Chino 1, 2 and 3 "antidegradation" management zones and their respective TDS objectives apply. Since the Chino 1, 2 and 3 GMZs lack assimilative capacity for TDS, the TDS limits are the same as the management zone objectives.

Table 24. TDS Limitations

Receiving Groundwater Management Zone	12-Mo Average TDS Concentration, mg/L
Chino 1	280
Chino 2	250
Chino 3	260
Chino – North "maximum benefit"	550

4. TIN limits: When recycled water is reused for irrigation, no nitrogen limit is established for the effluent, since nitrogen is anticipated to be used by plants and will not affect water quality.

I. Stormwater Discharge Requirements

On April 17, 1997, the State Board adopted the General Industrial Storm Water Permit, Order No. 97-03-DWQ, NPDES No. CAS000001. This General Permit implements the Final Regulations (40 CFR 122, 123, and 124) for stormwater runoff published on November 16, 1990 by EPA in compliance with Section 402(p) of the Clean Water Act (CWA). Industrial facilities, including POTW sites, are required to obtain NPDES Permits for stormwater discharges. Accordingly, this Order incorporates requirements for the discharge of stormwater from RP-1[13].

J. Groundwater Recharge Requirements – Not Applicable

Order No. R8-2007-0039 regulates the use of recycled water from RP-1 and RP-4 for groundwater recharge.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

The surface water receiving water limitations in this Order are based upon the water quality objectives contained in the Basin Plan. As such, they are required part of the proposed Order.

B. Groundwater – Not Applicable

[13] *Stormwater discharges from the Discharger's other Facilities are treated onsite (see II. B. 2, above).*

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 of 40 CFR requires all NPDES permits to specify recording and reporting of monitoring results. Sections 13267 and 13383 of the CWC authorize the Regional Water Boards to require technical and monitoring reports. The MRP, Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and State requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for these Facilities.

A. Influent Monitoring

This Order carries forward the treatment plant influent monitoring requirements specified in Orders No. R8-2004-0020, R8-2006-0010, and R8-2008-0028 with modifications. Influent monitoring is required to determine the effectiveness of the treatment program and assess treatment plant performance, and to implement EPA source control/pretreatment program.

B. Effluent Monitoring

The Discharger is required to conduct monitoring of the permitted discharges in order to evaluate compliance with permit conditions. Monitoring requirements are given in the proposed monitoring and reporting program (Attachment E). This provision requires compliance with the monitoring and reporting program, and is based on 40 CFR 122.44(i), 122.62, 122.63 and 124.5. The SMP is a standard requirement in almost all NPDES permits (including the proposed Order) issued by the Regional Water Board. In addition to containing definitions of terms, it specifies general sampling/analytical protocols and the requirements of reporting of spills, violations, and routine monitoring data in accordance with NPDES regulations, the California Water Code, and Regional Water Board's policies. The monitoring and reporting program also contains sampling program specific for the Discharger's wastewater treatment plant. It defines the sampling stations and frequency, pollutants to be monitored, and additional reporting requirements. Pollutants to be monitored include all pollutants for which effluent limitations are specified. Further, in accordance with Section 1.3 of the SIP, periodic monitoring is required for all priority pollutants defined by the CTR, for which criteria apply and for which no effluent limitations have been established, to evaluate reasonable potential to cause or contribute to an excursion above a water quality standard.

This Order continues the monitoring requirements specified in the Order No. R8-2004-0020, No. R8-2006-0010, and No. R8-2008-0028, with modifications. This Order also requires the Discharger to conduct accelerated monitoring for those constituents that are detected in the annual priority pollutant scan.

C. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity (WET) protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. WET tests measure the degree of response of exposed aquatic test organisms to an effluent. The WET approach implements the narrative "no toxics in toxic amounts" criterion. There are two types of WET tests: acute and chronic. An acute toxicity test is conducted over a shorter time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth.

The Basin Plan specifies a narrative objective for toxicity, requiring that all waters be maintained free of toxic substances in concentrations that are lethal to or produce other detrimental response on aquatic organisms. Detrimental response includes but is not limited to decreased growth rate, decreased reproductive success of resident or indicator species, and/or significant alterations in population, community ecology, or receiving water biota.

In addition to the Basin Plan requirements, Section 4 of the SIP states that a chronic toxicity effluent limitation is required in permits for all discharges that will cause, have the reasonable potential to cause, or contribute to chronic toxicity in receiving waters. Therefore, in accordance with the SIP, this Order requires the Discharger to conduct chronic toxicity testing. In addition, the Order establishes thresholds that when exceeded require the Discharger to conduct accelerated toxicity testing and/or to conduct toxicity identification evaluation (TIE) studies.

This Order requires the Discharger to conduct chronic toxicity testing of the effluent from each of the Facilities on a monthly basis. The Order also requires the Discharger to conduct an Initial Investigation Toxicity Reduction Evaluation (IITRE) program when either the two-month median of toxicity test results exceeds 1 TUc or any single test exceeds 1.7 TUc for survival endpoint. Based on the results of this investigation program and at the discretion of the Executive Officer, a more rigorous Toxicity Reduction Evaluation/Toxicity Identification Evaluation (TRE/TIE) may be required. A re-opener provision is included in the Order to incorporate a chronic toxicity effluent limitation if warranted by the toxicity test results.

D. Receiving Water Monitoring

1. Surface Water

Receiving water monitoring is required to determine compliance with receiving water limitations and to characterize the water quality of the receiving water. Requirements are based on the Basin Plan.

2. Groundwater – Not Applicable

E. Other Monitoring Requirements

1. **Water Supply Monitoring** - The Discharger is required to collect a sample of each source of water supplied and analyze for total dissolved solids. The result of this monitoring will enable the Discharger to show compliance with TDS limitations in the Order.

2. **Biosolids Monitoring** - This Order continues the monitoring requirements specified in Order No. R8-2004-0020, No. R8-2006-0010, and No. R8-2008-0028, with modifications.

3. **Pretreatment Monitoring** - These monitoring and reporting requirements are established pursuant EPA 40 CFR 403 regulations.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42.

Section 122.41(a)(1) and (b) through (n) establish conditions that apply to all State-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. Section 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with section 123.25, this Order omits federal conditions that address enforcement authority specified in section0s 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

B. Special Provisions

1. Reopener Provisions

The provisions are based on 40 CFR Parts 122.44(c) and 123. The Regional Water Board may reopen the permit to modify permit conditions and requirements. Causes for modifications include the promulgation of new regulations, modification in sludge use or disposal practices, or adoption of new regulations by the State Water Board or Regional Water Board, including revisions to the Basin Plan.

2. Special Studies and Additional Monitoring Requirements

Toxicity Identification Evaluations or Toxicity Reduction Evaluations. This provision is based on the SIP, Section 4, Toxicity Control Provisions.

3. Best Management Practices and Pollution Prevention

Best Management Practices and Pollution Prevention - The requirements are based on the SIP Section 2.4.5.1

4. Construction, Operation, and Maintenance Specifications

Construction, Operation, and Maintenance Specifications - The requirements are based on requirements that were specified in prior Orders issued to the Discharger.

5. Special Provisions for Municipal Facilities - POTWs Only

a. Oxidized, filtered, and disinfected by UV or chlorine Wastewater Requirements: These requirements are based on Title 22 requirements for the use of recycled water.

b. Pretreatment: The system treatment plants capacity is 84.4 mgd. Consequently, this Order contains requirements for the implementation of an effective pretreatment program pursuant to Section 307 of the Federal Clean Water Act; Parts 35 and 403 of Title 40, Code of Federal Regulations (40 CFR 35 and 40 CFR 403); and/or Section 2233, Title 23, California Code of Regulations.

c. The State Water Board issued General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003-DWQ (General Order) on May 2, 2006. The General Order requires public agencies that own or operate sanitary sewer systems with greater than one mile of pipes or sewer lines to enroll for coverage under the General Order. The General Order requires agencies to develop sanitary sewer management plans (SSMPs) and report all sanitary sewer overflows (SSOs), among other requirements and prohibitions. The Discharger has enrolled and implemented these requirements.

Furthermore, the General Order contains requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows. Inasmuch as the Discharger's collection system is part of the system that is subject to this Order, Provisions section VI.C.5.a. of this Order applies. For instance, the 24-hour reporting requirements in this Order (Provisions section VI.A.2.b.) are not included in the General Order. The Discharger must comply with both the General Order and this Order. The Discharger and public agencies that are discharging wastewater into one or more of the individual facilities were required to obtain enrollment for regulation under the General Order. The Discharger and public agencies that are discharging wastewater into one or more of the individual facilities have enrolled and implemented these requirements.

d. Biosolids: On February 19, 1993, the USEPA issued a final rule for the use and disposal of sewage sludge, 40 CFR, Part 503. This rule requires that producers of sewage sludge meet certain reporting, handling, and disposal requirements. The State of California has not been delegated the authority to implement this program, therefore, the U.S. Environmental Protection Agency is the implementing agency.

6. Other Special Provisions – Not Applicable

7. Compliance Schedules – Not Applicable

VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, Santa Ana Region (Regional Water Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for Inland Empire Utilities Agency's Regional Water Recycling Facilities. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through the posting of a Notice of Public Hearing at the Inland Empire Utilities Agency's RP-1, RP-4, RP-5, CCWRF Facilities and office, and at the Regional Water Board website http://www.waterboards.ca.gov/santaana/board_decisions/tentative_orders/index.shtml and publication in the local newspaper on June 10, 2009.

B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments must be submitted either in person or by mail to the Executive Officer at the Regional Water Board at the address shown below.

To be fully responded to by staff and considered by the Regional Water Board, written comments should be received at the Regional Water Board offices by 5:00 p.m. on June 19, 2009.

Jane Qiu
California Regional Water Quality Control Board
Santa Ana Region
3737 Main Street, Suite 500
Riverside, CA 92501-3348

C. Public Hearing

The Regional Water Board will hold a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: July 20, 2009
Time: 10:00 A.M.
Location: California Regional Water Quality Control Board
Santa Ana Region
3737 Main Street, Suite 500
Riverside, CA 92501-3348

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our web address is http://www.waterboards.ca.gov/santaana. You can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

E. Information and Copying

The Report of Waste Discharge (RWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 9:00 a.m. and 3:00 p.m. Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling Jane Qiu (951) 320-2008.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference this facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this Order should be directed to Jane Qiu at (951) 320-2008.

ATTACHMENT G - EPA PRIORITY POLLUTANT LIST

EPA PRIORITY POLLUTANT LIST					
Metals		**Acid Extractibles**		**Base/Neutral Extractibles (continuation)**	
1.	Antimony	45.	2-Chlorophenol	91.	Hexachloroethane
2.	Arsenic	46.	2,4-Dichlorophenol	92.	Indeno (1,2,3-cd) Pyrene
3.	Beryllium	47.	2,4-Dimethylphenol	93.	Isophorone
4.	Cadmium	48.	2-Methyl-4,6-Dinitrophenol	94.	Naphthalene
5a.	Chromium (III)	49.	2,4-Dinitrophenol	95.	Nitrobenzene
5b.	Chromium (VI)	50.	2-Nitrophenol	96.	N-Nitrosodimethylamine
6.	Copper	51.	4-Nitrophenol	97.	N-Nitrosodi-N-Propylamine
7.	Lead	52.	3-Methyl-4-Chlorophenol	98.	N-Nitrosodiphenylamine
8.	Mercury	53.	Pentachlorophenol	99.	Phenanthrene
9.	Nickel	54.	Phenol	100.	Pyrene
10.	Selenium	55.	2, 4, 6 – Trichlorophenol	101.	1,2,4-Trichlorobenzene
11.	Silver	**Base/Neutral Extractibles**		**Pesticides**	
12.	Thallium	56.	Acenaphthene	102.	Aldrin
13.	Zinc	57.	Acenaphthylene	103.	Alpha BHC
Miscellaneous		58.	Anthracene	104.	Beta BHC
14.	Cyanide, Free	59.	Benzidine	105.	Delta BHC
15.	Asbestos (not required unless requested)	60.	Benzo (a) Anthracene	106.	Gamma BHC
16.	2,3,7,8-Tetrachlorodibenzo-P-Dioxin (TCDD)	61.	Benzo (a) Pyrene	107.	Chlordane
Volatile Organics		62.	Benzo (b) Fluoranthene	108.	4, 4' - DDT
17.	Acrolein	63.	Benzo (g,h,i) Perylene	109.	4, 4' - DDE
18.	Acrylonitrile	64.	Benzo (k) Fluoranthene	110.	4, 4' - DDD
19.	Benzene	65.	Bis (2-Chloroethoxy) Methane	111.	Dieldrin
20.	Bromoform	66.	Bis (2-Chloroethyl) Ether	112.	Alpha Endosulfan
21.	Carbon Tetrachloride	67.	Bis (2-Chloroisopropyl) Ether	113.	Beta Endosulfan
22.	Chlorobenzene	68.	Bis (2-Ethylhexyl) Phthalate	114.	Endosulfan Sulfate
23.	Chlorodibromomethane	69.	4-Bromophenyl Phenyl Ether	115.	Endrin
24.	Chloroethane	70.	Butylbenzyl Phthalate	116.	Endrin Aldehyde
25.	2-Chloroethyl Vinyl Ether	71.	2-Chloronaphthalene	117.	Heptachlor
26.	Chloroform	72.	4-Chlorophenyl Phenyl Ether	118.	Heptachlor Epoxide
27.	Dichlorobromomethane	73.	Chrysene	119.	PCB 1016
28.	1,1-Dichloroethane	74.	Dibenzo (a,h) Anthracene	120.	PCB 1221
29.	1,2-Dichloroethane	75.	1,2-Dichlorobenzene	121.	PCB 1232
30.	1,1-Dichloroethylene	76.	1,3-Dichlorobenzene	122.	PCB 1242
31.	1,2-Dichloropropane	77.	1,4-Dichlorobenzene	123.	PCB 1248
32.	1,3-Dichloropropylene	78.	3,3'-Dichlorobenzidine	124.	PCB 1254
33.	Ethylbenzene	79.	Diethyl Phthalate	125.	PCB 1260
34.	Methyl Bromide	80.	Dimethyl Phthalate	126.	Toxaphene
35.	Methyl Chloride	81.	Di-n-Butyl Phthalate		
36.	Methylene Chloride	82.	2,4-Dinitrotoluene		
37.	1,1,2,2-Tetrachloroethane	83.	2-6-Dinitrotoluene		
38.	Tetrachloroethylene	84.	Di-n-Octyl Phthalate		
39.	Toluene	85.	1,2-Dipenylhydrazine		
40.	1,2-Trans-Dichloroethylene	86.	Fluoranthene		
41.	1,1,1-Trichloroethane	87.	Fluorene		
42.	1,1,2-Trichloroethane	88.	Hexachlorobenzene		
43.	Trichloroethylene	89.	Hexachlorobutadiene		
44.	Vinyl Chloride	90.	Hexachlorocyclopentadiene		

ATTACHMENT H – MINIMUM LEVELS

MINIMUM LEVELS IN PPB (μg/l)

Table 1- VOLATILE SUBSTANCES[1]	GC	GCMS
Acrolein	2.0	5
Acrylonitrile	2.0	2
Benzene	0.5	2
Bromoform	0.5	2
Carbon Tetrachloride	0.5	2
Chlorobenzene	0.5	2
Chlorodibromomethane	0.5	2
Chloroethane	0.5	2
Chloroform	0.5	2
Dichlorobromomethane	0.5	2
1,1 Dichloroethane	0.5	1
1,2 Dichloroethane	0.5	2
1,1 Dichloroethylene	0.5	2
1,2 Dichloropropane	0.5	1
1,3 Dichloropropylene (volatile)	0.5	2
Ethylbenzene	0.5	2
Methyl Bromide (*Bromomethane*)	1.0	2
Methyl Chloride (*Chloromethane*)	0.5	2
Methylene Chloride (*Dichloromethane*)	0.5	2
1,1,2,2 Tetrachloroethane	0.5	1
Tetrachloroethylene	0.5	2
Toluene	0.5	2
trans-1,2 Dichloroethylene	0.5	1
1,1,1 Trichloroethane	0.5	2
1,1,2 Trichloroethane	0.5	2
Trichloroethylene	0.5	2
Vinyl Chloride	0.5	2
1,2 Dichlorobenzene (volatile)	0.5	2
1,3 Dichlorobenzene (volatile)	0.5	2
1,4 Dichlorobenzene (volatile)	0.5	2

Selection and Use of Appropriate ML Value:

ML Selection: When there is more than one ML value for a given substance, the discharger may select any one of those ML values, and their associated analytical methods, listed in this Attachment that are below the calculated effluent limitation for compliance determination. If no ML value is below the effluent limitation, then the discharger shall select the lowest ML value, and its associated analytical method, listed in the PQL Table.

ML Usage: The ML value in this Attachment represents the lowest quantifiable concentration in a sample based on the proper application of all method-based analytical procedures and the absence of any matrix interferences. Assuming that all method-specific analytical steps are followed, the ML value will also represent, after the appropriate application of method-specific factors, the lowest standard in the calibration curve for that specific analytical technique. Common analytical practices sometimes require different treatment of the sample relative to calibration standards.
Note: chemical names in parenthesis and italicized is another name for the constituent.

[1] *The normal method-specific factor for these substances is 1, therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance.*

MINIMUM LEVELS IN PPB (μg/l)

Table 2 – Semi-Volatile Substances[2]	GC	GCMS	LC
2-Chloroethyl vinyl ether	1	1	
2 Chlorophenol	2	5	
2,4 Dichlorophenol	1	5	
2,4 Dimethylphenol	1	2	
4,6 Dinitro-2-methylphenol	10	5	
2,4 Dinitrophenol	5	5	
2- Nitrophenol		10	
4- Nitrophenol	5	10	
4 Chloro-3-methylphenol	5	1	
2,4,6 Trichlorophenol	10	10	
Acenaphthene	1	1	0.5
Acenaphthylene		10	0.2
Anthracene		10	2
Benzidine		5	
Benzo (a) Anthracene (*1,2 Benzanthracene*)	10	5	
Benzo(a) pyrene (*3,4 Benzopyrene*)		10	2
Benzo (b) Flouranthene (*3,4 Benzofluoranthene*)		10	10
Benzo(g,h,i)perylene		5	0.1
Benzo(k)fluoranthene		10	2
bis 2-(1-Chloroethoxyl) methane		5	
bis(2-chloroethyl) ether	10	1	
bis(2-Chloroisopropyl) ether	10	2	
bis(2-Ethylhexyl) phthalate	10	5	
4-Bromophenyl phenyl ether	10	5	
Butyl benzyl phthalate	10	10	
2-Chloronaphthalene		10	
4-Chlorophenyl phenyl ether		5	
Chrysene		10	5
Dibenzo(a,h)-anthracene		10	0.1
1,2 Dichlorobenzene (semivolatile)	2	2	
1,3 Dichlorobenzene (semivolatile)	2	1	
1,4 Dichlorobenzene (semivolatile)	2	1	
3,3-Dichlorobenzidine		5	
Diethyl phthalate	10	2	
Dimethyl phthalate	10	2	
di-n-Butyl phthalate		10	
2,4 Dinitrotoluene	10	5	
2,6 Dinitrotoluene		5	
di-n-Octyl phthalate		10	
1,2-Diphenylhydrazine		1	
Fluoranthene	10	1	0.05
Fluorene		10	0.1
Hexachloro-cyclopentadiene	5	5	
1,2,4 Trichlorobenzene	1	5	

MINIMUM LEVELS IN PPB (μg/l)

Table 2 - SEMI-VOLATILE SUBSTANCES[2]	GC	GCMS	LC	COLOR
Pentachlorophenol	1	5		
Phenol [3]	1	1		50
Hexachlorobenzene	5	1		
Hexachlorobutadiene	5	1		
Hexachloroethane	5	1		
Indeno(1,2,3,cd)-pyrene		10	0.05	
Isophorone	10	1		
Naphthalene	10	1	0.2	
Nitrobenzene	10	1		
N-Nitroso-dimethyl amine	10	5		
N-Nitroso -di n-propyl amine	10	5		
N-Nitroso diphenyl amine	10	1		
Phenanthrene		5	0.05	
Pyrene		10	0.05	

Table 3– INORGANICS[4]	FAA	GFAA	ICP	ICPMS	SPGFAA	HYDRIDE	CVAA	COLOR	DCP
Antimony	10	5	50	0.5	5	0.5			1000
Arsenic		2	10	2	2	1		20	1000
Beryllium	20	0.5	2	0.5	1				1000
Cadmium	10	0.5	10	0.25	0.5				1000
Chromium (total)	50	2	10	0.5	1				1000
Chromium VI	5							10	
Copper	25	5	10	0.5	2				1000
Lead	20	5	5	0.5	2				10000
Mercury				0.5			0.2		
Nickel	50	5	20	1	5				1000
Selenium		5	10	2	5	1			1000
Silver	10	1	10	0.25	2				1000
Thallium	10	2	10	1	5				1000
Zinc	20		20	1	10				1000
Cyanide								5	

2 *With the exception of phenol by colorimetric technique, the normal method-specific factor for these substances is 1000, therefore, the lowest standards concentration in the calibration curve is equal to the above ML value for each substance multiplied by 1000.*

3 *Phenol by colorimetric technique has a factor of 1.*

4 *The normal method-specific factor for these substances is 1, therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance.*

MINIMUM LEVELS IN PPB (μg/l)

Table 4- PESTICIDES – PCBs[5]	GC
Aldrin	0.005
alpha–BHC (*a-Hexachloro-cyclohexane*)	0.01
beta–BHC (*b-Hexachloro-cyclohexane*)	0.005
Gamma–BHC (*Lindane; g-Hexachloro-cyclohexane*)	0.02
Delta-BHC (*d-Hexachloro-cyclohexane*)	0.005
Chlordane	0.1
4,4'-DDT	0.01
4,4'-DDE	0.05
4,4'-DDD	0.05
Dieldrin	0.01
Alpha-Endosulfan	0.02
Beta-Endosulfan	0.01
Endosulfan Sulfate	0.05
Endrin	0.01
Endrin Aldehyde	0.01
Heptachlor	0.01
Heptachlor Epoxide	0.01
PCB 1016	0.5
PCB 1221	0.5
PCB 1232	0.5
PCB 1242	0.5
PCB 1248	0.5
PCB 1254	0.5
PCB 1260	0.5
Toxaphene	0.5

Techniques:
GC - Gas Chromatography
GCMS - Gas Chromatography/Mass Spectrometry
HRGCMS - High Resolution Gas Chromatography/Mass Spectrometry (i.e., EPA 1613, 1624, or 1625)
LC - High Pressure Liquid Chromatography
FAA - Flame Atomic Absorption
GFAA - Graphite Furnace Atomic Absorption
HYDRIDE - Gaseous Hydride Atomic Absorption
CVAA - Cold Vapor Atomic Absorption
ICP - Inductively Coupled Plasma
ICPMS - Inductively Coupled Plasma/Mass Spectrometry
SPGFAA - Stabilized Platform Graphite Furnace Atomic Absorption (i.e., EPA 200.9)
DCP - Direct Current Plasma
COLOR - Colorimetric

5 *The normal method-specific factor for these substances is 100, therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance multiplied by 100.*

ATTACHMENT I – TRIGGERS FOR MONITORING PRIORITY POLLUTANTS

Table I-1. For DP001 and DP002

	CONSTITUENT	µg/L		CONSTITUENT	µg/L
1	Antimony	2150	38	Tetratchloroethylene	4.43
2	Arsenic	75	*39*	***Toluene***	***150***
3	Beryllium	--	*40*	***1,2,-Trans-dichloroethylene***	***10***
4	Cadmium	3.7	*41*	***1,1,1-Trichloroethane***	***200***
5a	Chromium III	122	42	***1,1,2-Trichloroethane***	***5***
5b	Chromium VI	5.5	*43*	***Trichloroethylene***	***5***
6	Copper	14	*44*	***Vinyl Chloride***	***0.5***
7	Lead	12	45	2-Chlorophenol	200
8	Mercury	0.026	46	2,4-Dichlorophenol	395
9	Nickel	31	47	2,4-Dimethylphenol	1150
10	Selenium	2.5	48	2-Methy-4,6-Dinitrophenol	383
11	Silver	2.9	49	2,4-Dinitrophenol	7000
12	Thallium	3.2	50	2-Nitrophenol	--
13	Zinc	71	51	4-Nitrophenol	--
14	Cyanide	2.6	52	3-Methyl-4-Chlorophenol	--
15	Asbestos	--	53	***Pentachlorophenol***	***1***
16	2,3,7,8-TCDD (Dioxin)	0.000000007	54	Phenol	2,300,000
17	Acrolein	390	55	2,4,6-Trichlorophenol	3.3
18	Acrylonitrile	0.33	56	Acenapthene	1,350
19	***Benzene***	***1***	57	Acenapthylene	--
20	Bromoform	180	58	Anthracene	55,000
21	***Carbon Tetrachloride***	***0.5***	59	Benzidine	0.00027
22	Chlorobenzene	10500	60	Benzo (a) anthracene	0.025
23	Chlorodibromomethane	17	61	Benzo (a) pyrene	0.025
24	Chloroethane	--	62	Benzo (b) fluoranthene	0.025
25	2-Chloroethyl vinyl ether	--	63	Benzo (g,h,i) pyrylene	--
26	Chloroform	--	64	Benzo (k) fluorantene	0.025
27	Dichlorobromomethane	23	65	Bis (2-Chloroethoxy) methane	--
28	***1,1-Dichloroethane***	***5***	66	Bis (2-Chloroethyl) ether	0.7
29	***1,2-Dichloroethane***	***0.5***	67	Bis (2-Chloroisopropyl) ether	85,000
30	1,1-Dichloroethylene	1.6	68	Bis (2-ethyhexyl) phthalate	3.0
31	***1,2-Dichloropropane***	***5***	69	4-Bromophenyl phenyl ether	--
32	***1,3-Dichloropropylene***	***0.5***	70	Butyl benzyl phthalate	2600
33	***Ethylbenzene***	***300***	71	2- Chloronapthalene	2150
34	Methyl Bromide	2000	72	4-Chlrorphenyl phenyl ether	--
35	Methyl Chloride	--	73	Chrysene	0.025
36	Methylene Chloride	800	74	Dibenzo (a,h) anthracene	0.025
37	***1,1,2,2-Tetratchloroethane***	***1***	***75***	***1,2-Dichlorobenzene***	***600***

Table I-1. For DP001 and DP002--Continued

	CONSTITUENT	µg/L
76	1,3-Dichlorobenzene	1,300
77	***1,4-Dichlorobenzene***	***5***
78	3,3-Dichlorobenzidine	0.039
79	Diethyl phthalate	60,000
80	Dimethyl phthalate	1,450,000
81	Di-N-butyl phthalate	6,000
82	2,4-Dinitrotoluene	4.6
83	2,6-Dinitrotoluene	--
84	Di-N-octyl phthalate	--
85	1,2-Diphenylhydrazine	0.27
86	Fluoranthene	185
87	Fluorene	7,000
88	Hexachlorobenzene	0.00039
89	Hexachlorobutadiene	25
90	***Hexachlorocyclopentadiene***	***50***
91	Hexachloroethane	4.5
92	Indeno (1,2,3-cd) pyrene	0.025
93	Isophorone	300
94	***Naphthalene***	***17***
95	Nitrobenzene	950
96	***N-Nitrosodimethylamine***	***0.01***
97	***N-Nitrosodi-N-propylamine***	***0.01***
98	N-Nitrosodiphenylamine	8
99	Phenantrene	--

	CONSTITUENT	µg/L
100	Pyrene	5,500
101	***1,2,4 -Trichlorobenzene***	***5***
102	Aldrin	0.00007
103	BHC Alpha	0.0065
104	BHC Beta	0.023
105	BHC Gamma	0.032
106	BHC Delta	--
107	Chlordane	0.0003
108	4,4-DDT	0.0003
109	4,4-DDE	0.0003
110	4,4-DDD	0.00042
111	Dieldrin	0.00007
112	Endosulfan Alpha	0.028
113	Endosulfan Beta	0.028
114	Endosulfan Sulfate	120
115	Endrin	0.018
116	Endrin Aldehyde	0.42
117	Heptachlor	0.00011
118	Heptachlor Epoxide	0.000055
119	PCB 1016	0.000085
120	PCB 1221	0.000085
125	PCB 1260	0.000085
126	Toxaphene	0.0001

Notes:

1. For constituents not shown italicized, the values shown in the Table are fifty percent of the most stringent applicable receiving water objectives (freshwater or human health (consumption of water and organisms) as specified for that pollutant in 40 CFR 131.38[1]).
2. For constituents shown bold and italicized, the values shown in the Table are based on the California Department of Public Health maximum contaminant levels (MCLs) or Notification Level. Notification Level based trigger is underlined.
3. For hardness dependent metals, the hardness value used is 122 mg/L as 5th percentile of effluent flows and for pentachlorophenol, the pH value used is 7.5 standard units.

[1] *See Federal Register/ Vol. 65, No. 97 / Thursday, May 18, 2000 / Rules and Regulations.*

Table I-1. For DP003

	CONSTITUENT	µg/L
1	Antimony	2150
2	Arsenic	75
3	Beryllium	--
4	Cadmium	4.4
5a	Chromium III	143
5b	Chromium VI	5.5
6	Copper	17
7	Lead	16
8	Mercury	0.026
9	Nickel	36
10	Selenium	2.5
11	Silver	4.0
12	Thallium	3.2
13	Zinc	84
14	Cyanide	2.6
15	Asbestos	--
16	2,3,7,8-TCDD (Dioxin)	0.000000007
17	Acrolein	390
18	Acrylonitrile	0.33
19	***Benzene***	***1***
20	Bromoform	180
21	***Carbon Tetrachloride***	***0.5***
22	Chlorobenzene	10500
23	Chlorodibromomethane	17
24	Chloroethane	--
25	2-Chloroethyl vinyl ether	--
26	Chloroform	--
27	Dichlorobromomethane	23
28	***1,1-Dichloroethane***	***5***
29	***1,2-Dichloroethane***	***0.5***
30	1,1-Dichloroethylene	1.6
31	***1,2-Dichloropropane***	***5***
32	***1,3-Dichloropropylene***	***0.5***
33	***Ethylbenzene***	***300***
34	Methyl Bromide	2000
35	Methyl Chloride	--
36	Methylene Chloride	800
37	***1,1,2,2-Tetratchloroethane***	***1***
38	Tetratchloroethylene	4.43
39	***Toluene***	***150***
40	***1,2,-Trans-dichloroethylene***	***10***
41	***1,1,1-Trichloroethane***	***200***
42	***1,1,2-Trichloroethane***	***5***
43	***Trichloroethylene***	***5***
44	***Vinyl Chloride***	***0.5***
45	2-Chlorophenol	200
46	2,4-Dichlorophenol	395
47	2,4-Dimethylphenol	1150
48	2-Methy-4,6-Dinitrophenol	383
49	2,4-Dinitrophenol	7000
50	2-Nitrophenol	--
51	4-Nitrophenol	--
52	3-Methyl-4-Chlorophenol	--
53	***Pentachlorophenol***	***1***
54	Phenol	2,300,000
55	2,4,6-Trichlorophenol	3.3
56	Acenapthene	1,350
57	Acenapthylene	--
58	Anthracene	55,000
59	Benzidine	0.00027
60	Benzo (a) anthracene	0.025
61	Benzo (a) pyrene	0.025
62	Benzo (b) fluoranthene	0.025
63	Benzo (g,h,i) pyrylene	--
64	Benzo (k) fluorantene	0.025
65	Bis (2-Chloroethoxy) methane	--
66	Bis (2-Chloroethyl) ether	0.7
67	Bis (2-Chloroisopropyl) ether	85,000
68	Bis (2-ethyhexyl) phthalate	3.0
69	4-Bromophenyl phenyl ether	--
70	Butyl benzyl phthalate	2600
71	2- Chloronapthalene	2150
72	4-Chlrorphenyl phenyl ether	--
73	Chrysene	0.025
74	Dibenzo (a,h) anthracene	0.025
75	***1,2-Dichlorobenzene***	***600***

Table I-1. For DP003--Continued

	CONSTITUENT	µg/L
76	1,3-Dichlorobenzene	1,300
77	***1,4-Dichlorobenzene***	***5***
78	3,3-Dichlorobenzidine	0.039
79	Diethyl phthalate	60,000
80	Dimethyl phthalate	1,450,000
81	Di-N-butyl phthalate	6,000
82	2,4-Dinitrotoluene	4.6
83	2,6-Dinitrotoluene	--
84	Di-N-octyl phthalate	--
85	1,2-Diphenylhydrazine	0.27
86	Fluoranthene	185
87	Fluorene	7,000
88	Hexachlorobenzene	0.00039
89	Hexachlorobutadiene	25
90	***Hexachlorocyclopentadiene***	***50***
91	Hexachloroethane	4.5
92	Indeno (1,2,3-cd) pyrene	0.025
93	Isophorone	300
94	***Naphthalene***	***17***
95	Nitrobenzene	950
96	***N-Nitrosodimethylamine***	***0.01***
97	***N-Nitrosodi-N-propylamine***	***0.01***
98	N-Nitrosodiphenylamine	8
99	Phenantrene	--

	CONSTITUENT	µg/L
100	Pyrene	5,500
101	***1,2,4 -Trichlorobenzene***	***5***
102	Aldrin	0.00007
103	BHC Alpha	0.0065
104	BHC Beta	0.023
105	BHC Gamma	0.032
106	BHC Delta	--
107	Chlordane	0.0003
108	4,4-DDT	0.0003
109	4,4-DDE	0.0003
110	4,4-DDD	0.00042
111	Dieldrin	0.00007
112	Endosulfan Alpha	0.028
113	Endosulfan Beta	0.028
114	Endosulfan Sulfate	120
115	Endrin	0.018
116	Endrin Aldehyde	0.42
117	Heptachlor	0.00011
118	Heptachlor Epoxide	0.000055
119	PCB 1016	0.000085
120	PCB 1221	0.000085
125	PCB 1260	0.000085
126	Toxaphene	0.0001

Notes:

4. For constituents not shown italicized, the values shown in the Table are fifty percent of the most stringent applicable receiving water objectives (freshwater or human health (consumption of water and organisms) as specified for that pollutant in 40 CFR 131.38[2]).
5. For constituents shown bold and italicized, the values shown in the Table are based on the California Department of Public Health maximum contaminant levels (MCLs) or Notification Level. Notification Level based trigger is underlined.
6. For hardness dependent metals, the hardness value used is 148 mg/L as 5th percentile of effluent flows and for pentachlorophenol, the pH value used is 7.5 standard units.

[2] *See Federal Register/ Vol. 65, No. 97 / Thursday, May 18, 2000 / Rules and Regulations.*

Table I-2. For DP004

	CONSTITUENT	µg/L
1	Antimony	2150
2	Arsenic	75
3	Beryllium	--
4	Cadmium	3.9
5a	Chromium III	128
5b	Chromium VI	5.5
6	Copper	15
7	Lead	14
8	Mercury	0.026
9	Nickel	33
10	Selenium	2.5
11	Silver	3.2
12	Thallium	3.2
13	Zinc	75
14	Cyanide	2.6
15	Asbestos	--
16	2,3,7,8-TCDD (Dioxin)	0.000000007
17	Acrolein	390
18	Acrylonitrile	0.33
19	***Benzene***	***1***
20	Bromoform	180
21	***Carbon Tetrachloride***	***0.5***
22	Chlorobenzene	10500
23	Chlorodibromomethane	17
24	Chloroethane	--
25	2-Chloroethyl vinyl ether	--
26	Chloroform	--
27	Dichlorobromomethane	23
28	***1,1-Dichloroethane***	***5***
29	***1,2-Dichloroethane***	***0.5***
30	1,1-Dichloroethylene	1.6
31	***1,2-Dichloropropane***	***5***
32	***1,3-Dichloropropylene***	***0.5***
33	***Ethylbenzene***	***300***
34	Methyl Bromide	2000
35	Methyl Chloride	--
36	Methylene Chloride	800
37	***1,1,2,2-Tetratchloroethane***	***1***
38	Tetratchloroethylene	4.43
39	***Toluene***	***150***
40	***1,2,-Trans-dichloroethylene***	***10***
41	***1,1,1-Trichloroethane***	***200***
42	***1,1,2-Trichloroethane***	***5***
43	***Trichloroethylene***	***5***
44	***Vinyl Chloride***	***0.5***
45	2-Chlorophenol	200
46	2,4-Dichlorophenol	395
47	2,4-Dimethylphenol	1150
48	2-Methy-4,6-Dinitrophenol	383
49	2,4-Dinitrophenol	7000
50	2-Nitrophenol	--
51	4-Nitrophenol	--
52	3-Methyl-4-Chlorophenol	--
53	***Pentachlorophenol***	***1***
54	Phenol	2,300,000
55	2,4,6-Trichlorophenol	3.3
56	Acenapthene	1,350
57	Acenapthylene	--
58	Anthracene	55,000
59	Benzidine	0.00027
60	Benzo (a) anthracene	0.025
61	Benzo (a) pyrene	0.025
62	Benzo (b) fluoranthene	0.025
63	Benzo (g,h,i) pyrylene	--
64	Benzo (k) fluorantene	0.025
65	Bis (2-Chloroethoxy) methane	--
66	Bis (2-Chloroethyl) ether	0.7
67	Bis (2-Chloroisopropyl) ether	85,000
68	Bis (2-ethyhexyl) phthalate	3.0
69	4-Bromophenyl phenyl ether	--
70	Butyl benzyl phthalate	2600
71	2- Chloronapthalene	2150
72	4-Chlrorphenyl phenyl ether	--
73	Chrysene	0.025
74	Dibenzo (a,h) anthracene	0.025
75	***1,2-Dichlorobenzene***	***600***

Table I-1. For DP004--Continued

	CONSTITUENT	µg/L
76	1,3-Dichlorobenzene	1,300
77	***1,4-Dichlorobenzene***	***5***
78	3,3-Dichlorobenzidine	0.039
79	Diethyl phthalate	60,000
80	Dimethyl phthalate	1,450,000
81	Di-N-butyl phthalate	6,000
82	2,4-Dinitrotoluene	4.6
83	2,6-Dinitrotoluene	--
84	Di-N-octyl phthalate	--
85	1,2-Diphenylhydrazine	0.27
86	Fluoranthene	185
87	Fluorene	7,000
88	Hexachlorobenzene	0.00039
89	Hexachlorobutadiene	25
90	***Hexachlorocyclopentadiene***	***50***
91	Hexachloroethane	4.5
92	Indeno (1,2,3-cd) pyrene	0.025
93	Isophorone	300
94	***Naphthalene***	***17***
95	Nitrobenzene	950
96	***N-Nitrosodimethylamine***	***0.01***
97	***N-Nitrosodi-N-propylamine***	***0.01***
98	N-Nitrosodiphenylamine	8
99	Phenantrene	--

	CONSTITUENT	µg/L
100	Pyrene	5,500
101	***1,2,4 -Trichlorobenzene***	***5***
102	Aldrin	0.00007
103	BHC Alpha	0.0065
104	BHC Beta	0.023
105	BHC Gamma	0.032
106	BHC Delta	--
107	Chlordane	0.0003
108	4,4-DDT	0.0003
109	4,4-DDE	0.0003
110	4,4-DDD	0.00042
111	Dieldrin	0.00007
112	Endosulfan Alpha	0.028
113	Endosulfan Beta	0.028
114	Endosulfan Sulfate	120
115	Endrin	0.018
116	Endrin Aldehyde	0.42
117	Heptachlor	0.00011
118	Heptachlor Epoxide	0.000055
119	PCB 1016	0.000085
120	PCB 1221	0.000085
125	PCB 1260	0.000085
126	Toxaphene	0.0001

Notes:

7. For constituents not shown italicized, the values shown in the Table are fifty percent of the most stringent applicable receiving water objectives (freshwater or human health (consumption of water and organisms) as specified for that pollutant in 40 CFR 131.38[3]).
8. For constituents shown bold and italicized, the values shown in the Table are based on the California Department of Public Health maximum contaminant levels (MCLs) or Notification Level. Notification Level based trigger is underlined.
9. For hardness dependent metals, the hardness value used is 130 mg/L as 5th percentile of effluent flows and for pentachlorophenol, the pH value used is 7.5 standard units.

[3] *See Federal Register/ Vol. 65, No. 97 / Thursday, May 18, 2000 / Rules and Regulations.*

ATTACHMENT J – STORMWATER POLLUTION PREVENTION PLAN REQUIREMENTS

1. *Implementation Schedule*

The storm water pollution prevention plan (SWPPP) shall be updated and implemented in a timely manner, but in no case later than October 30, 2009.

2. *Objectives*

The SWPPP has two major objectives: (a) to identify and evaluate sources of pollutants associated with industrial activities that may affect the quality of storm water discharges and authorized non-storm water discharges from the facility; and (b) to identify and implement site-specific best management practices (BMPs) to reduce or prevent pollutants associated with industrial activities in storm water discharges and authorized non-storm water discharges. BMPs may include a variety of pollution prevention measures or other low-cost pollution control measures. They are generally categorized as non-structural BMPs (activity schedules, prohibitions of practices, maintenance procedures, and other low-cost measures) and as structural BMPs (treatment measures, run-off controls, over-head coverage). To achieve these objectives, dischargers should consider the five phase process for SWPPP development and implementation as shown in Table A, below.

The SWPPP requirements are designed to be sufficiently flexible to meet the various needs of the facility. SWPPP requirements that are not applicable to the facility should not be included in the SWPPP.

A facility's SWPPP is a written document that shall contain a compliance activity schedule, a description of industrial activities and pollutant sources, descriptions of BMPs, drawings, maps, and relevant copies or references of parts of other plans. The SWPPP shall be revised whenever appropriate and shall be readily available for review by facility employees or Regional Water Board inspectors.

3. *Planning and Organization*

a. Pollution Prevention Team

The SWPPP shall identify a specific individual or individuals and their positions within the facility organization as members of a storm water pollution prevention team responsible for developing the SWPPP, assisting the facility manager in SWPPP implementation and revision, and conducting all monitoring program activities required in the Stormwater monitoring program of Order No. R8-2009-0021. The SWPPP shall clearly identify the storm water pollution prevention related responsibilities, duties, and activities of each team member.

b. Review Other Requirements and Existing Facility Plans

The SWPPP may incorporate or reference the appropriate elements of other regulatory requirements. The discharger shall review all local, state, and federal requirements that impact, complement, or are consistent with the requirements of Order No. R8-2009-0021. The discharger shall identify any existing facility plans that contain storm water pollutant control measures or relate to the requirements of Order No. R8-2009-0021. As examples, dischargers whose facilities are subject to Federal Spill Prevention Control and Countermeasures' requirements should already have instituted a plan to control spills of certain hazardous materials. Similarly, the discharger whose facilities are subject to air quality related permits and regulations may already have evaluated industrial activities that generate dust or particulates.

4. *Site Map*

The SWPPP shall include a site map. The site map shall be provided on an 8-1/2 x 11 inch or larger sheet and include notes, legends, and other data as appropriate to ensure that the site map is clear and understandable. If necessary, the discharger may provide the required information on multiple site maps. The following information shall be included on the site map:

a. The facility boundaries; the outline of all storm water drainage areas within the facility boundaries; portions of the drainage area impacted by run-on from surrounding areas; and direction of flow of each drainage area, on-site surface water bodies, and areas of soil erosion. The map shall also identify nearby water bodies (such as rivers, lakes, ponds) and municipal storm drain inlets where the facility's storm water discharges and authorized non-storm water discharges may be received.

b. The location of the storm water collection and conveyance system, associated points of discharge, and direction of flow. Include any structural control measures that affect storm water discharges, authorized non-storm water discharges, and run-on. Examples of structural control measures are catch basins, berms, detention ponds, secondary containment, oil/water separators, diversion barriers, etc.

c. An outline of all impervious areas of the facility, including paved areas, buildings, covered storage areas, or other roofed structures.

d. Locations where materials are directly exposed to precipitation and the locations where significant spills or leaks identified in Section 6.a.(4)., below, have occurred.

e. Areas of industrial activity. This shall include the locations of all storage areas and storage tanks, shipping and receiving areas, fueling areas, vehicle and equipment storage/maintenance areas, material handling and processing areas, waste treatment and disposal areas, dust or particulate generating areas,

cleaning and rinsing areas, and other areas of industrial activity which are potential pollutant sources.

5. *List of Significant Materials*

The SWPPP shall include a list of significant materials handled and stored at the site. For each material on the list, describe the locations where the material is being stored, received, shipped, and handled, as well as the typical quantities and frequency. Materials shall include raw materials, intermediate products, final or finished products, recycled materials, and waste or disposed materials.

6. *Description of Potential Pollutant Sources*

a. The SWPPP shall include a narrative description of the facility's industrial activities, as identified in Section 4.e., above, associated potential pollutant sources, and potential pollutants that could be discharged in storm water discharges or authorized non-storm water discharges. At a minimum, the following items related to a facility's industrial activities shall be considered:

1) Industrial Processes

Describe each industrial process, the type, characteristics, and quantity of significant materials used in or resulting from the process, and a description of the processes (manufacturing or treatment), cleaning, rinsing, recycling, disposal, or other activities related to the process. Where applicable, areas protected by containment structures and the corresponding containment capacity shall be described.

2) Material Handling and Storage Areas

Describe each handling and storage area, type, characteristics, and quantity of significant materials handled or stored, description of the shipping, receiving, and loading procedures, and the spill or leak prevention and response procedures. Where applicable, areas protected by containment structures and the corresponding containment capacity shall be described.

3) Dust and Particulate Generating Activities

Describe all industrial activities that generate dust or particulates that may be deposited within the facility's boundaries and identify their discharge locations; the characteristics of dust and particulate pollutants; the approximate quantity of dust and particulate pollutants that may be deposited within the facility boundaries; and a description of the primary areas of the facility where dust and particulate pollutants would settle.

4) Significant Spills and Leaks

Describe materials that have spilled or leaked in significant quantities in storm water discharges or non-storm water discharges. Include toxic chemicals (listed in 40 Code of Federal Regulations [CFR] Part 302) that have been discharged to storm water as reported on U.S. Environmental Protection Agency (U.S. EPA) Form R, and oil and hazardous substances in excess of reportable quantities (see 40 CFR, Parts 110, 117, and 302).

The description shall include the type, characteristics, and approximate quantity of the material spilled or leaked, the cleanup or remedial actions that have occurred or are planned, the approximate remaining quantity of materials that may be exposed to storm water or non-storm water discharges, and the preventative measures taken to ensure spills or leaks do not reoccur. Such list shall be updated as appropriate during the term of Order No. R8-2009-0021.

5) Non-Storm Water Discharges

The discharger shall investigate the facility to identify all non-storm water discharges and their sources. As part of this investigation, all drains (inlets and outlets) shall be evaluated to identify whether they connect to the storm drain system.

All non-storm water discharges shall be described. This shall include the source, quantity, frequency, and characteristics of the non-storm water discharges and associated drainage area.

Non-storm water discharges that contain significant quantities of pollutants or that do not meet the conditions of Order No. R8-2009-0021 are prohibited. (Examples of prohibited non-storm water discharges are contact and non-contact cooling water, boiler blowdown, rinse water, wash water, etc.). The SWPPP must include BMPs to prevent or reduce contact of non-storm water discharges with significant materials or equipment.

6) Soil Erosion

Describe the facility locations where soil erosion may occur as a result of industrial activity, storm water discharges associated with industrial activity, or authorized non-storm water discharges.

b. The SWPPP shall include a summary of all areas of industrial activities, potential pollutant sources, and potential pollutants. This information should be summarized similar to Table B below. The last column of Table B, "Control Practices", should be completed in accordance with Section 8., below.

7. *Assessment of Potential Pollutant Sources*

a. The SWPPP shall include a narrative assessment of all industrial activities and potential pollutant sources as described in Section 6., above, to determine:

1) Which areas of the facility are likely sources of pollutants in storm water discharges and authorized non-storm water discharges, and

2) Which pollutants are likely to be present in storm water discharges and authorized non-storm water discharges. The discharger shall consider and evaluate various factors when performing this assessment such as current storm water BMPs; quantities of significant materials handled, produced, stored, or disposed of; likelihood of exposure to storm water or authorized non-storm water discharges; history of spill or leaks; and run-on from outside sources.

b. The discharger shall summarize the areas of the facility that are likely sources of pollutants and the corresponding pollutants that are likely to be present in storm water discharges and authorized non-storm water discharges.

The discharger is required to develop and implement additional BMPs as appropriate and necessary to prevent or reduce pollutants associated with each pollutant source. The BMPs will be narratively described in Section 8., below.

8. *Storm Water Best Management Practices*

The SWPPP shall include a narrative description of the storm water BMPs to be implemented at the facility for each potential pollutant and its source identified in the site assessment phase (Sections 6. and 7., above). The BMPs shall be developed and implemented to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Each pollutant and its source may require one or more BMPs. Some BMPs may be implemented for multiple pollutants and their sources, while other BMPs will be implemented for a very specific pollutant and its source.

The description of the BMPs shall identify the BMPs as (1) existing BMPs, (2) existing BMPs to be revised and implemented, or (3) new BMPs to be implemented. The description shall also include a discussion on the effectiveness of each BMP to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. The SWPPP shall provide a summary of all BMPs implemented for each pollutant source. This information should be summarized similar to Table B.

The discharger shall consider the following BMPs for implementation at the facility:

a. Non-Structural BMPs: Non-structural BMPs generally consist of processes, prohibitions, procedures, schedule of activities, etc., that prevent pollutants associated with industrial activity from contacting with storm water discharges and authorized non-storm water discharges. They are considered low technology, cost-effective measures. The discharger should consider all possible non-structural BMPs options before considering additional structural BMPs (see Section 8.b., below). Below is a list of non-structural BMPs that should be considered:

1) Good Housekeeping: Good housekeeping generally consist of practical procedures to maintain a clean and orderly facility.

2) Preventive Maintenance: Preventive maintenance includes the regular inspection and maintenance of structural storm water controls (catch basins, oil/water separators, etc.) as well as other facility equipment and systems.

3) Spill Response: This includes spill clean-up procedures and necessary clean-up equipment based upon the quantities and locations of significant materials that may spill or leak.

4) Material Handling and Storage: This includes all procedures to minimize the potential for spills and leaks and to minimize exposure of significant materials to storm water and authorized non-storm water discharges.

5) Employee Training: This includes training of personnel who are responsible for (a) implementing activities identified in the SWPPP, (b) conducting inspections, sampling, and visual observations, and (c) managing storm water. Training should address topics such as spill response, good housekeeping, and material handling procedures, and actions necessary to implement all BMPs identified in the SWPPP. The SWPPP shall identify periodic dates for such training. Records shall be maintained of all training sessions held.

6) Waste Handling/Recycling: This includes the procedures or processes to handle, store, or dispose of waste materials or recyclable materials.

7) Record Keeping and Internal Reporting: This includes the procedures to ensure that all records of inspections, spills, maintenance activities, corrective actions, visual observations, etc., are developed, retained, and provided, as necessary, to the appropriate facility personnel.

8) Erosion Control and Site Stabilization: This includes a description of all sediment and erosion control activities. This may include the planting and maintenance of vegetation, diversion of run-on and runoff, placement of sandbags, silt screens, or other sediment control devices, etc.

9) Inspections: This includes, in addition to the preventative maintenance inspections identified above, an inspection schedule of all potential pollutant sources. Tracking and follow-up procedures shall be described to ensure adequate corrective actions are taken and SWPPPs are made.

10) Quality Assurance: This includes the procedures to ensure that all elements of the SWPPP and Monitoring Program are adequately conducted.

b. Structural BMPs: Where non-structural BMPs as identified in Section 8.a., above, are not effective, structural BMPs shall be considered. Structural BMPs generally consist of structural devices that reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Below is a list of structural BMPs that should be considered:

1) Overhead Coverage: This includes structures that provide horizontal coverage of materials, chemicals, and pollutant sources from contact with storm water and authorized non-storm water discharges.

2) Retention Ponds: This includes basins, ponds, surface impoundments, bermed areas, etc., that do not allow storm water to discharge from the facility.

3) Control Devices: This includes berms or other devices that channel or route run-on and runoff away from pollutant sources.

4) Secondary Containment Structures: This generally includes containment structures around storage tanks and other areas for the purpose of collecting any leaks or spills.

5) Treatment: This includes inlet controls, infiltration devices, oil/water separators, detention ponds, vegetative swales, etc., that reduce the pollutants in storm water discharges and authorized non-storm water discharges.

9. *Annual Comprehensive Site Compliance Evaluation*

The discharger shall conduct one comprehensive site compliance evaluation in each reporting period (July 1-June 30). Evaluations shall be conducted within 8-16 months of each other. The SWPPP shall be revised, as appropriate, and the revisions implemented within 90 days of the evaluation. Evaluations shall include the following:

a. A review of all visual observation records, inspection records, and sampling and analysis results.

b. A visual inspection of all potential pollutant sources for evidence of, or the potential for, pollutants entering the drainage system.

c. A review and evaluation of all BMPs (both structural and non-structural) to determine whether the BMPs are adequate, properly implemented and maintained, or whether additional BMPs are needed. A visual inspection of equipment needed to implement the SWPPP, such as spill response equipment, shall be included.

d. An evaluation report that includes, (1) identification of personnel performing the evaluation, (2) the date(s) of the evaluation, (3) necessary SWPPP revisions, (4) schedule, as required in Section 10.e, below, for implementing SWPPP revisions, (5) any incidents of non-compliance and the corrective actions taken, and (6) a certification that the discharger is in compliance with Order No. R8-2009-0021. If the above certification cannot be provided, explain in the evaluation report why the discharger is not in compliance with this order. The evaluation report shall be submitted as part of the annual report, retained for at least five years, and signed and certified in accordance with Attachment D, Standard Provision, Section V Reporting, Subsection B. Signatory and Certification Requirements of Order No. R8-2009-0021.

10. *SWPPP General Requirements*

a. The SWPPP shall be retained on site and made available upon request by a representative of the Regional Water Board and/or local storm water management agency (local agency) which receives the storm water discharges.

b. The Regional Water Board and/or local agency may notify the discharger when the SWPPP does not meet one or more of the minimum requirements of this section. As requested by the Regional Water Board and/or local agency, the discharger shall submit a SWPPP revision and implementation schedule that meets the minimum requirements of this section to the Regional Water Board and/or local agency that requested the SWPPP revisions. Within 14 days after implementing the required SWPPP revisions, the discharger shall provide written certification to the Regional Water Board and/or local agency that the revisions have been implemented.

c. The SWPPP shall be revised, as appropriate, and implemented prior to changes in industrial activities which (1) may significantly increase the quantities of pollutants in storm water discharge, (2) cause a new area of industrial activity at the facility to be exposed to storm water, or (3) begin an industrial activity which would introduce a new pollutant source at the facility.

d. The SWPPP shall be revised and implemented in a timely manner, but in no case more than 90 days after a discharger determines that the SWPPP is in violation of any requirement(s) of Order No. R8-2009-0021.

e. When any part of the SWPPP is infeasible to implement by the deadlines specified in Order No. R8-2009-0021, due to proposed significant structural changes, the discharger shall submit a report to the Regional Water Board prior to the applicable deadline that (1) describes the portion of the SWPPP that is infeasible to implement by the deadline, (2) provides justification for a time extension, (3) provides a schedule for completing and implementing that portion of the SWPPP, and (4) describes the BMPs that will be implemented in the interim period to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Such reports are subject to Regional Water Board approval and/or modifications. The discharger shall provide written notification to the Regional Water Board within 14 days after the SWPPP revisions are implemented.

f. The SWPPP shall be provided, upon request, to the Regional Water Board. The SWPPP is considered a report that shall be available to the public by the Regional Water Board under Section 308(b) of the Clean Water Act.

TABLE A

FIVE PHASES FOR DEVELOPING AND IMPLEMENTING INDUSTRIAL STORM WATER POLLUTION PREVENTION PLANS

PLANNING AND ORGANIZATION

*Form pollution prevention team
*Review other plans

ASSESSMENT PHASE

*Develop a site map
*Identify potential pollutant sources
*Inventory of materials and chemicals
*List significant spills and leaks
*Identify non-storm water discharges
*Assess pollutant risks

BEST MANAGEMENT PRACTICES IDENTIFICATION PHASE

*Non-structural BMPs
*Structural BMPs
*Select activity and site-specific BMPs

IMPLEMENTATION PHASE

*Train employees
*Implement BMPs
*Conduct record keeping and reporting

EVALUATION / MONITORING

*Conduct annual site evaluation
*Review monitoring information
*Evaluate BMPs
*Review and revise SWPPP

TABLE B

EXAMPLE

ASSESSMENT OF POTENTIAL POLLUTION SOURCES AND CORRESPONDING BEST MANAGEMENT PRACTICES SUMMARY

AREA	ACTIVITY	POLLUTANT SOURCE	POLLUTANT	BEST MANAGEMENT PRACTICES
Vehicle & equipment fueling	Fueling	Spills and leaks during delivery	Fuel oil	- Use spill and overflow protection - Minimize run-on of storm water into the fueling area - Cover fueling area - Use dry cleanup methods rather than hosing down area - Implement proper spill prevention control program - Implement adequate preventative maintenance program to prevent tank and line leaks - Inspect fueling areas regularly to detect problems before they occur - Train employees on proper fueling, cleanup, and spill response techniques.
		Spills caused by topping off fuel oil	Fuel oil	
		Hosing or washing down fuel area	Fuel oil	
		Leaking storage tanks	Fuel oil	
		Rainfall running off fueling areas, and rainfall running onto and off fueling area	Fuel oil	

ATTACHMENT K – STORMWATER MONITORING AND REPORTING REQUIREMENTS

1. *Implementation Schedule*

The discharger shall continue to implement their existing Stormwater monitoring program and implement any necessary revisions to their Stormwater monitoring program in a timely manner, but in no case later than December 30, 2009. The discharger may use the monitoring results conducted in accordance with their existing Stormwater monitoring program to satisfy the pollutant/parameter reduction requirements in Section 5.c., below, and Sampling and Analysis Exemptions and Reduction Certifications in Section 10, below.

2. Objectives

The objectives of the monitoring program are to:

a. Ensure that storm water discharges are in compliance with waste discharge requirements specified in Order No. R8-2009-0021.

b. Ensure practices at the facility to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges are evaluated and revised to meet changing conditions.

c. Aid in the implementation and revision of the SWPPP required by Attachment "J" Stormwater Pollution Prevention Plan of Order No. R8-2009-0021.

d. Measure the effectiveness of best management practices (BMPs) to prevent or reduce pollutants in storm water discharges and authorized non-storm water discharges. Much of the information necessary to develop the monitoring program, such as discharge locations, drainage areas, pollutant sources, etc., should be found in the Storm Water Pollution Prevention Plan (SWPPP). The facility's monitoring program shall be a written, site-specific document that shall be revised whenever appropriate and be readily available for review by employees or Regional Water Board inspectors.

3. *Non-Storm Water Discharge Visual Observations*

a. The discharger shall visually observe all drainage areas within their facility for the presence of unauthorized non-storm water discharges;

b. The discharger shall visually observe the facility's authorized non-storm water discharges and their sources;

c. The visual observations required above shall occur quarterly, during daylight hours, on days with no storm water discharges, and during scheduled facility operating hours[1]. Quarterly visual observations shall be conducted in each of the following periods: January-March, April-June, July-September, and October-December. The discharger shall conduct quarterly visual observations within 6-18 weeks of each other.

d. Visual observations shall document the presence of any discolorations, stains, odors, floating materials, etc., as well as the source of any discharge. Records shall be maintained of the visual observation dates, locations observed, observations, and response taken to eliminate unauthorized non-storm water discharges and to reduce or prevent pollutants from contacting non-storm water discharges. The SWPPP shall be revised, as necessary, and implemented in accordance with Attachment "J" Stormwater Pollution Prevention Plan Requirements of Order No. R8-2009-0021.

4. *Storm Water Discharge Visual Observations*

a. With the exception of those facilities described in Section 4.d., below, the discharger shall visually observe storm water discharges from one storm event per month during the wet season (October 1-May 30). These visual observations shall occur during the first hour of discharge and at all discharge locations. Visual observations of stored or contained storm water shall occur at the time of release.

b. Visual observations are only required of storm water discharges that occur during daylight hours that are preceded by at least three (3) working days[2] without storm water discharges and that occur during scheduled facility operating hours.

c. Visual observations shall document the presence of any floating and suspended material, oil and grease, discolorations, turbidity, odor, and source of any pollutants. Records shall be maintained of observation dates, locations observed, observations, and response taken to reduce or prevent pollutants in storm water discharges. The SWPPP shall be revised, as necessary, and implemented in accordance with Attachment "J" Stormwater Pollution Prevention Plan Requirements of Order No. R8-2009-0021.

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1 *"Scheduled facility operating hours" are the time periods when the facility is staffed to conduct any function related to industrial activity, but excluding time periods where only routine maintenance, emergency response, security, and/or janitorial services are performed.*

2 *Three (3) working days may be separated by non-working days such as weekends and holidays provided that no storm water discharges occur during the three (3) working days and the non-working days.*

d. The discharger with storm water containment facilities shall conduct monthly inspections of their containment areas to detect leaks and ensure maintenance of adequate freeboard. Records shall be maintained of the inspection dates, observations, and any response taken to eliminate leaks and to maintain adequate freeboard.

5. *Sampling and Analysis*

a. The discharger shall collect storm water samples during the first hour of discharge from (1) the first storm event of the wet season, and (2) at least one other storm event in the wet season. All storm water discharge locations shall be sampled. Sampling of stored or contained storm water shall occur at the time the stored or contained storm water is released. The discharger that does not collect samples from the first storm event of the wet season are still required to collect samples from two other storm events of the wet season and shall explain in the "Annual Stormwater Report" (see Section 12, below) why the first storm event was not sampled.

b. Sample collection is only required of storm water discharges that occur during scheduled facility operating hours and that are preceded by at least (3) three working days without storm water discharge.

c. The samples shall be analyzed for:

1) Total suspended solids (TSS) pH, specific conductance, and total organic carbon (TOC). Oil and grease (O&G) may be substituted for TOC;

2) Toxic chemicals and other pollutants that are likely to be present in storm water discharges in significant quantities. If these pollutants are not detected in significant quantities after two consecutive sampling events, the discharger may eliminate the pollutant from future sample analysis until the pollutant is likely to be present again;

3) The discharger is not required to analyze a parameter when either of the two following conditions are met: (a) the parameter has not been detected in significant quantities from the last two consecutive sampling events, or (b) the parameter is not likely to be present in storm water discharges and authorized non-storm water discharges in significant quantities based upon the discharger's evaluation of the facilities industrial activities, potential pollutant sources, and SWPPP; and

4) Other parameters as required by the Regional Water Board.

6. *Sample Storm Water Discharge Locations*

a. The discharger shall visually observe and collect samples of storm water discharges from all drainage areas that represent the quality and quantity of the facility's storm water discharges from the storm event.

b. If the facility's storm water discharges are commingled with run-on from surrounding areas, the discharger should identify other visual observation and sample collection locations that have not been commingled by run-on and that represent the quality and quantity of the facility's storm water discharges from the storm event.

c. If visual observation and sample collection locations are difficult to observe or sample (e.g., sheet flow, submerged outfalls), the discharger shall identify and collect samples from other locations that represent the quality and quantity of the facility's storm water discharges from the storm event.

d. The discharger that determines that the industrial activities and BMPs within two or more drainage areas are substantially identical may either (1) collect samples from a reduced number of substantially identical drainage areas, or (2) collect samples from each substantially identical drainage area and analyze a combined sample from each substantially identical drainage area. The discharger must document such a determination in the annual Stormwater report.

7. Visual Observation and Sample Collection Exceptions

The discharger is required to be prepared to collect samples and conduct visual observations at the beginning of the wet season (October 1) and throughout the wet season until the minimum requirements of Sections 4. and 5., above, are completed with the following exceptions:

a. The discharger is not required to collect a sample and conduct visual observations in accordance with Section 4 and Section 5, above, due to dangerous weather conditions, such as flooding, electrical storm, etc., when storm water discharges begin after scheduled facility operating hours or when storm water discharges are not preceded by three working days without discharge. Visual observations are only required during daylight hours. The discharger that does not collect the required samples or visual observations during a wet season due to these exceptions shall include an explanation in the "Annual Stormwater Report" why the sampling or visual observations could not be conducted.

b. The discharger may conduct visual observations and sample collection more than one hour after discharge begins if the discharger determines that the objectives of this section will be better satisfied. The discharger shall include an explanation in the "Annual Stormwater Report" why the visual observations and sample collection should be conducted after the first hour of discharge.

8. *Alternative Monitoring Procedures*

The discharger may propose an alternative monitoring program that meets Section 2, above, monitoring program objectives for approval by the Regional Water Board's Executive Officer. The discharger shall continue to comply with the monitoring requirements of this section and may not implement an alternative monitoring plan until the alternative monitoring plan is approved by the Regional Water Board's Executive Officer. Alternative monitoring plans are subject to modification by the Regional Water Board's Executive Officer.

9. Monitoring Methods

a. The discharger shall explain how the facility's monitoring program will satisfy the monitoring program objectives of Section 2., above. This shall include:

1) Rationale and description of the visual observation methods, location, and frequency;

2) Rationale and description of the sampling methods, location, and frequency; and

3) Identification of the analytical methods and corresponding method detection limits used to detect pollutants in storm water discharges. This shall include justification that the method detection limits are adequate to satisfy the objectives of the monitoring program.

b. All sampling and sample preservation shall be in accordance with the current edition of "Standard Methods for the Examination of Water and Wastewater" (American Public Health Association). All monitoring instruments and equipment (including the discharger's own field instruments for measuring pH and Electro-conductivity) shall be calibrated and maintained in accordance with manufacturers' specifications to ensure accurate measurements. All laboratory analyses must be conducted according to test procedures under 40 CFR Part 136, unless other test procedures have been specified in Order No. R8-2009-0021 or by the Regional Water Board's Executive Officer. All metals shall be reported as total recoverable metals or unless otherwise specified in Order No. R8-2009-0021. With the exception of analysis conducted by the discharger, all laboratory analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. The discharger may conduct their own sample analyses if the discharger has sufficient capability (qualified employees, laboratory equipment, etc.) to adequately perform the test procedures.

10. *Sampling and Analysis Exemptions and Reductions*

A discharger who qualifies for sampling and analysis exemptions, as described below in Section 10.a.(1) or who qualifies for reduced sampling and analysis, as described below in Section 10.b., must submit the appropriate certifications and required documentation to the Regional Water Board prior to the wet season (October 1) and certify as part of the annual Stormwater report submittal. A discharger that qualifies for either the Regional Water Board or local agency certification programs, as described below in Section 10.a.(2) and (3), shall submit certification and documentation in accordance with the requirements of those programs. The discharger who provides certification(s) in accordance with this section are still required to comply with all other monitoring program and reporting requirements. The discharger shall prepare and submit their certification(s) using forms and instructions provided by the State Water Board, Regional Water Board, or local agency or shall submit their information on a form that contains equivalent information. The discharger whose facility no longer meets the certification conditions must notify the Regional Water Board's Executive Officer (and local agency) within 30 days and immediately comply with Section 5., Sampling and Analysis requirements. Should a Regional Water Board (or local agency) determine that a certification does not meet the conditions set forth below, the discharger must immediately comply with the Section 5., Sampling and Analysis requirements.

a. Sampling and Analysis Exemptions

A discharger is not required to collect and analyze samples in accordance with Section 5., above, if the discharger meets all of the conditions of one of the following certification programs:

1) No Exposure Certification (NEC)

This exemption is designed primarily for those facilities where all industrial activities are conducted inside buildings and where all materials stored and handled are not exposed to storm water. To qualify for this exemption, the discharger must certify that their facilities meet all of the following conditions:

a) All prohibited non-storm water discharges have been eliminated or otherwise permitted.

b) All authorized non-storm water discharges have been identified and addressed in the SWPPP.

c) All areas of past exposure have been inspected and cleaned, as appropriate.

d) All significant materials related to industrial activity (including waste materials) are not exposed to storm water or authorized non-storm water discharges.

e) All industrial activities and industrial equipment are not exposed to storm water or authorized non-storm water discharges.

f) There is no exposure of storm water to significant materials associated with industrial activity through other direct or indirect pathways such as from industrial activities that generate dust and particulates.

g) There is periodic re-evaluation of the facility to ensure conditions (a), (b), (d), (e), and (f) above are continuously met. At a minimum, re-evaluation shall be conducted once a year.

2) Regional Water Board Certification Programs

The Regional Water Board may grant an exemption to the Section 5. Sampling and Analysis requirements if it determines a discharger has met the conditions set forth in a Regional Water Board certification program. Regional Water Board certification programs may include conditions to (a) exempt the discharger whose facilities infrequently discharge storm water to waters of the United States, and (b) exempt the discharger that demonstrate compliance with the terms and conditions of Order No. R8-2009-0021.

3) Local Agency Certifications

A local agency may develop a local agency certification program. Such programs must be approved by the Regional Water Board. An approved local agency program may either grant an exemption from Section 5. Sampling and Analysis requirements or reduce the frequency of sampling if it determines that a discharger has demonstrated compliance with the terms and conditions of the Industrial Activities Storm Water General Permit Order No. 97-03-DWQ which was adopted by the State Water Resources Control Board on April 17, 1997.

b. Sampling and Analysis Reduction

1) A discharger may reduce the number of sampling events required to be sampled for the remaining term of Order No. R8-2009-0021 if the discharger provides certification that the following conditions have been met:

a) The discharger has collected and analyzed samples from a minimum of six storm events from all required drainage areas;

b) All prohibited non-storm water discharges have been eliminated or otherwise permitted;

c) The discharger demonstrates compliance with the terms and conditions of the Order No. R8-2009-0021 for the previous two years (i.e., completed Annual Stormwater Reports, performed visual observations, implemented appropriate BMPs, etc.);

d) The discharger demonstrates that the facility's storm water discharges and authorized non-storm water discharges do not contain significant quantities of pollutants; and

e) Conditions (b), (c), and (d) above are expected to remain in effect for a minimum of one year after filing the certification.

2) Unless otherwise instructed by the Regional Water Board, the discharger shall collect and analyze samples from two additional storm events during the remaining term of Order No. R8-2009-0021 in accordance with Table A, below. The discharger shall collect samples of the first storm event of the wet season. The discharger that does not collect samples from the first storm event of the wet season shall collect samples from another storm event during the same wet season. The discharger that does not collect a sample in a required wet season shall collect the sample from another storm event in the next wet season. The discharger shall explain in the "Annual Stormwater Report" why the first storm event of a wet season was not sampled or a sample was not taken from any storm event in accordance with the Table A schedule, below.

Table A. REDUCED MONITORING SAMPLING SCHEDULE

Discharger Filing Sampling Reduction Certification By	Samples Shall be Collected and Analyzed in these wet seasons	
	Sample 1	Sample 2
Sept. 1, 2008	Oct. 1, 2008-May 31, 2009	Oct. 1, 2008-May 31, 2009
Sept. 1, 2009	Oct. 1, 2009-May 31, 2010	Oct. 1, 2009-May 31, 2010
Sept. 1, 2010	Oct. 1, 2010-May 31, 2011	Oct. 1, 2010-May 31, 2011
Sept. 1, 2011	Oct. 1, 2011-May 31, 2012	Oct. 1, 2011-May 31, 2012
Sept. 1, 2012	Oct. 1, 2012-May 31, 2013	Oct. 1, 2012-May 31, 2013
Sept. 1, 2013	Oct. 1, 2013-May 31, 2014	Oct. 1, 2013-May 31, 2014

11. Records

Records of all storm water monitoring information and copies of all reports (including the Annual Stormwater Reports) required by Order No. R8-2009-0021 shall be retained for a period of at least five years. These records shall include:

a. The date, place, and time of site inspections, sampling, visual observations, and/or measurements;

b. The individual(s) who performed the site inspections, sampling, visual observations, and or measurements;

c. Flow measurements or estimates;

d. The date and approximate time of analyses;

e. The individual(s) who performed the analyses;

f. Analytical results, method detection limits, and the analytical techniques or methods used;

g. Quality assurance/quality control records and results;

h. Non-storm water discharge inspections and visual observations and storm water discharge visual observation records (see Sections 3. and 4., above);

i. Visual observation and sample collection exception records (see Section 5.a, 6.d, 7, and 10.b.(2), above;

j. All calibration and maintenance records of on-site instruments used;

k. All Sampling and Analysis Exemption and Reduction certifications and supporting documentation (see Section 10);

l. The records of any corrective actions and follow-up activities that resulted from the visual observations.

12. Annual Report

The discharger shall submit an Annual Stormwater Report by July 1 of each year to the Executive Officer of the Regional Water Board and to the local agency (if requested). The report shall include a summary of visual observations and sampling results, an evaluation of the visual observation and sampling and analysis results, laboratory reports, the Annual Comprehensive Site Compliance Evaluation Report required in Section 9. of Attachment "J" of Order No. R8-2009-0021, an explanation of why a facility did not implement any activities required by Order No. R8-2009-0021 (if not already included in the Evaluation Report), and records specified in Section 11., above. The method detection limit of each analytical parameter shall be included. Analytical results that are less than the method detection limit shall be reported as "less than the method detection limit". The Annual Stormwater Report shall be signed and certified in accordance with Attachment D. Federal Standard Provisions, Section V-Reporting, Subsection B. Signatory and Certification requirements of Order No. R8-2009-0021. The discharger shall prepare and submit their Annual Stormwater Reports using the annual report forms provided by the State Water Board or Regional Water Board or shall submit their information on a form that contains equivalent information.

13. Watershed Monitoring Option

Regional Water Boards may approve proposals to substitute watershed monitoring for some or all of the requirements of this section if the Regional Water Board finds that the watershed monitoring will provide substantially similar monitoring information in evaluating discharger compliance with the requirements of Order No. R8-2009-0021.

ATTACHMENT L – CHINO BASIN MAXIMUM BENEFIT COMMITMENTS

Table 5-8a of Resolution No. R8-2004-0001

Chino Basin Maximum Benefit Commitments

Description of Commitment	Compliance Date – as soon as possible, but no later than
1. Surface Water Monitoring Program	
a. Submit Draft Monitoring Program to Regional Board	a. January 23, 2005 (complied)
b. Implement Monitoring Program	b. Within 30 days from date of Regional Board approval of monitoring plan
c. Quarterly data report submittal	c. April 15, July 15, October 15, January 15
d. Annual data report submittal	d. February 15th
2. Groundwater Monitoring Program	
a. Submit Draft Monitoring Program to Regional Board	a. January 23, 2005(complied)
b. Implement Monitoring Program	b. Within 30 days from date of Regional Board approval of monitoring plan
c. Annual data report submittal	c. February 15th
3. Chino Desalters	
a. Chino 1 desalter expansion to 10 MGD	a. Prior to recharge of recycled water
b. Chino 2 desalter at 10 MGD design	b. Recharge of recycled water allowed once award of contract and notice to proceed issued for construction of desalter treatment plant
4. Future desalters plan and schedule submittal	October 1, 2005 Implement plan and schedule upon Regional Board approval
5. Recharge facilities (17) built and in operation	June 30, 2005 (Partially complied)
6. IEUA wastewater quality improvement plan and schedule submittal	60 days after agency-wide 12 month running average effluent TDS quality equals or exceeds 545 mg/L for 3 consecutive months or agency-wide 12 month running average TIN equals or exceeds 8 mg/L in any month. Implement plan and schedule upon approval by Regional Board

Table 5-8a of Resolution No. R8-2004-0001

Chino Basin Maximum Benefit Commitments (cont.)

Description of Commitment	Compliance Date – as soon as possible, but no later than
7. Recycled water will be blended with other recharge sources so that the 5-year running average TDS and nitrate-nitrogen concentrations of water recharged are equal to or less than the "maximum benefit" water quality objectives for the affected Management Zone (Chino North or Cucamonga).	Compliance must be achieved by end of 5th year after initiation of recycled water recharge operations.
a. Submit a report that documents the location, amount of recharge, and TDS and nitrogen quality of stormwater recharge before the OBMP recharge improvements were constructed and what is projected to occur after the recharge improvements are completed	a. Prior to initiation of recycled water recharge
b. Submit documentation of amount, TDS and nitrogen quality of all sources of recharge and recharge locations. For stormwater recharge used for blending, submit documentation that the recharge is the result of CBW/IEUA enhanced recharge facilities.	b. Annually, by February 15th, after initiation of construction of basins/other facilities to support enhanced stormwater recharge.
8. Hydraulic Control Failure	
a. Plan and schedule to correct loss of hydraulic control	a. 60 days from Regional Board finding that hydraulic control is not being maintained
b. Achievement and maintenance of hydraulic control	b. In accordance with plan and schedule approved by Regional Board. The schedule shall assure that hydraulic control is achieved as soon as possible but no later than 180 days after loss of hydraulic control is identified.
c. Mitigation plan for temporary failure to achieve/maintain hydraulic control	c. By January 23, 2005(complied). Implement plan upon Regional Board determination that hydraulic control is not being maintained.
9. Ambient groundwater quality determination	July 1, 2005 and every 3 years thereafter

Appendix B

INLAND EMPIRE UTILITIES AGENCY

REGIONAL PLANT NO. 1

PLANT FACILITIES CALCULATIONS

Appendix B
Plant Facilities Calculations

B.1 Calculations follow for Tables in Section 4:

(Only those tables in Section 4 that have calculated or estimated values are shown herein. See Section 4 for other tables, references, and explanations.)

Table 4-3
Wastewater Characteristics

Parameter	Units	Value	Reference
Annual Average Raw Influent Quality			
BOD-5 day	mg/L	296	See note 2
TSS	mg/L	387	See note 2
TOC	mg/L	170	See note 2
Ammonia-nitrogen	mg/L	33.7	See note 2
TKN	mg/L	43.6	See note 2
TIN	mg/L	34.5	See note 2
pH	units	7.2	See note 2
Winter temperature	degrees C	22	See note 2
Summer temperature	degrees C	28	See note 2
TDS	mg/L	469	See note 2
Annual Average Raw Influent Loadings			
BOD-5 day	lbs/day	108,620	calculated[1]
TSS	lbs/day	142,014	calculated[1]
Peak Month Average Raw Influent Quality			
BOD	mg/L	610	See note 2
TSS	mg/L	1,220	See note 2
TOC	mg/L	286	See note 2
Ammonia-nitrogen	mg/L	85.2	See note 2
TKN	mg/L	70.7	See note 2
TIN	mg/L	44.2	See note 2
pH	units	8.0	See note 2
TDS	mg/L	570	See note 2
Peak Month Average Raw Influent Loadings			
BOD-5 day	lbs/day	223,846	calculated[1]
TSS	lbs/day	447,691	calculated[1]

1. For more information on calculated values, see comments in right margin.
2. IEUA 2002-2004.

Comment [dlb1]: 296 mg/L*44 mgd*8.34 lb/mil gal mg/L = 108,620 lb/day

Comment [dlb2]: 387 mg/L*44 mgd*8.34 lb/mil gal mg/L = 142,014 lb/day

Comment [dlb3]: 610 mg/L*44 mgd*8.34 lb/mil gal mg/L = 223,846 lb/day

Comment [dlb4]: 1,220mg/L*44 mgd*8.34 lb/mil gal mg/L = 447,691 lb/day

Table 4-5
Screening Facilities Design Data

Parameter	Units	Value	Reference
Mechanical Bar Screens			
Number	units	4	See notes 2, 3, & 4
Channel width	feet	6	See notes 2, 3, & 4
Channel depth	feet	8	See notes 2, 3, & 4
Bar thickness	inch	5/8	See note 5
Bar width	inches	2	See note 5
Effective area	percent	40	See notes 2 & 3
Peak approach velocity	feet/sec	3	See notes 2 & 3
Peak flow capacity	mgd, each	27.5	See note 2
Total peak flow capacity	mgd	110	calculated[1]
Manual Bar Screens			
Number	units	2	See notes 2 & 3
Channel width	feet	6	See note 2
Channel depth	feet	8	See note 2
Peak flow capacity	mgd, each	27.5	See note 2
Total peak flow capacity	mgd	55	calculated[1]

Comment [dlb5]: 4 units*27.5 mgd/unit = 110 mgd

Comment [dlb6]: 2 units * 27.5 mgd/unit = 55 mgd

1. For more information on calculated values, see comments in right margin.
2. Black & Veatch, 1996.
3. Carollo Engineers, 2002.
4. James M. Montgomery Consulting Engineers, 1985 & 1987.
5. IEUA, 2009a.

Table 4-6
Grit Removal Design Data

Parameter	Units	Value	Reference
Pista Grit Chamber			
Number	units	1	See notes 2, 3, & 4
Diameter	feet	20	See note 6
Tank Depth	feet	10	See note 6
Volume	cu ft	2,368	See note 5
Total capacity	mgd	51	See notes 2, 3, & 4
Aerated Grit Chamber			
Number	units	1	See notes 2
Length	feet	50	See notes 2
Width	feet	20	See notes 2
Side water depth (north side)	feet	25	See note 6
Side water depth (south side)	feet	15	See notes 2
Effective volume	cu ft	15,000	calculated[1]
Detention time at PWWF	minutes	1.5	calculated[1]
Peak flow capacity	mgd	110	calculated[1]

1. For more information on calculated values, see comments in right margin.
2. Black & Veatch, 1996.
3. Carollo Engineers, 2002.
4. James M. Montgomery Consulting Engineers, 1985 & 1987.
5. Parsons, 2003.
6. IEUA, 2009a.

Comment [dlb7]: 50 ft*20 ft*15 ft = 15,000 cu ft

Comment [dlb8]: (15,000 cu ft*7.48 gal/cu ft)/(110,000,000 gpd*(1day/24 hr)*(1 hr/60min)) = 1.5 min

Comment [dlb9]: Based on 1.5 min detention time at PWWF. See above.

Table 4-7
Preliminary Treatment Capacity

Process	Peak Capacity (mgd)	Annual Average Capacity Without Redundancy (mgd)	Title 22 Reliable Annual Average Capacity (mgd)
Parshall flumes	156.6	62.6[1]	62.6[1, 2]
Bar screens	165	66.0	55.0[1,3]
Grit chambers	161	64.4[4]	44.0[1,5]

1. See Section 4 regarding reliable capacity of these processes.
2. Peak Capacity/Peaking Factor = 156.6/2.5 = 62.6
3. Peak Capacity with one screen out of service/Peaking Factor = (165-27.5)/2.5 = 55.0
4. Peak Capacity/Peaking Factor = 161/2.5 = 64.4
5. Peak Capacity with largest grit chamber out of service/Peaking Factor = (161-51)/2.5 = 44.0

Table 4-8
Primary Treatment Design Data

Parameter	Units	Value	Reference
Rectangular Primary Clarifiers			
Number	units	10	See notes 2, 3 & 4
Length	feet	175	See notes 2, 3 & 4
Width	feet	20	See notes 2, 3 & 4
Side water depth	feet	11	See notes 2, 3 & 4
Total volume	cu ft	385,000	calculated[1]
Surface area per clarifier	sq ft	3,500	calculated[1]
Total surface area, all units in service	sq ft	35,000	calculated[1]
Peak overflow rate, all units in service	gpd/sq ft	2,400	See note 2
Peak capacity per clarifier	mgd	8.4	calculated[1]
Circular Primary Clarifiers			
Number	units	2	See notes 2, 3 & 4
Diameter	feet	100	See notes 2, 3 & 4
Side water depth	feet	9	See notes 2, 3 & 4
Total volume	cu ft	141,372	calculated[1]
Surface area per clarifier	sq ft	7,854	calculated[1]
Total surface area, all units in service	sq ft	15,708	calculated[1]
Peak overflow rate	gpd/sq ft	2,400	See notes 2 & 3
Peak capacity per clarifier	mgd	18.8	calculated[1]
Rectangular and Circular Primary Clarifiers			
Total peak flow capacity, all units in service	mgd	121.7	calculated[1]
Total annual average flow capacity, all units in service	mgd	48.7	calculated[1]
Total annual average flow capacity with one (largest) unit out of service	mgd	41.1	calculated[1]
Detention Time	hours	2.1	calculated[1]

Comment [dlb10]: 10 units*175 ft*20 ft*11 ft = 385,000 cu ft

Comment [dlb11]: 175 ft*20 ft = 3,500 sq ft

Comment [dlb12]: 10 units*3,500 sq ft/unit = 35,000 sq ft

Comment [dlb13]: 2,400 gpd/sq ft*35,000 sq ft = 8.4 mgd

Comment [dlb14]: $\pi/4*(100\ ft)^2 * 9\ ft*2$ units = 141,372 cu ft

Comment [dlb15]: $\pi/4*(100\ ft)^2 = 7,854$ sq ft

Comment [dlb16]: 2 units*7,854 sq ft/unit = 15,708 sq ft

Comment [dlb17]: 2,400 gpd/sq ft*7,854 sq ft = 18.8 mgd

Comment [dlb18]: (35,000 sq ft+15,708 sq ft)*2400 gpd/sq ft = 121.7 mgd

Comment [dlb19]: 121.7 mgd/2.5 peaking factor = 48.7 mgd

Comment [dlb20]: ((35,000 sq ft+7,854 sq ft)*2400 gpd/sq ft)/2.5 peaking factor = 41.1 mgd

Comment [dlb21]: ((141,372+385,000) sq ft*7.48 gal/sq ft)/(44,000,000 gpd*(1 day/24 hr)) = 2.1 hr

Table 4-8
Primary Treatment Design Data

Parameter	Units	Value	Reference
at annual average flow, all units in service			
BOD Removal	percent	45	See note 5
TSS Removal	percent	70	See note 5

1. For more information on calculated values, see comments in right margin.
2. Black & Veatch, 1996.
3. Carollo Engineers, 2002.
4. James M. Montgomery Consulting Engineers, 1985 & 1987.
5. Parsons, 2003.

Table 4-9
Chemical Facilities Serving Primary Treatment Design Data

Parameter	Units	Value	Reference
Ferric Chloride Storage and Feed Facilities			
Storage Tanks			
Number	units	1	See note 2
Total storage volume	gal	13,000	See note 4
Feed Pumps			
Number	units	2	See note 2
Ferric chloride dosage	mg/L	13	See note 2
Total ferric chloride use	lbs/day	5,137	calculated[1]
Polymer Storage and Feed Facilities			
Storage Tanks			
Number	units	2	See note 4
Storage, each	gal	275	See note 2
Total storage volume	gal	550	See note 4
Feed Pumps			
Number	units	1	See note 2
Polymer dose	mg/L	0.10	See note 4

Comment [dlb22]: 14 mg/L*44 mgd*8.34 lb/mil gal/mg/L = 5,137 lb/day

1. For more information on calculated values, see comment in right margin.
2. Black & Veatch, 1996.
3. Polymer Storage Tanks are 275 gallon totes.
4. IEUA, 2009a.

Table 4-10
Primary Treatment Capacity

Process	Peak Capacity (mgd)	Annual Average Capacity Without Redundancy (mgd)	Title 22 Reliable Annual Average Capacity (mgd)
Primary Clarifiers	121.7	48.7[1]	48.7[2]

1. Peak Capacity/Peaking Factor = 121.7/2.5 = 48.7
2. See Section 4 discussion regarding reliable capacity.

Comment [dlb23]: (8.4 mgd/unit*10 units)+(18.8 mgd/unit*2 units) = 121.7 mgd

Table 4-11
Flow Equalization, Short-Term Storage & Intermediate Pumping Design Data

Parameter	Units	Value	Reference
Flow Equalization			
Number of basins	units	2	See note 2
Volume per basin	mil gal	1 @ 5.82, 1 @ 6.18	See note 5
Total volume	mil gal	12.0	See note 5
Short-Term Storage			
Number of basins	units	1	See note 2
Volume	mil gal	10.28	See note 5
Volume as a percent of annual average flow	percent	23	calculated[1]
Equalization and Storage Volume Required at PWWF	mil gal	21	calculated[1]
Intermediate Pumping			
Intermediate Pump Station No. 1			
Number of pumps	units	6	See note 4
Type of pumps		Vertical, Mixed Flow	See note 4
Capacity per pump	mgd	8	See notes 3 & 4
Total Discharge Head	ft	31	See note 4
Motor, each	hp	60	See note 4
Motor Drive	number and type	4 - Variable Frequency	See note 4
Intermediate Pump Station No. 2			

Comment [dlb24]: 10.28 mgd/44 mgd = 23%

Comment [dlb25]: Using Sine Wave Method from EPA, 1979, required equalization volume as a percent of Annual Average Flow = ((PWWF-AAF)-1)/π = ((110 mgd/44 mgd) – 1)/π= 47.75% of 44 mgd = 21 mil gal

Table 4-11
Flow Equalization, Short-Term Storage & Intermediate Pumping
Design Data

Parameter	Units	Value	Reference
Number of pumps	units	4	See note 4
Type of pumps		Vertical, Mixed Flow	See note 4
Capacity per pump	mgd	8	See notes 3 & 4
Total Discharge Head	ft	33	See note 4
Motor, each	hp	75	See note 4
Motor Drive	number and type	2 – Variable Frequency	See note 4

1. For more information on calculated values, see comments in right margin.
2. Black & Veatch, 1996.
3. James M. Montgomery Consulting Engineers, 1985 & 1987.
4. Parsons, 2003.
5. IEUA 2009a.

Table 4-12
Intermediate Pumping Capacity

Process	Peak Capacity (mgd)	Annual Average Capacity Without Reliability (mgd)	Title 22 Reliable Annual Average Capacity (mgd)
Intermediate Pumping	80.0	58.8[1]	47.1[2]

1. Peak capacity/secondary peak factor = 80.0/1.36 = 58.8
2. Peak capacity with two pumps out of service/secondary peak factor = (80.0-16)/1.36 = 47.1

Table 4-13
Secondary Treatment Operational Parameters for Systems A and B

Parameter	Units	Value	Reference
Suspended Growth Systems A, B[1]			
Influent Flow per System	percent	32	See notes 3 & 4
Influent Annual Average Flow per System	mgd	14.1	calculated[2]
Influent PWWF per System	mgd	19.2	calculated[2]
Peaking factor	units	1.36	See note 5
Average influent BOD	mg/L	131	calculated[2]
Average influent TSS	mg/L	96	calculated[2]
Average influent TKN	mg/L	32	calculated[2]
Peak month influent BOD	mg/L	184	calculated[2]
Peak month influent TSS	mg/L	163	calculated[2]
Peak month influent TKN	mg/L	38	calculated[2]
Anoxic zone per System			
Number of basins	units	2	See note 3
Length	feet	120	See note 3
Width	feet	60	See note 3
Side water depth	feet	17.8	See note 3
Total volume	gallons	1,917,300	calculated[2]
Number of anoxic mixers	units	2	See note 3
Mixer motor, each	horsepower	20	See note 3
Oxic (aeration) zone per System			
Number of basins	units	2	See note 3
Length	feet	120	See note 3
Width	feet	60	See note 3
Side water depth	feet	17.8	See note 3
Total volume	gallons	1,917,300	calculated[2]
Average mixed liquor suspended solids	mg/L	4,200	See note 6
Dissolved oxygen level	mg/L	2.0	See note 6
Aeration type		Fine bubble panels	See note 3 & 7
Hydraulic retention time at annual average flow	hours	6.5	calculated[2]
Solids retention time (total including anoxic zone)	days	18	See note 6
Secondary solids	lb TSS/lb BOD_5	0.35	See note 6

Comment [dlb26]: 44 mgd*0.32 = 14.1 mgd

Comment [dlb27]: 14.1 mgd * 1.36 peaking factor = 19.2 mgd

Comment [dlb28]: 239 mg/L * (1-0.45 removal rate in primaries) = 131 mg/L

Comment [dlb29]: 321 mg/L * (1-0.70 removal rate in primaries) = 96 mg/L

Comment [dlb30]: Estimated based on ratio of 1996 & 2004 TKN data – see below.

Comment [dlb31]: 334 mg/L * (1-0.45 removal rate in primaries) = 184 mg/L

Comment [dlb32]: 544 mg/L * (1-0.70 removal rate in primaries) = 163 mg/L

Comment [dlb33]: Estimated based on ratio of 1996 & 2004 TKN data – see below.

Comment [dlb34]: 120 ft*60 ft*17.8 ft*7.48 gal/cu ft * 2 units = 1,917,300 gal

Comment [dlb35]: 120 ft*60 ft*17.8 ft*7.48 gal/cu ft * 2 units = 1,917,300 gal

Comment [dlb36]: ((1,917,300+1,917,300) gal) / (14,100,000 gpd * (1 day/24 hr) = 6.5 hrs

1. Systems A and B are identical. One system is shown in table above.
2. For more information on calculated values, see comments in right margin.

3. Black & Veatch, 1996.
4. IEUA, 1996.
5. IEUA, 2002-2004.
6. Parsons, 2003.
7. Cathcart Garcia Von Langen Engineers, 1996.

Average TKN estimated based on:

	1996	2004	
Raw Influent TKN	38.5 mg/L	43 mg/L	
Secondary Influent TKN	28.6 mg/L	x	x = 32 mg/L (est.)

Peak month TKN estimated based on:

	1996	2004	
Raw Influent TKN	42 mg/L	48 mg/L	
Secondary Influent TKN	33.3 mg/L	x	x = 38 mg/L (est.)

Table 4-14
Secondary Clarifier Design Criteria for Systems A and B

Parameter	Units	Value	Reference
Clarifiers for Systems A, B[1]			
Influent Flow per System	percent	32	See notes 3 & 4
Influent Annual Average Flow per System	mgd	14.1	calculated[2]
Influent PWWF per System	mgd	19.2	calculated[2]
Peaking factor	units	1.36	See note 5
Number per System	units	2	See notes 3, 6 & 7
Diameter	feet	120	See notes 3, 6 & 7
Side water depth	feet	14	See notes 3, 6 & 7
Surface area per clarifier	sq ft	11,310	calculated[2]
Total surface area	sq ft	22,619	calculated[2]
Volume per clarifier	gallons	1,184,500	calculated[2]
Total volume	gallons	2,369,000	calculated[2]
Average overflow rate, all units in service	gpd/sq ft	700	See note 3
Detention time at Annual Average Flow, all units in service	hours	4.0	calculated[2]
Average solids loading rate	lbs/day/sq ft	42	See note 8
Return Activated Sludge	mg/L	8,400	See note 8
Annual average flow capacity	mgd	15.8	calculated[2]

Comment [dlb37]: 44 mgd*0.32 = 14.1 mgd

Comment [dlb38]: 14.1 mgd * 1.36 peaking factor = 19.2 mgd

Comment [dlb39]: π/4*(120 ft)^2 = 11,310 sq ft

Comment [dlb40]: 2 units* π/4*(120 ft)^2 = 22,619 sq ft

Comment [dlb41]: 11,310 sq ft*14ft*7.481 gal/cu ft = 1,184,500 gal

Comment [dlb42]: 2 units*1,184,500 gal/unit = 2,369,000 gal

Comment [dlb43]: 2,369,000 gal/(14,100,000gpd*(1 day/24 hr)) =4.0 hrs

Comment [dlb44]: 700 gpd *22,619 sq ft = 15.8 mgd

1. Systems A and B are identical. One system shown in table above.
2. For more information on calculated values, see comments in right margin.
3. Black & Veatch, 1996.
4. IEUA, 1996.
5. IEUA, 2002-2004.
6. Carollo Engineers, 1993.
7. James M. Montgomery Consulting Engineers, 1885 & 1987.
8. Parsons, 2003.

Table 4-15
Secondary Treatment Operational Parameters for System C

Parameter	Units	Value	Reference
Suspended Growth System C			
Influent Flow	percent	36	See notes 2 & 3
Influent Annual Average Flow	mgd	15.9	calculated[1]
Influent PWWF	mgd	21.6	calculated[1]
Peaking factor	units	1.36	See note 4
Average influent BOD	mg/L	131	calculated[1]
Average influent TSS	mg/L	96	calculated[1]
Average influent TKN	mg/L	32	calculated[1]
Peak month influent BOD	mg/L	184	calculated[1]
Peak month influent TSS	mg/L	163	calculated[1]
Peak month influent TKN	mg/L	38	calculated[1]
Anoxic zone per System			
Number of basins	units	2	See note 2
Length	feet	120	See note 2
Width	feet	60	See note 2
Side water depth	feet	17.8	See note 2
Total volume	gallons	1,917,300	calculated[1]
Number of anoxic mixers	units	2	See note 2
Mixer motor, each	horsepower	20	See note 2
Oxic (aeration) zone per System			
Number of basins	units	2	See note 2
Length	feet	120	See note 2
Width	feet	60	See note 2
Side water depth	feet	17.8	See note 2
Total volume	gallons	1,917,300	calculated[1]
Average mixed liquor suspended solids	mg/L	4,200	See note 5
Dissolved oxygen level	mg/L	2.0	See note 5
Aeration type		Fine bubble panels	See notes 2 & 6
Hydraulic retention time at annual average flow	hours	5.8	calculated[1]
Solids retention time (total including anoxic zone)	days	18	See note 5
Secondary solids	lb TSS/lb BOD_5	0.35	See note 5

Comment [dlb45]: 44 mgd*0.36 = 15.9 mgd

Comment [dlb46]: 15.9 mgd * 1.36 peaking factor = 21.6 mgd

Comment [dlb47]: 239 mg/L * (1-0.45 removal rate in primaries) = 131 mg/L

Comment [dlb48]: 321 mg/L * (1-0.70 removal rate in primaries) = 96 mg/L

Comment [dlb49]: See Table 4-13.

Comment [dlb50]: 334 mg/L * (1-0.45 removal rate in primaries) = 184 mg/L

Comment [dlb51]: 544 mg/L * (1-0.70 removal rate in primaries) = 163 mg/L

Comment [dlb52]: See Table 4-13.

Comment [dlb53]: 120 ft*60 ft*17.8 ft*7.48 gal/cu ft * 2 units = 1,917,300 gal

Comment [dlb54]: 120 ft*60 ft*17.8 ft*7.48 gal/cu ft * 2 units = 1,917,300 gal

Comment [dlb55]: ((1,917,300 +1,917,300) gal) / (15,900,000 gpd * (1 day/24 hr) = 5.8 hrs

1. For more information on calculated values, see comments in right margin.
2. Black & Veatch, 1996.
3. IEUA, 1996.

4. IEUA, 2002-2004
5. Parsons, 2003.
6. Cathcart Garcia Von Langen Engineers, 1996.

Table 4-16
Secondary Clarifier Design Criteria for System C

Parameter	Units	Value	Reference
Clarifiers for System C			
Influent Flow	percent	36	See notes 2 & 3
Influent Annual Average Flow	mgd	15.9	calculated[1]
Influent PWWF	mgd	21.6	calculated[1]
Peaking factor	units	1.36	See note 4
Number	units	2	See notes 2, 5 & 6
Diameter	feet	130	See notes 2, 5 & 6
Side water depth	feet	14	See notes 2, 5 & 6
Surface area per clarifier	sq ft	13,273	calculated[1]
Total surface area	sq ft	26,546	calculated[1]
Volume per clarifier	gallons	1,390,200	calculated[1]
Total volume	gallons	2,780,300	calculated[1]
Average overflow rate, all units in service	gpd/sq ft	700	See note 2
Detention time at Annual Average Flow, all units in service	hours	4.2	calculated[1]
Average solids loading rate	lbs/day/sq ft	42	See note 7
Return Activated Sludge	mg/L	8,400	See note 7
Annual average flow capacity	mgd	18.6	calculated[1]

Comment [dlb56]: 44 mgd*0.36 = 15.9 mgd

Comment [dlb57]: 15.9 mgd * 1.36 peaking factor = 21.6 mgd

Comment [dlb58]: π/4*(130 ft)^2 = 13,273 sq ft

Comment [dlb59]: 2 units*13,273 sq ft/unit = 26,546 sq ft

Comment [dlb60]: 13,273 sq ft*14ft*7.481 gal/cu ft = 1,390,200 gal

Comment [dlb61]: 2 units*1,390,200 gal/unit = 2,780,300 gal

Comment [dlb62]: 2,780,300 gal/(15,900,000gpd*(1 day/24 hr)) =4.2 hrs

Comment [dlb63]: 700 gpd *26,546 sq ft = 18.6 mgd

1. For more information on calculated values, see comments in right margin.
2. Black & Veatch, 1996.
3. IEUA, 1996.
4. IEUA, 2002-2004.
5. Carollo Engineers, 1993.
6. James M. Montgomery Consulting Engineers, 1985 & 1987.
7. Parsons, 2003.

Table 4-18
Return Activated Sludge Pumping Design Criteria

Parameter	Units	Value	Reference
Return Sludge (RAS) Pumps			
Number			
System A	units	3	See note 2
System B	units	3	See note 2
System C	units	3	See note 2
Total	units	9	See note 2
Type		Horizontal, non-clog	See note 2
Motor Drive	number and type	2 – Variable Frequency per System and 1- Constant per System	See note 2
Capacity range per pump	gpm	0 – 5,600	See note 2
Total Discharge Head range	Ft	6 – 29	See note 2
Average rate of return	percent of flow	97	See note 3
Annual average capacity, all units in service			
System A	mgd	24.9	calculated[1]
System B	mgd	24.9	calculated[1]
System C	mgd	24.9	calculated[1]
Total	mgd	74.7	calculated[1]
Annual average capacity, one unit out of service			
System A	mgd	16.6	calculated[1]
System B	mgd	16.6	calculated[1]
System C	mgd	16.6	calculated[1]
Total	mgd	49.8	calculated[1]

1. For more information on calculated values, see comments in right margin.
2. James M. Montgomery Consulting Engineers, 1985 & 1987.
3. Parsons, 2003.

Comment [dlb64]: (5600 gpm/pump*3 pumps)/(694.44 gpm/mgd*0.97 rate of return) = 24.9 mgd

Comment [dlb65]: (5600 gpm/pump*3 pumps)/(694.44 gpm/mgd*0.97 rate of return) = 24.9 mgd

Comment [dlb66]: (5600 gpm/pump*3 pumps)/(694.44 gpm/mgd*0.97 rate of return) = 24.9 mgd

Comment [dlb67]: 24.9 mgd+24.9 mgd+24 9 mgd = 74.7 mgd

Comment [dlb68]: (5600 gpm/pump*2 pumps)/(964.44 gpm/mgd*0.97 rate of return) = 16.6 mgd

Comment [dlb69]: (5600 gpm/pump*2 pumps)/(964.44 gpm/mgd*0.97 rate of return) = 16.6 mgd

Comment [dlb70]: (5600 gpm/pump*2 pumps)/(964.44 gpm/mgd*0.97 rate of return) = 16.6 mgd

Comment [dlb71]: 16.6 mgd+16.6 mgd+ 16.6 mgd = 49.8 mgd

Table 4-19
Waste Activated Sludge Pumping Design Criteria

Parameter	Units	Value	Reference
Waste Sludge (WAS) Pumps			
Number			
Systems A & B (combined)	units	3	See note 2
System C	units	2	See note 2
Type		Horizontal, non-clog	See note 2
Motor Drive	type	Variable Frequency	See note 2
Capacity range per pump	gpm, each	0 – 600	See note 5
Head range	ft	6 – 36	See note 2
Average rate of secondary solids wasting	percent of flow	3	See note 3
Annual average capacity, all units in service			
Systems A & B (combined)	mgd	86.4	calculated[1]
System C	mgd	57.6	calculated[1]
Total	mgd	144.0	calculated[1]
Annual average capacity, one unit out of service			
Systems A & B (combined)	mgd	57.6	calculated[1]
System C	mgd	28.8	calculated[1]
Total	mgd	86.4	calculated[1]

1. For more information on calculated values, see comments in right margin.
2. James M. Montgomery Consulting Engineers, 1985 & 1987.
3. Parsons, 2003.
4. Black & Veatch, 1996.
5. IEUA, 2009a.

Comment [dlb72]: (600 gpm/pump * 3 pumps)/(694.44 gpm/mgd *0.03 rate of wasting) = 86.4 mgd

Comment [dlb73]: (600 gpm/pump * 2 pumps)/(694.44 gpm/mgd *0.03 rate of wasting) = 57.6 mgd

Comment [dlb74]: 86.4 mgd+57.6 mgd = 144.0 mgd

Comment [dlb75]: (600 gpm/pump * 2 pumps)/(694.44 gpm/mgd *0.03 rate of wasting) = 57.6 mgd

Comment [dlb76]: (600 gpm/pump * 1 pumps)/(694.44 gpm/mgd *0.03 rate of wasting) = 28.8 mgd

Comment [dlb77]: 57.6 mgd+28.8 mgd = 86.4 mgd

Table 4-21
Flocculation/Clarification Facility Design Criteria

Parameter	Units	Value	Reference
Tertiary Plant Intake Pumping Station			
Number of pumps	units	2	See note 2
Capacity per pump	gpm	13,889	See note 2
Total capacity, all units in service	mgd	40	See note 2
Firm capacity, one unit out of service	mgd	20	See note 2
Coagulation/Flocculation/Clarification			
Average waste washwater flow	mgd	4	See note 3
Number of flocculation basins	units	2	See note 2
Volume per flocculation basin	cu ft	37,000	See note 2
Total volume	cu ft	74,000	See note 2
Detention time	minutes	15-20	See note 2
Alum storage and feed			
Storage	gallons	80,000	See note 2
Average dose	mg/L	5	See note 2
Average feed rate	lb/day	250	See note 2
Number of pumps	units	4	See note 2
Maximum capacity per pump	gph	0-60	See note 2
Polymer storage and feed		not used	See note 2
Number of flocculation clarifiers	units	2	See note 2
Length	ft	120	See note 2
Width	ft	39.3	See note 2
Side water depth	ft	12	See note 2
Surface area per clarifier	sq ft	4,716	calculated[1]
Total surface area	sq ft	9,432	calculated[1]
Overflow rate at average flow	gpd/sq ft	424	calculated[1]

1. For more information on calculated values, see comments in right margin.
2. Black & Veatch, 1996.
3. IEUA, 2002-2004.

Comment [dlb78]: 120 ft*39.3 ft = 4,716 sq ft

Comment [dlb79]: 2 units*4,716 sq ft/unit = 9432 sq ft

Comment [dlb80]: 4,000,000 gpd/9,432 sq ft = 424 gpd/sq ft

Table 4-22
Tertiary Filtration Design Criteria

Parameter	Units	Value	Reference
Influent annual average flow	mgd	44.0	See notes 3 & 4
Influent peak dry weather flow	mgd	51.9	calculated[1]
Dry weather peaking factor	units	1.18[2]	See note 5
Total number of filters	units	26	See notes 4 & 6
Length per filter	feet	24.3	See notes 4 & 6
Width per filter	feet	12.3	See notes 4 & 6
Surface area per filter	sq ft	299	calculated[1]
Media	type	dual	See notes 4, 6 & 7
Depth	inches	anthracite: 24 sand: 12 gravel: 18	See notes 4, 6 & 7
Effective size	millimeters	anthracite:1.1-1.25 sand: 0.5-0.6	See notes 4, 6 & 7
Uniformity coefficient		1.4 – 1.5	See notes 43, 6 & 7
Number of filter banks	banks	3	See notes 4 & 7
Filter Bank No. 1			
Number of filters	units	8	See notes 4 & 7
Bank surface area, all units in service	sq ft	2,392	calculated[1]
Filter Bank No. 2			
Number of filters	units	9	See notes 4 & 7
Bank surface area, all units in service	sq ft	2,691	calculated[1]
Filter Bank No. 3			
Number of filters	units	9	See notes 4 & 7
Bank surface area, all units in service	sq ft	2,691	calculated[1]
Filtration Process as a Whole (Filter Bank Nos. 1, 2 & 3)			

Comment [dlb81]: 44 mgd*1.18 peaking factor = 51.9 mgd

Comment [dlb82]: 24.3 ft*12.3 ft = 299 sq ft

Comment [dlb83]: 8 units*299 sq ft/unit = 2,392 sq ft

Comment [dlb84]: 9 units*299 sq ft/unit = 2,691 sq ft

Comment [dlb85]: 9 units*299 sq ft/unit = 2,691 sq ft

Table 4-22
Tertiary Filtration Design Criteria

Parameter	Units	Value	Reference
Total surface area, all units in service	sq ft	7,771	calculated[1]
Firm surface area, two units out of service (one in backwash and one out for maintenance)	sq ft	7,173	calculated[1]
Filtration rate at peak dry weather flow, all units in service	gpm/sq ft	4.6	calculated[1]
Filtration rate at peak dry weather flow, two units out of service (one in backwash and one out for maintenance)	gpm/sq ft	5.0	calculated[1]
Maximum capacity, all units in service at 5 gpm/sq ft	mgd	55.9	calculated[1]
Annual average capacity, all units in service at 5 gpm/sq ft	mgd	47.4	calculated[1]
Maximum capacity (Title 22 reliable capacity), two units out of service (one in backwash and one out for maintenance)	mgd	51.9	calculated[1]
Annual average capacity (Title 22 reliable capacity), two units out of service (one in backwash and one out for maintenance	mgd	44.0	calculated[1]
Filter backwash rate	gpm/sq ft	18.5	See note 7
Waste washwater holding basin and pumps			
Volume	gallons	780,000	See note 4
Number of pumps	units	3	See note 4
Capacity per pump	gpm	3,900	See note 4
Total capacity	gpm	11,700	calculated[1]

Comment [dlb86]: 2,392 sq ft+2,691 sq ft+2,691 sq ft = 7,771 sq ft

Comment [dlb87]: (26-2 units)*24.3 ft*12.3 ft = 7,173 sq ft

Comment [dlb88]: (51.9 mgd*694.44 gpm/mgd)/7771 sq ft = 4.6 gpm/sq ft

Comment [dlb89]: (51.9 mgd*694.44 gpm/mgd)/7,173 sq ft = 5.0 gpm/sq ft

Comment [dlb90]: (7771 sq ft*5 gpm/sq ft)/694.44 gpm/mgd = 55.9 mgd

Comment [dlb91]: 55.9 mgd/1.18 peaking factor = 47.4 mgd

Comment [dlb92]: (7,173 sq ft*5 gpm/sq ft)/694.44 gpm/mgd = 51.9 mgd

Comment [dlb93]: 51.9 mgd/1.18 peaking factor = 44.0 mgd

Comment [dlb94]: 3 units*3,900 gpm/unit = 11,700 gpm

1. For more information on calculated values, see comments in right margin.
2. During peak wet weather flow events, the filters may be bypassed and secondary effluent may be discharged when the receiving water provides at least 20:1 dilution. See filtration capacity discussion in Section 4.
3. RWQCB, 2009a.
4. Black & Veatch, 1996.
5. Carollo Engineers, 2002.
6. Parsons, 2003.

7. James M. Montgomery Consulting Engineers, 1985 & 1987.

Table 4-23
Tertiary Filtration Capacity

Process	Peak Capacity (mgd)	Annual Average Capacity Without Reliability (mgd)	Title 22 Reliable Annual Average Capacity (mgd)
Filtration as a whole	55.9[1]	47.4[2]	44.0[3,4]

1. Based on a maximum filtration rate of 5 gpm/sq ft. with 26 of 26 filters in service.
2. 55.9 mgd /1.18 peaking factor = 47.4 mgd (with 26 of 26 filters in service).
3. Based on a maximum filtration rate of 5 gpm/sq ft with 24 of 26 filters in service (one filter in backwash and one filter off-line).
4. See discussion in Section 4 regarding reliable capacity.

Comment [dlb95]: 55.9 mgd/1.18 peaking factor = 47.4 mgd

Table 4-24
Sodium Hypochlorite System Design Criteria

Parameter	Units	Value	Reference
Sodium hypochlorite concentration	percent	12.5	See note 2
Maximum dose @ average flow	mg/L	20	See note 2
Minimum residual	mg/L	5	See note 2
Days of storage	days	3	See note 2
Bulk Storage System			
Number of tanks	units	3	See note 2
Volume per tank	gallons	10,000	See note 2
Total volume	gallons	30,000	See note 2
Feed System			
Number of metering pumps	units	4	See note 3
Capacity per pump	gph	100	See note 3
Capacity			
Feed rate	gpd	10,000	See note 2
Peak capacity at 10 mg/L federate	mgd	115.1	calculated[1]
Annual average flow, all units in service	mgd	78	See note 2
Annual average flow, one pump out of service	mgd	58.5	calculated[1]

1. For more information on calculated values, see comments in right margin.
2. Parsons, 2003.
3. CH2M-Hill, 2003.

Comment [dlb96]: ((4 units*100 gph/unit*24 hr/day)*1.0 lb/gal) / ((8.34 lb/day/mg/L mgd)* 10 mg/L) = 115.1 mgd

Comment [dlb97]: (3 pumps / 4 pumps) * 78 mgd = 58.5 mgd

Table 4-25
Chlorine Contact Tanks No. 1 & 2 Operating Parameters

Parameter	Units	Value	Reference
Existing Chlorine Contact Tank Nos. 1 and 2			
Length per tank	feet	310.3	See note 2
Width per tank (5 channels)	feet	41.67	See note 2
Side water depth	feet	13.5	See note 2
Volume per tank	gallons	1,305,692	calculated[1]
Total volume	gallons	2,611,383	calculated[1]
Channel width	feet	8.3	See note 2
Effective length	feet	1,551	calculated[1]
Length : width	ratio	187 : 1	calculated[1]
Length : depth	ratio	115 : 1	calculated[1]
Required modal contact time	minutes	90	See note 3
Required CT	mg-min/L	450	See note 3
Peaking factor	units	1.18	See note 4
Peak capacity, all units in service	mgd	41.3	calculated[1]
Annual average capacity, all units in service	mgd	35	See note 4

Comment [dlb98]: 310.3 ft*41.67 ft*13.5 ft*7.48gal/cu ft = 1,305,692 gal

Comment [dlb99]: 2 tanks*1,305,692 gal/tank = 2,611,383 gal

Comment [dlb100]: 5 passes *310.3 ft = 1,551 ft

Comment [dlb101]: 1,551 ft / 8.3 ft = 187

Comment [dlb102]: 1,551 ft / 13.5 ft = 115

Comment [dlb103]: 35 mgd * 1.18 peaking factor = 41.3 mgd

1. For more information on calculated values, see comments in right margin.
2. Black & Veatch, 1996.
3. RWQCB, 2009a.
4. Carollo Engineers, 2002.

Table 4-26
Chlorine Contact Tank No. 3 Operating Parameters

Parameter	Units	Value	Reference
New Chlorine Contact Tank No. 3			
Length	feet	2 channels @ 309.7, 1 channel @ 259.4	See note 2
Width (all 3 channels)	feet	38.0	See note 2
Side water depth	feet	13.13	See note 2
Total volume	gallons	1,093,682	calculated[1]
Channel width	feet	12.67	See note 2
Effective length	feet	879	calculated[1]
Length : width	ratio	69 : 1	calculated[1]
Length : depth	ratio	67 : 1	calculated[1]
Required modal contact time	minutes	90	See note 3
Required CT	mg-min/L	450	See note 3
Peaking factor	units	1.18	See note 2
Peak capacity	mgd	17.5	calculated[1]
Annual average capacity	mgd	14.8	calculated[1]

1. For more information on calculated values, see comments in right margin.
2. Carollo Engineers, 2002.
3. RWQCB, 2009a.

Comment [dlb104]: (309.7 ft+309.7 ft+259.4 ft) * 12.67 ft * 13.13 ft) * 7.48 gal/cu ft = 1,093,682 gal

Comment [dlb105]: 309.7 ft + 309.7 ft + 259.4 ft = 879 ft

Comment [dlb106]: 879 ft / 12.67 ft = 69

Comment [dlb107]: 879 ft / 13.13 ft = 67

Comment [dlb108]: (1,093,682 gal/90 minutes) / 694.44 gpm/mgd = 17.5 mgd

Comment [dlb109]: 17.5 mgd/1.18 peaking factor = 14.8 mgd

Table 4-28
Dechlorination Design Criteria

Parameter	Units	Value	Reference
Influent Average Dry Weather Flow	mgd	44.0	See note 2
Influent Peak Wet Weather Flow	mgd	55.4	See note 4
Average Sodium Bisulfite Dose	mg/L	14	See note 3
Average Sodium Bisulfite Feed Rate	lbs/day	5,137	calculated[1]
Average Sodium Bisulfite Use	gpd	1,223	calculated[1]
Maximum Sodium Bisulfite Dose	mg/L	30	See note 3
Maximum Sodium Bisulfite Feed Rate	lbs/day	11,009	calculated[1]
Maximum Sodium Bisulfite Use	gpd	2,621	calculated[1]
Sodium Bisulfite Storage			
Number of tanks	units	2 @ RP-1 2 @ Prado	See note 3
Volume per tank	gallons	12,500 @ RP-1 6,500 @ Prado	See note 3
Total storage	gallons	25,000 @ RP-1 13,000 @ Prado	See note 3
Sodium Bisulfite Feed Pumps			
Number of pumps	units	4 @ RP-1 3 @ Prado	See note 3
Capacity per pump	gph	90@ RP-1 85 @ Prado	See note 7
Peak Capacity	mgd	145 @ RP-1 103 @ Prado	calculated[1]
Annual Average Capacity Without Reliability	mgd	115 @ RP-1 82 @ Prado	calculated[1]
Title 22 Reliable Annual Average Capacity	mgd	86 @ RP-1 54 @ Prado	calculated[1]
Dechlorination Chamber (North)			
Overall Footprint	ft x ft	14.5 x 74.0	See note 3
Approximate depth	ft	9.25	See note 3

Comment [dlb110]: 14 mg/L*44 mgd*8.34 lb/mg/L mil gal = 5,137 lb/d

Comment [dlb111]: For 38% NaHSO3, (5,137 lb/d)/(11 lb/gal*0.38) = 1,223 gpd

Comment [dlb112]: 30 mg/L*44 mgd*8.34 lb/mg/L mil gal = 11,009 lb/d

Comment [dlb113]: For 38% NaHSO3, (11.009 lb/d)/(11 lb/gal*0.38) = 2,621 gpd

Comment [JL114]: @ RP1 = (90 gph per pump * 24 hr/d * 4.2 lbs/gal for $NaHSO_3$ * 4 pumps) / (30 mg/L * 8.34 lb/MG / mg/L = 145 mgd

@ Prado = (85 gph per pump * 24 hr/d * 4.2 lbs/gal for $NaHSO_3$ * 3 pumps) / (30 mg/L * 8.34 lb/MG / mg/L = 103 mgd

Comment [JL115]: 145 mgd /1.26 peaking factor = 115 mgd [4 pumps in service]

103 mgd /1.26 peaking factor = 82 mgd [3 pumps in service]

Comment [JL116]: 115 mgd * (3/4) = 86 mgd [3 pumps in service]

82 mgd * (2/3) = 54 mgd [2 pumps in service]

Mixer Motor	hp	1.5	See note 3
Mixer Motor Speed	rpm	125	See note 3
Chamber volume	gallons	74,241	calculated[1]
Dechlorination Chamber (South)			
Overall Footprint	ft x ft	14.0 x 30.0	See note 3
Approximate depth	ft	6.0	See note 3
Chamber volume	gallons	18,850	calculated[1]
Total volume	gallons	93,091	calculated[1]
Detention time for dechlorination	min	5	See note 5
Peaking factor	units	1.18	See note 6
Peak capacity	mgd	26.8	calculated[1]
Annual average capacity	mgd	22.7	calculated[1]

Comment [JL117]: 14.5'*74.0'*9.25' * 7.48 gal/ft^3 = 74,241 gallons

Comment [JL118]: 14.0*30.0*6.0*7.48 gal/ft^3 = 18,850 gallons

Comment [JL119]: 74,241+18,850 = 93,091 gallons

Comment [JL120]: ((93,091 gallons/5 min)*(1440 min/day)*(1 mgd/10^{6}g))= 26.81 mgd

Comment [JL121]: 26.8mgd/1.18 peaking factor = 22.7 mgd

1. For more information on calculated values, see comments in right margin.
2. RWQCB, 2009a.
3. Black & Veatch, 1996.
4. IEUA, 2002-2004.
5. MWH, 2007.
6. Carollo Engineers, 2002.
7. IEUA, 2009a.

Table 4-29
Chlorination/Dechlorination Capacity

Process	Peak Capacity (mgd)	Annual Average Capacity Without Reliability (mgd)	Title 22 Reliable Annual Average Capacity (mgd)
Sodium hypochlorite	98.3	78	58.5
Chlorine Contact Tank Nos. 1 and 2	41.3	35.0	35.0[2]
Chlorine Contact Tank No. 3	17.5	14.8	14.8[2]
Total near-term contact[3]	58.8	49.8	49.8[2]
Dechlorination @ TP-1 (Discharge 002)	145	115	86
Dechlorination @ Prado Lake (Discharge Point 001)	103	82	54

1. Total existing contact capacity is the sum of the capacities of Chlorine Contact Tank Nos. 1 and 2 and Discharge Point 001.
2. See discussion in Section 4 regarding reliable capacity.
3. Total capacity is the sum of the capacities of Chlorine Contact Tank Nos. 1, 2, and 3.

Table 4-30
Recycled Water Pump Station Design Criteria

Parameter	Units	Value	Reference
South Zone Pump Station			
Pressure Zone	feet	930	See note 3
Capacity of Pump Station	mgd	34.5	See note 3
Number	units	3	See note 3
Type	type	Peerless Pump, Sterling: Vertical Turbine	See note 3
Motor horsepower, each	hp	150	See note 3
Rated Capacity per pump	gpm	2790	See note 3
Rated Head @ 1770 rpm	feet	170	See note 3
Motor Drive	type	Variable Frequency	See note 3
Number	units	1	See note 3
Type	type	Peerless Pump, Sterling: Vertical Turbine	See note 3
Motor horsepower, each	hp	500	See note 3
Rated Capacity per pump	gpm	9330	See note 3
Rated Head @ 1170 rpm	feet	170	See note 3
Motor Drive	type	Variable Frequency	See note 3
Philadelphia Pump Station			
Pressure Zone	feet	1050	See note 3
Capacity of Pump Station	mgd	13.5	See note 3
Number	units	3	See note 3
Type	type	Peerless Pump, Sterling: Vertical Turbine	See note 3
Motor horsepower, each	hp	300	See note 3
Rated Capacity per pump	gpm	3750	See note 3
Rated Head @ 1780 rpm	feet	260	See note 3
Motor Drive	type	Variable Frequency	See note 3
Zone 2B Pump Station			
Pressure Zone	feet	1158	See note 3
Capacity of Pump Station	mgd	16.0	See note 3
Number	units	4	See note 3
Type	type	Peerless Pump, Sterling: Vertical Turbine	See note 3
Motor horsepower, each	hp	400	See note 3

Table 4-30
Recycled Water Pump Station Design Criteria

Parameter	Units	Value	Reference
Rated Capacity per pump	gpm	2700	See note 3
Rated Head @ 1780 rpm	feet	470	See note 3
Motor Drive	type	Variable Frequency	See note 3
Outfall Pump Station			
Pressure Zone	feet	RP-1 Utility	See note 3
Capacity of Pump Station	mgd	7.8	See note 3
Number	units	2	See note 3
Type	type	Centrifugal Pump	See note 3
Motor horsepower, each	hp	150	See note 3
Rated Capacity per pump	gpm	1,500	See note 3
Motor Drive	type	Constant	See note 3
Number	units	3	See note 3
Type	type	Centrifugal Pump	See note 3
Motor horsepower, each	hp	75	See note 3
Rated Capacity per pump	gpm	800	See note 3
Motor Drive	type	Constant	See note 3

1. For more information on calculated values, see comments in right margin.
2. Standby capacity will be provided by a Zone 2B pressure reducing valve that interties the W3 system with the Zone 2B system.
3. IEUA, 2008b.

Table 4-31
Biosolids Thickening Design Criteria

Parameter	Units	Value	Reference
Gravity Thickeners			
Number	units	1	See note 2
Diameter	feet	70	See note 4
Water Depth	feet	14	See note 4
Total surface area	sq ft	3,848	calculated[1]
Primary solids loading rate	lbs/day/sq ft	22.5	See note 4
Thickened primary biosolids solids concentration	percent	6.0	See note 4
Average thickened primary biosolids flow	gpd	1,152,000	See note 4
Supernatant flow	mgd	1.2-2.3	See note 4
Thickened primary biosolids pumps			
Number	units	3	See note 2
Capacity per pump	gpm	1 @ 150 1 @ 50	See note 4
Total capacity	gpd	288,000	calculated[1]
Reliable capacity	gpd	72,000	calculated[1]
Dissolved Air Thickeners			
Number	units	3	See note 3
Length	feet	46.5	See note 3
Width	feet	15	See note 3
Total surface area	sq ft	2,100	calculated[1]
Solids loading rate	lbs/hr/sq ft	700-1,400	See note 4
Thickened WAS solids concentration	percent	5	See note 2
Average thickened WAS flow	gpd	178,000	See note 2
Subnatant flow	mgd	0.3-0.5	See note 2
Thickened WAS pumps			
Number	units	5	See note 4
Capacity per pump	gpm	200	See note 2
Total capacity	mgd	1.4	calculated[1]
Firm capacity	mgd	1.2	calculated[1]

Comment [dlb122]: $(\pi/4*(70\ ft)^2 = 3,848$ sq ft

Comment [dlb123]: (1 pumps*150 gpm)+(1 pump*50 gpm)*60 min/hr*24 hr/d = 288,000 gpd

Comment [dlb124]: 1 pump*50 gpm)*60 min/hr*24 hr/d = 72,000 gpd

Comment [dlb125]: 3 units*46.5 ft*15 ft = 2,100 sq ft

Comment [dlb126]: 5 units*200 gpm*60 min/hr*24 hr/d = 1.4 mgd

Comment [dlb127]: 4 units*200 gpm*60 min/hr*24 hr/d = 1.2 mgd

1. For more information on calculated values, see comments in right margin.
2. Black & Veatch, 1996.
3. James M. Montgomery Consulting Engineers, 1985 & 1987.
4. IEUA, 2009a.

Table 4-33
Solids Dewatering Design Criteria

Parameter	Units	Value	Reference
Solids Dewatering – Belt Filter Presses			
Digested solids pumps			
Number	units	4	See note 2
Capacity per pump	gpm	150	See note 2
Total capacity	gpm	600	calculated[1]
Firm capacity	gpm	450	calculated[1]
Digested solids (feed) concentration	percent	2.5	See note 2
Solids chemical conditioning system	type	polymer	See note 2
Belt filter presses			
Number	units	4	See notes 2 & 3
Nominal belt width	meters	2	See note 3
Hours of operation	hrs/day	12	See note 3
Average loading rate	gpm/meter	68	See note 2
Dewatered cake solids concentration	percent	15-20	See notes 4 & 5
Solids capture rate	percent	92-95	See note 3
Average washwater return flow	gpd	100,000	See note 3
Dewatered Solids Disposal			
Solids Production	wet tons/day	120-140	See note 3
Transportation mode		trucks	See note 3
Number of truckloads	trucks/day	6 – 7	See note 3
Disposal site		co-composting	See note 3

Comment [dlb128]: 4 pumps*150 gpm/pump = 600 gpm

Comment [dlb129]: (4-1 pumps) * 150 gpm/pump = 450 gpm

1. For more information on calculated values, see comments in right margin.
2. James M. Montgomery Consulting Engineers, 1985 & 1987.
3. Black & Veatch, 1996.
4. CH2M-Hill, 2003.
5. Parsons, 2003.

Appendix C

INLAND EMPIRE UTILITIES AGENCY

REGIONAL PLANT NO. 1

SUMMARY OF ALARMS

CP	COMPOUND	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
ABST12	AER_BLOWERS	BLOWER MCP COMM FAIL	BLOWER MCP COMM FAIL	BLOWER MCP COMM FAIL	BLOWER MCP COMM FAIL	1
ABST12	AER_BLOWERS	BLOWER MCP COMM FAIL	BLOWER MCP COMM OK	BLOWER MCP COMM FAIL	COMM FAIL	1
ABST12	AER_BLOWERS	MCP TO LCPS COMM FAIL	MCP TO LCP COMM FAIL	MCP TO LCP COMM FAIL	MCP TO LCP COMM FAIL	1
ABST12	AER_BLOWERS	MCP TO LCPS COMM FAIL	MCP TO LCP COMM OK	MCP TO LCP COMM FAIL	COMM FAIL	1
ABST12	AER_BLOWERS	BLOWER #1 ALARMS	NORMAL	FAILED	BLOWER #1	1
ABST12	AER_BLOWERS	LCP 1 PLC COMM FAIL	BLOWER 1 COMM LOST	BLOWER 1 COMM LOST	BLOWER 1 COMM LOST	1
ABST12	AER_BLOWERS	LCP 1 PLC COMM FAIL	BLOWER 1 COMM OK	BLOWER 1 COMM FAIL	COMM FAIL	1
ABST12	AER_BLOWERS	BLOWER #2 ALARMS	NORMAL	FAILED	BLOWER #2	1
ABST12	AER_BLOWERS	BLOWER 2 COMM FAIL	BLOWER 2 COMM FAIL	BLOWER 2 COMM FAIL	BLOWER 2 COMM FAIL	1
ABST12	AER_BLOWERS	BLOWER 2 COMM FAIL	BLOWER 2 COMM OK	BLOWER 2 COMM FAIL	COMM FAIL	1
ABST12	AER_BLOWERS	BLOWER #3 ALARMS	NORMAL	FAILED	BLOWER #3	1
ABST12	AER_BLOWERS	BLOWER 3 COMM FAIL	BLOWER 3 COMM FAIL	BLOWER 3 COMM FAIL	BLOWER 3 COMM FAIL	1
ABST12	AER_BLOWERS	BLOWER 3 COMM FAIL	BLOWER 3 COMM OK	BLOWER 3 COMM FAIL	COMM FAIL	1
ABST12	AER_BLOWERS	BLOWER #1 ALARMS	STOPPED	STARTED	BLOWER #1	5
ABST12	AER_BLOWERS	BLOWER #2 ALARMS	STOPPED	STARTED	BLOWER #2	5
ABST12	AER_BLOWERS	BLOWER #3 ALARMS	STOPPED	STARTED	BLOWER #3	5
CP6013	AER_SYS_A	TRAIN 1 AIR FLOW	BAD	SYS A AIR FLOW INPUT BAD	BAD I/O	1
CP6013	AER_SYS_A	TRAIN 1 BASIN 4 DO	BAD	T1 B4 DO INPUT BAD	BAD I/O	1
CP6013	AER_SYS_A	TRAIN 1 AIR FLOW	HIGH ALARM	HIGH ALARM	6000.0	2
CP6013	AER_SYS_A	TRAIN 1 AIR FLOW	ALARM TYPE	LOW ALARM	1200.0	2
CP6013	AER_SYS_A	TRAIN 1 BASIN 4 DO	ALARM TYPE	LOW ALARM	0.200000003	2
CP6013	AER_SYS_A	TRAIN 1 AIR FLOW	LOW LOW ALARM		0.0	5
CP6013	AER_SYS_A	TRAIN 1 AIR FLOW	HIGH HIGH ALARM		100.0	5
CP6013	AER_SYS_A	TRAIN 1 BASIN 4 DO	LOW LOW ALARM	LOW LOW ALARM	0.050000001	5
CP6013	AER_SYS_A	TRAIN 2 AIR FLOW	BAD	T2 AIR FLOW INPUT BAD	BAD I/O	1
CP6013	AER_SYS_A	TRAIN 2 BASIN 4 DO	BAD	T2 B4 DO INPUT BAD	BAD I/O	1
CP6013	AER_SYS_A	TRAIN 2 AIR FLOW	HIGH ALARM	HIGH ALARM	6000.0	2
CP6013	AER_SYS_A	TRAIN 2 AIR FLOW	ALARM TYPE	LOW ALARM	1500.0	2
CP6013	AER_SYS_A	TRAIN 2 BASIN 4 DO	ALARM TYPE	LOW ALARM	0.200000003	2
CP6013	AER_SYS_A	TRAIN 2 AIR FLOW	LOW LOW ALARM		0.0	5
CP6013	AER_SYS_A	TRAIN 2 AIR FLOW	HIGH HIGH ALARM		100.0	5
CP6013	AER_SYS_A	TRAIN 2 BASIN 4 DO	LOW LOW ALARM	LOW LOW ALARM	0.050000001	5
CP6013	AER_SYS_B	TRAIN 3 AIR FLOW	BAD	T3 AIR FLOW INPUT BAD	BAD I/O	1
CP6013	AER_SYS_B	TRAIN 3 BASIN 4 DO	BAD	T3 B4 DO INPUT BAD	BAD I/O	1
CP6013	AER_SYS_B	TRAIN 3 AIR FLOW	HIGH ALARM	HIGH ALARM	6000.0	2
CP6013	AER_SYS_B	TRAIN 3 AIR FLOW	ALARM TYPE	LOW ALARM	1500.0	2
CP6013	AER_SYS_B	TRAIN 3 BASIN 4 DO	ALARM TYPE	LOW ALARM	0.300000012	5
CP6013	AER_SYS_B	TRAIN 3 AIR FLOW	LOW LOW ALARM		0.0	5
CP6013	AER_SYS_B	TRAIN 3 AIR FLOW	HIGH HIGH ALARM		100.0	5
CP6013	AER_SYS_B	TRAIN 3 BASIN 4 DO	LOW LOW ALARM	LOW LOW ALARM	0.100000001	5
CP6013	AER_SYS_B	TRAIN 4 AIR FLOW	BAD	T4 AIR FLOW INPUT BAD	BAD I/O	1
CP6013	AER_SYS_B	TRAIN 4 BASIN 4 DO	BAD	T4 B4 DO INPUT BAD	BAD I/O	1
CP6013	AER_SYS_B	TRAIN 4 AIR FLOW	HIGH ALARM	HIGH ALARM	5500.0	2
CP6013	AER_SYS_B	TRAIN 4 BASIN 4 DO	ALARM TYPE	LOW ALARM	0.200000003	2
CP6013	AER_SYS_B	TRAIN 4 AIR FLOW	ALARM TYPE	LOW ALARM	0.0	2
CP6013	AER_SYS_B	TRAIN 4 AIR FLOW	LOW LOW ALARM		0.0	5
CP6013	AER_SYS_B	TRAIN 4 AIR FLOW	HIGH HIGH ALARM		100.0	5
CP6013	AER_SYS_B	TRAIN 4 BASIN 4 DO	LOW LOW ALARM	LOW LOW ALARM	0.050000001	1
CP6013	AER_SYS_B	TRAIN 3 BASIN 2 VALVE CONTROL	ALARM TYPE	T3 B2 VALVE OUTPUT BAD	BAD I/O	1
CP6013	AER_SYS_B	TRAIN 3 BASIN 3 VALVE CONTROL	ALARM TYPE	T3 B3 VALVE OUTPUT BAD	BAD I/O	1
CP6013	AER_SYS_B	TRAIN 3 BASIN 4 VALVE CONTROL	ALARM TYPE	T3 B4 VALVE OUTPUT BAD	BAD I/O	1
CP6013	AER_SYS_B	TRAIN 4 BASIN 2 VALVE CONTROL	ALARM TYPE	T4 B2 VALVE OUTPUT BAD	BAD I/O	1
CP6013	AER_SYS_B	TRAIN 4 BASIN 3 VALVE CONTROL	ALARM TYPE	T4 B3 VALVE OUTPUT BAD	BAD I/O	1
CP6013	AER_SYS_B	TRAIN 4 BASIN 4 VALVE CONTROL	ALARM TYPE	T4 B4 VALVE OUTPUT BAD	BAD I/O	1
CP6013	AER_SYS_C	TRAIN 5 AIR FLOW	BAD	SYS C AIR FLOW INPUT BAD	BAD I/O	1
CP6013	AER_SYS_C	TRAIN 5 AIR FLOW	HIGH ALARM	HIGH ALARM	6000.0	2

CP	COMPOUND	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
CP6013	AER_SYS_C	TRAIN 5 AIR FLOW	ALARM TYPE	LOW ALARM	1.0	2
CP6013	AER_SYS_C	TRAIN 5 AIR FLOW	LOW LOW ALARM		0.0	5
CP6013	AER_SYS_C	TRAIN 5 AIR FLOW	HIGH HIGH ALARM		100.0	5
CP6013	AER_SYS_C	TRAIN 6 AIR FLOW	BAD	SYS C AIR FLOW INPUT BAD	BAD I/O	1
CP6013	AER_SYS_C	TRAIN 6 AIR FLOW	HIGH ALARM	HIGH ALARM	5500.0	2
CP6013	AER_SYS_C	TRAIN 6 AIR FLOW	ALARM TYPE	LOW ALARM	1.0	2
CP6013	AER_SYS_C	TRAIN 6 AIR FLOW	LOW LOW ALARM		0.0	5
CP6013	AER_SYS_C	TRAIN 6 AIR FLOW	HIGH HIGH ALARM		100.0	5
CP4012	AER1_4		MOTOR OK	MOTOR FAIL	TRAIN1 MIXER	1
CP4012	AER1_4				TRAIN1 MIXER	5
CP4012	AER1_4		MOTOR OK	MOTOR FAIL	TRAIN2 MIXER	1
CP4012	AER1_4				TRAIN2 MIXER	5
CP4012	AER1_4		MOTOR OK	MOTOR FAIL	TRAIN3 MIXER	1
CP4012	AER1_4				TRAIN3 MIXER	5
CP4012	AER1_4		MOTOR OK	MOTOR FAIL	TRAIN4 MIXER	1
CP4012	AER1_4				TRAIN4 MIXER	5
CP6013	AER5_6		MIXER OK	MIXER FAIL	ANOXIC MIXER #5	1
CP6013	AER5_6				ANOXIC MIXER #5	5
CP6013	AER5_6		MIXER OK	MIXER FAIL	ANOXIC MIXER #6	1
CP6013	AER5_6				ANOXIC MIXER #6	5
CP3002	AMSC	PLANT INFL TURBIDITY	LOW ALARM	PLANT INFL TURBIDITY LO	0.5	1
CP3002	AMSC	PLANT INFL TURBIDITY	HIGH HIGH ALARM	INFLUENT NTU HI HI	8.0	1
CP3002	AMSC	PLANT INFL TURBIDITY	HIGH ALARM	PLANT INFL TURBIDITY HI	6.5	1
CP3002	AMSC	SECOND CLARIFIER EFFLUENT FLOW	LOW ALARM	SEC CLARIF EFF FLOW LOW	2.0	5
ABST12	BLOWER1	SSS INNER JRNL TEMP	HIGH HIGH ALARM	SLO SPEED INNER TEMP HI HI	205.0	1
ABST12	BLOWER1	MOTOR INBOARD TEMP	HIGH ALARM	MOTOR INNER TEMP HI	195.0	1
ABST12	BLOWER1	MOTOR AMPS	HIGH ALARM	MOTOR AMPS HI	88.0	1
ABST12	BLOWER1	HSS OUTER JRNL TEMP	HIGH HIGH ALARM	HIGH SPEED OUTER TEMP HI HI	205.0	1
ABST12	BLOWER1	MOTOR OUTBOARD VEL	HIGH ALARM	MOTOR OUTER VELOMETER HI	0.300000012	1
ABST12	BLOWER1	INLET DIFF PRESS	HIGH ALARM	DIFFERENTIAL PRESSURE HI	9.399999619	1
ABST12	BLOWER1	HSS INNER JRNL TEMP	HIGH HIGH ALARM	HIGH SPEED INNER TEMP HI HI	205.0	1
ABST12	BLOWER1	MOTOR INBOARD VEL	HIGH ALARM	MOTOR INNER VELOMETER HI	0.300000012	1
ABST12	BLOWER1	HSS THRUST BEARING TEMP	HIGH HIGH ALARM	THRUST BEARING TEMP HI HI	205.0	1
ABST12	BLOWER1	SSS OUTER JRNL TEMP	HIGH ALARM	SLO SPEED OUTER TEMP HI	194.0	1
ABST12	BLOWER1	HSS THRUST BEARING Z POS	HIGH HIGH ALARM	Z POSITION HI HI	15.0	1
ABST12	BLOWER1	HSS THRUST BEARING Z POS	ALARM TYPE	Z POSITION LO	-10.0	1
ABST12	BLOWER1	SSS INNER JRNL TEMP	HIGH ALARM	SLO SPEED INNER TEMP HI	194.0	1
ABST12	BLOWER1	HSS OUTER BEARING Y POS	HIGH HIGH ALARM	Y POSITION HI HI	4.0	1
ABST12	BLOWER1	OIL TEMPERATURE	ALARM TYPE	OIL TEMP LO	51.0	1
ABST12	BLOWER1	MOTOR WINDING C TEMP	HIGH HIGH ALARM	WINDING C TEMP HI HI	350.0	1
ABST12	BLOWER1	HSS OUTER JRNL TEMP	HIGH ALARM	HIGH SPEED OUTER TEMP HI	194.0	1
ABST12	BLOWER1	HSS OUTER BEARING X POS	HIGH HIGH ALARM	X POSITION HI HI	4.0	1
ABST12	BLOWER1	MOTOR WINDING B TEMP	HIGH HIGH ALARM	WINDING B TEMP HI HI	350.0	1
ABST12	BLOWER1	HSS INNER JRNL TEMP	HIGH ALARM	HIGH SPEED INNER TEMP HI	194.0	1
ABST12	BLOWER1	OIL TEMPERATURE	HIGH HIGH ALARM	OIL TEMP HI HI	160.0	1
ABST12	BLOWER1	MOTOR WINDING A TEMP	HIGH HIGH ALARM	WINDING A TEMP HI HI	350.0	1
ABST12	BLOWER1	HSS THRUST BEARING TEMP	HIGH ALARM	THRUST BEARING TEMP HI	194.0	1
ABST12	BLOWER1	MOTOR OUTBOARD TEMP	HIGH HIGH ALARM	MOTOR OUTER TEMP HI HI	205.0	1
ABST12	BLOWER1	HSS THRUST BEARING Z POS	LOW LOW ALARM	Z POSITION LO LO	-15.0	1
ABST12	BLOWER1	HSS THRUST BEARING Z POS	HIGH ALARM	Z POSITION HI	10.0	1
ABST12	BLOWER1	MOTOR AMPS	HIGH HIGH ALARM	MOTOR AMPS HI HI	90.0	1

CP	COMPOUND	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
ABST12	BLOWER1	MOTOR INBOARD TEMP	HIGH HIGH ALARM	MOTOR INNER TEMP HI HI	205.0	1
ABST12	BLOWER1	MOTOR WINDING C TEMP	HIGH ALARM	WINDING C TEMP HI	330.0	1
ABST12	BLOWER1	OIL TEMPERATURE	LOW LOW ALARM	OIL TEMP LO LO	50.0	1
ABST12	BLOWER1	HSS OUTER BEARING Y POS	HIGH ALARM	Y POSITION HI	2.0	1
ABST12	BLOWER1	MOTOR OUTBOARD VEL	HIGH HIGH ALARM	MOTOR OUTER VELOMETER HI HI	0.449999988	1
ABST12	BLOWER1	MOTOR WINDING B TEMP	HIGH ALARM	WINDING B TEMP HI	330.0	1
ABST12	BLOWER1	HSS OUTER BEARING X POS	HIGH ALARM	X POSITION HI	2.0	1
ABST12	BLOWER1	MOTOR INBOARD VEL	HIGH HIGH ALARM	MOTOR INNER VELOMETER HI HI	0.449999988	1
ABST12	BLOWER1	MOTOR WINDING A TEMP	HIGH ALARM	WINDING A TEMP HI	330.0	1
ABST12	BLOWER1	OIL TEMPERATURE	HIGH ALARM	OIL TEMP HI	150.0	1
ABST12	BLOWER1	SSS OUTER JRNL TEMP	HIGH HIGH ALARM	SLO SPEED OUTER TEMP HI HI	205.0	1
ABST12	BLOWER1	MOTOR OUTBOARD TEMP	HIGH ALARM	MOTOR OUTER TEMP HI	195.0	1
ABST12	BLOWER1	DISCHARGE TEMPERATURE	HIGH ALARM	HIGH DISCHARGE TEMP	250.0	1
ABST12	BLOWER1	OIL TEMPERATURE	BAD		BAD I/O	5
ABST12	BLOWER1	DISCHARGE TEMPERATURE	HIGH HIGH ALARM		100.0	5
ABST12	BLOWER1	INLET DIFF PRESS	HIGH HIGH ALARM		100.0	5
ABST12	BLOWER1	HSS THRUST BEARING Z POS	BAD		BAD I/O	5
ABST12	BLOWER2	SSS INNER JRNL TEMP	HIGH HIGH ALARM	SLO SPEED INNER TEMP HI HI	205.0	1
ABST12	BLOWER2	MOTOR INBOARD TEMP	HIGH ALARM	MOTOR INNER TEMP HI	195.0	1
ABST12	BLOWER2	MOTOR AMPS	HIGH ALARM	MOTOR AMPS HI	88.0	1
ABST12	BLOWER2	HSS OUTER JRNL TEMP	HIGH ALARM	HIGH SPEED OUTER TEMP HI	194.0	1
ABST12	BLOWER2	MOTOR OUTBOARD VEL	HIGH ALARM	MOTOR OUTER VELOMETER HI	0.300000012	1
ABST12	BLOWER2	INLET DIFF PRESS	HIGH ALARM	DIFFERENTIAL PRESS HI	9.399999619	1
ABST12	BLOWER2	HSS INNER JRNL TEMP	HIGH HIGH ALARM	HIGH SPEED INNER TEMP HI HI	205.0	1
ABST12	BLOWER2	MOTOR INBOARD VEL	HIGH ALARM	MOTOR INNER VELOMETER HI	0.300000012	1
ABST12	BLOWER2	HSS THRUST BEARING POS	HIGH HIGH ALARM	THRUST BEARING TEMP HI HI	205.0	1
ABST12	BLOWER2	SSS OUTER JRNL TEMP	HIGH ALARM	SLO SPEED OUTER TEMP HI	194.0	1
ABST12	BLOWER2	HSS THRUST BEARING Z POS	HIGH HIGH ALARM	Z POSITION HI HI	15.0	1
ABST12	BLOWER2	HSS THRUST BEARING Z POS	LOW LOW ALARM	Z POSITION LO LO	-15.0	1
ABST12	BLOWER2	SSS INNER JRNL TEMP	HIGH ALARM	SLO SPEED INNER TEMP HI	194.0	1
ABST12	BLOWER2	HSS OUTER BEARING Y POS	HIGH ALARM	Y POSITION HI	2.0	1
ABST12	BLOWER2	OIL TEMPERATURE	ALARM TYPE	OIL TEMP LO	51.0	1
ABST12	BLOWER2	MOTOR WINDING C TEMP	HIGH HIGH ALARM	WINDING C TEMP HI HI	350.0	1
ABST12	BLOWER2	HSS OUTER JRNL TEMP	HIGH HIGH ALARM	HIGH SPEED OUTER TEMP HI HI	205.0	1
ABST12	BLOWER2	HSS OUTER BEARING X POS	HIGH HIGH ALARM	X POSITION HI HI	4.0	1
ABST12	BLOWER2	MOTOR WINDING B TEMP	HIGH ALARM	WINDING B TEMP HI	330.0	1
ABST12	BLOWER2	HSS INNER JRNL TEMP	HIGH ALARM	HIGH SPEED INNER TEMP HI	194.0	1
ABST12	BLOWER2	OIL TEMPERATURE	LOW LOW ALARM	OIL TEMP LO LO	50.0	1
ABST12	BLOWER2	MOTOR WINDING A TEMP	HIGH HIGH ALARM	WINDING A TEMP HI HI	350.0	1
ABST12	BLOWER2	HSS THRUST BEARING POS	HIGH ALARM	THRUST BEARING TEMP HI	194.0	1
ABST12	BLOWER2	MOTOR OUTBOARD TEMP	HIGH HIGH ALARM	MOTOR OUTER TEMP HI HI	205.0	1
ABST12	BLOWER2	HSS THRUST BEARING Z POS	HIGH ALARM	Z POSITION HI	10.0	1
ABST12	BLOWER2	HSS THRUST BEARING Z POS	ALARM TYPE	Z POSITION LO	-10.0	1
ABST12	BLOWER2	MOTOR AMPS	HIGH HIGH ALARM	MOTOR AMPS HI HI	90.0	1
ABST12	BLOWER2	MOTOR INBOARD TEMP	HIGH HIGH ALARM	MOTOR INNER TEMP HI HI	205.0	1
ABST12	BLOWER2	MOTOR WINDING C TEMP	HIGH ALARM	WINDING C TEMP HI	330.0	1
ABST12	BLOWER2	OIL TEMPERATURE	HIGH HIGH ALARM	OIL TEMP HI HI	160.0	1
ABST12	BLOWER2	HSS OUTER BEARING Y POS	HIGH HIGH ALARM	Y POSITION HI HI	4.0	1

CP	COMPOUND	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
ABST12	BLOWER2	MOTOR OUTBOARD VEL	HIGH HIGH ALARM	MOTOR OUTER VELOMETER HI HI	0.449999988	1
ABST12	BLOWER2	MOTOR WINDING B TEMP	HIGH HIGH ALARM	WINDING B TEMP HI HI	350.0	1
ABST12	BLOWER2	HSS OUTER BEARING X POS	HIGH ALARM	X POSITION HI	2.0	1
ABST12	BLOWER2	MOTOR INBOARD VEL	HIGH HIGH ALARM	MOTOR INNER VELOMETER HI HI	0.449999988	1
ABST12	BLOWER2	MOTOR WINDING A TEMP	HIGH ALARM	WINDING A TEMP HI	330.0	1
ABST12	BLOWER2	OIL TEMPERATURE	HIGH ALARM	OIL TEMP HI	150.0	1
ABST12	BLOWER2	SSS OUTER JRNL TEMP	HIGH HIGH ALARM	SLO SPEED OUTER TEMP HI HI	205.0	1
ABST12	BLOWER2	MOTOR OUTBOARD TEMP	HIGH ALARM	MOTOR OUTER TEMP HI	195.0	1
ABST12	BLOWER2	DISCHARGE TEMPERATURE	HIGH ALARM	DISCHARGE TEMP HIGH	250.0	1
ABST12	BLOWER2	OIL TEMPERATURE	BAD		BAD I/O	5
ABST12	BLOWER2	DISCHARGE TEMPERATURE	HIGH HIGH ALARM		100.0	5
ABST12	BLOWER2	INLET DIFF PRESS	HIGH HIGH ALARM		100.0	5
ABST12	BLOWER2	HSS THRUST BEARING Z POS	BAD		BAD I/O	5
ABST12	BLOWER3	SSS INNER JRNL TEMP	HIGH HIGH ALARM	SLO SPEED INNER TEMP HI HI	205.0	1
ABST12	BLOWER3	MOTOR INBOARD TEMP	HIGH HIGH ALARM	MOTOR INNER TEMP HI HI	205.0	1
ABST12	BLOWER3	MOTOR AMPS	HIGH HIGH ALARM	MOTOR AMPS HI HI	90.0	1
ABST12	BLOWER3	HSS OUTER JRNL TEMP	HIGH HIGH ALARM	HIGH SPEED OUTER TEMP HI HI	205.0	1
ABST12	BLOWER3	MOTOR OUTBOARD VEL	HIGH HIGH ALARM	MOTOR OUTER VELOMETER HI HI	0.449999988	1
ABST12	BLOWER3	INLET DIFF PRESS	HIGH HIGH ALARM		100.0	5
ABST12	BLOWER3	HSS INNER JRNL TEMP	HIGH ALARM	HIGH SPEED INNER TEMP HI	194.0	1
ABST12	BLOWER3	MOTOR INBOARD VEL	HIGH HIGH ALARM	MOTOR INNER VELOMETER HI HI	0.449999988	1
ABST12	BLOWER3	HSS THRUST BEARING POS	HIGH ALARM	THRUST BEARING TEMP HI	194.0	1
ABST12	BLOWER3	SSS OUTER JRNL TEMP	HIGH HIGH ALARM	SLO SPEED OUTER TEMP HI HI	205.0	1
ABST12	BLOWER3	HSS THRUST BEARING Z POS	ALARM TYPE	Z POSITION LO	-10.0	1
ABST12	BLOWER3	HSS THRUST BEARING Z POS	HIGH ALARM	Z POSITION HI	10.0	1
ABST12	BLOWER3	SSS INNER JRNL TEMP	HIGH ALARM	SLO SPEED INNER TEMP HI	194.0	1
ABST12	BLOWER3	HSS OUTER BEARING Y POS	HIGH ALARM	Y POSITION HI	2.0	1
ABST12	BLOWER3	OIL TEMPERATURE	HIGH HIGH ALARM	OIL TEMP HI HI	160.0	1
ABST12	BLOWER3	MOTOR WINDING C TEMP	HIGH ALARM	WINDING C TEMP HI	330.0	1
ABST12	BLOWER3	HSS OUTER JRNL TEMP	HIGH ALARM	HIGH SPEED OUTER TEMP HI	194.0	1
ABST12	BLOWER3	HSS OUTER BEARING X POS	HIGH HIGH ALARM	X POSITION HI HI	4.0	1
ABST12	BLOWER3	MOTOR WINDING B TEMP	HIGH HIGH ALARM	WINDING B TEMP HI HI	350.0	1
ABST12	BLOWER3	HSS INNER JRNL TEMP	HIGH HIGH ALARM	HIGH SPEED INNER TEMP HI HI	205.0	1
ABST12	BLOWER3	OIL TEMPERATURE	ALARM TYPE	OIL TEMP LO	60.0	1
ABST12	BLOWER3	MOTOR WINDING A TEMP	HIGH HIGH ALARM	WINDING A TEMP HI HI	350.0	1
ABST12	BLOWER3	HSS THRUST BEARING POS	HIGH HIGH ALARM	THRUST BEARING TEMP HI HI	205.0	1
ABST12	BLOWER3	MOTOR OUTBOARD TEMP	HIGH HIGH ALARM	MOTOR OUTER TEMP HI HI	205.0	1
ABST12	BLOWER3	HSS THRUST BEARING Z POS	LOW LOW ALARM	Z POSITION LO LO	-15.0	1
ABST12	BLOWER3	HSS THRUST BEARING Z POS	HIGH HIGH ALARM	Z POSITION HI HI	15.0	1
ABST12	BLOWER3	MOTOR AMPS	HIGH ALARM	MOTOR AMPS HI	88.0	1
ABST12	BLOWER3	MOTOR INBOARD TEMP	HIGH ALARM	MOTOR INNER TEMP HI	195.0	1
ABST12	BLOWER3	MOTOR WINDING C TEMP	HIGH HIGH ALARM	WINDING C TEMP HI HI	350.0	1
ABST12	BLOWER3	OIL TEMPERATURE	HIGH ALARM	OIL TEMP HI	150.0	1
ABST12	BLOWER3	HSS OUTER BEARING Y POS	HIGH HIGH ALARM	Y POSITION HI HI	4.0	1
ABST12	BLOWER3	MOTOR OUTBOARD VEL	HIGH ALARM	MOTOR OUTER VELOMETER HI	0.400000006	2
ABST12	BLOWER3	MOTOR WINDING B TEMP	HIGH ALARM	WINDING B TEMP HI	330.0	1
ABST12	BLOWER3	HSS OUTER BEARING X POS	HIGH ALARM	X POSITION HI	2.0	1
ABST12	BLOWER3	MOTOR INBOARD VEL	HIGH ALARM	MOTOR INNER VELOMETER HI	0.300000012	1

CP	COMPOUND	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
ABST12	BLOWER3	MOTOR WINDING A TEMP	HIGH ALARM	WINDING A TEMP HI	330.0	1
ABST12	BLOWER3	OIL TEMPERATURE	LOW LOW ALARM	OIL TEMP LO LO	50.0	1
ABST12	BLOWER3	SSS OUTER JRNL TEMP	HIGH ALARM	SLO SPEED OUTER TEMP HI	194.0	1
ABST12	BLOWER3	MOTOR OUTBOARD TEMP	HIGH ALARM	MOTOR OUTER TEMP HI	195.0	1
ABST12	BLOWER3	DISCHARGE TEMPERATURE	HIGH ALARM	DISCHARGE TEMP HIGH	250.0	1
ABST12	BLOWER3	OIL TEMPERATURE	BAD		BAD I/O	5
ABST12	BLOWER3	DISCHARGE TEMPERATURE	HIGH HIGH ALARM		100.0	5
ABST12	BLOWER3	INLET DIFF PRESS	HIGH ALARM	DIFFERENTIAL PRESS HI	9.699999809	1
ABST12	BLOWER3	HSS THRUST BEARING Z POS	BAD		BAD I/O	5
ABST16	BYPASS_FLOW		COMM 0K	COMM FAIL	BYPASS FM#1	1
ABST16	BYPASS_FLOW	BYPASS FLOW METER 1 ALARMS	FLOW METER 1 TOTAL OK	FLOW METER 1 TOTAL ROLLOVER	RP1 BYPASS	1
ABST16	BYPASS_FLOW	BYPASS FLOW METER 1 ALARMS	FLOW METER 1 COMM OK	FLOW METER 1 COMM FAIL	RP1 BYPASS	1
ABST16	BYPASS_FLOW	BYPASS FLOW METER 1 ALARMS	FLOW METER 1 POWER OK	FLOW METER 1 POWER FAIL	RP1 BYPASS	1
ABST16	BYPASS_FLOW	BYPASS FLOW METER 1 ALARMS	FLOW METER 1 PANEL CLOSED	FLOW METER 1 PANEL OPEN	RP1 BYPASS	1
ABST16	BYPASS_FLOW	BYPASS FLOW METER 2 ALARMS	FLOW METER 2 TOTAL OK	FLOW METER 2 TOTAL ROLLOVER	RP1 BYPASS	1
ABST16	BYPASS_FLOW	BYPASS FLOW METER 2 ALARMS	FLOW METER 2 COMM OK	FLOW METER 2 COMM FAIL	RP1 BYPASS	1
ABST16	BYPASS_FLOW	BYPASS FLOW METER 2 ALARMS	FLOW METER 2 POWER OK	FLOW METER 2 POWER FAIL	RP1 BYPASS	1
ABST16	BYPASS_FLOW	BYPASS FLOW METER 2 ALARMS	FLOW METER 2 PANEL CLOSED	FLOW METER 2 PANEL OPEN	RP1 BYPASS	1
ABST16	BYPASS_FLOW	BYPASS FLOW METER 2 FLOW	HIGH HIGH ALARM	BYPASS FLOW #2 HI HI	15.0	1
ABST16	BYPASS_FLOW	BYPASS FLOW METER 2 FLOW	HIGH ALARM	BYPASS FLOW #2 HI	12.0	1
ABST16	BYPASS_FLOW	FLOW METER 2 COM FAIL	COMM OK	COMM FAIL	BYPASS FM#2	1
ABST12	HD_WORKS	HEADWORKS ALARMS	VAULT SUMP PMP START FAIL OK	VAULT SUMP PMP START FAIL	GRIT VAULT SUMP PMP	1
ABST12	HD_WORKS	HEADWORKS ALARMS	CENTRIFUGE SUMP COMM FAIL	CENTRIFUGE SUMP COMM OK	CENTRIFUGE SUMP COMM	1
ABST12	HD_WORKS	HEADWORKS ALARMS	WEST FERRIC SUMP COMM FAIL	WEST FERRIC SUMP COMM OK	WEST FERRIC SUMP	1
ABST12	HD_WORKS	HEADWORKS ALARMS	BAR SCREEN 2 COMM FAIL	BAR SCREEN 2 COMM OK	BAR SCREEN 2 COMM	1
ABST12	HD_WORKS	HEADWORKS ALARMS	SPARE CONTROL BUCKET COMM FAIL	SPARE CONTROL BUCKET COMM OK	SPARE CONTROL BUCKET COMM	1
ABST12	HD_WORKS	HEADWORKS ALARMS	HD WORKS CONVEYOR FAIL START OK	HD WORKS CONVEYOR FAIL START	HD WORKS CONVEYOR	1
ABST12	HD_WORKS	HEADWORKS ALARM	BAR SCREEN 1 OK	BAR SCREEN 1 FAIL	BAR SCREEN 1	1
ABST12	HD_WORKS	HEADWORKS ALARM	AIR LIFT 3 COMM FAIL	AIR LIFT 3 COMM OK	AIR LIFT 3 COMM	1
ABST12	HD_WORKS	HEADWORKS ALARM	RAG COMPACTOR COMM FAIL	RAG COMPACTOR COMM OK	RAG COMPACTOR COMM	1
ABST12	HD_WORKS	HEADWORKS ALARMS	HEADWORKS LIGHTING BREAKER OPEN	HEADWORKS LIGHTING BREAKER CLSD	HEADWORKS LIGHTING	1
ABST12	HD_WORKS	HEADWORKS ALARMS	WEST GRIT AUGER POWER FAIL	WEST GRIT AUGER POWER OK	WEST GRIT AUGER	1
ABST12	HD_WORKS	HEADWORKS ALARM	CENTRIFUGE SUMP BREAKER OPEN	CENTRIFUGE SUMP BREKER CLOSED	CENTRIFUGE SUMP	1
ABST12	HD_WORKS	HEADWORKS ALARM	BAR SCREEN 4 OK	BAR SCREEN 4 FAIL	BAR SCREEN 4	1
ABST12	HD_WORKS	HEADWORKS ALARMS	AREA ST LIGHT BREAKER COMM FAIL	AREA ST LIGHT BREAKER COMM OK	AREA ST LIGHT BREAKER COMM	1
ABST12	HD_WORKS	HEADWORKS ALARMS	SPARE BREAKER 1 COMM FAIL	SPARE BREAKER 1 COMM OK	SPARE BREAKER 1 COMM	1
ABST12	HD_WORKS	HEADWORKS ALARM	BELT CONVEYOR COMM FAIL	BELT CONVEYOR COMM OK	BELT CONVEYOR COMM	1
ABST12	HD_WORKS	HEADWORKS ALARMS	E GRIT AUGER FAIL TO START OK	E GRIT AUGER FAIL TO START	E GRIT AUGER	1
ABST12	HD_WORKS	HEADWORKS ALARMS	EAST FERRIC SUMP COMM FAIL	EAST FERRIC SUMP COMM OK	EAST FERRIC SUMP	1
ABST12	HD_WORKS	HEADWORKS ALARMS	GRIT BLOWER 2A COMM FAIL	GRIT BLOWER 2A COMM OK	GRIT BLOWER 2A COMM	1
ABST12	HD_WORKS	HEADWORKS ALARM	BAR SCREEN 4 COMM FAIL	BAR SCREEN 4 COMM OK	BAR SCREEN 4 COMM	1
ABST12	HD_WORKS	HEADWORKS ALARM	BAR SCREEN 3 BREAKER OPEN	BAR SCREEN 3 BREAKER CLOSED	BAR SCREEN 3	1
ABST12	HD_WORKS	HEADWORKS ALARM	W FERRIC SUMP PMP BREAKER OPEN	W FERRIC SUMP PMP BREAKER CLOSED	W FERRIC SUMP	1
ABST12	HD_WORKS	HEADWORKS ALARM	GRIT VAULT SUMP PUMP OK	GRIT VAULT SUMP PUMP FAIL	GRIT VAULT PUMP	1
ABST12	HD_WORKS	HEADWORKS ALARMS	BAR SCREEN 1 COMM FAIL	BAR SCREEN 1 COMM OK	BAR SCREEN 1 COMM	1
ABST12	HD_WORKS	HEADWORKS ALARM	BAR SCREEN 2 BREAKER OPEN	BAR SCREEN 2 BREAKER CLOSED	BAR SCREEN 2	1

CP	COMPOUND	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
ABST12	HD_WORKS	HEADWORKS ALARMS	GRIT PUMP OK	GRIT PUMP FAIL	GRIT PUMP	1
ABST12	HD_WORKS	HEADWORKS ALARMS	W GRIT AUGER FAIL TO START OK	W GRIT AUGER FAIL TO START	W GRIT AUGER	1
ABST12	HD_WORKS	HEADWORKS ALARMS	HEADWORKS MAIN BREAKER CLOSED	HEADWORKS MAIN BREAKER OPEN	HEADWORKS ALARM	1
ABST12	HD_WORKS	HEADWORKS ALARMS	GRIT BLOWER 1B COMM FAIL	GRIT BLOWER 1B COMM OK	GRIT BLOWER 1B COMM	1
ABST12	HD_WORKS	HEADWORKS ALARMS	SPARE BREAKER 2 COMM FAIL	SPARE BREAKER 2 COMM OK	SPARE BREAKER 2 COMM	1
ABST12	HD_WORKS	HEADWORKS ALARMS	CENTRIFUGE CONTROL COMM FAIL	CENTRIFUGE CONTROL COMM OK	CENTRIFUGE CONTROL COMM	1
ABST12	HD_WORKS	HEADWORKS ALARMS	GRIT PUMP COMM FAIL	GRIT PUMP COMM OK	GRIT PUMP COMM	1
ABST12	HD_WORKS	HEADWORKS ALARMS	BELT CONVEYOR OK	BELT CONVEYOR FAIL	BELT CONVEYOR	1
ABST12	HD_WORKS	HEADWORKS ALARMS	GRIT BLOWER 2 OK	GRIT BLOWER 2 FAIL	GRIT BLOWER 2	1
ABST12	HD_WORKS	HEADWORKS ALARM	BAR SCREEN 4 BREAKER OPEN	BAR SCREEN 4 BREAKER CLOSED	BAR SCREEN 4	1
ABST12	HD_WORKS	HEADWORKS ALARMS	GRIT BLOWER 2 PRESSURE OK	GRIT BLOWER 2 PRESSURE HIGH	GRIT BLOWER 2	1
ABST12	HD_WORKS	HEADWORKS ALARM	WEST GRIT AUGER COMM FAIL	WEST GRIT AUGER COMM OK	WEST GRIT AUGER COMM	1
ABST12	HD_WORKS	HEADWORKS ALARMS	WEST GRIT AUGER OK	WEST GRIT AUGER FAIL	WEST GRIT AUGER	1
ABST12	HD_WORKS	HEADWORKS ALARM	GRIT BLOWER 1 POWER FAIL	GRIT BLOWER 1 POWER OK	GRIT BLOWER 1	1
ABST12	HD_WORKS	HEADWORKS ALARMS	BLOWER 1 FAIL TO START OK	BLOWER 1 FAIL TO START	HD WORKS BLOWER 1	1
ABST12	HD_WORKS	HEADWORKS ALARMS	FOOD WASTE COMM FAIL	FOOD WASTE COMM OK	FOOD WASTE COMM	1
ABST12	HD_WORKS	HEADWORKS ALARMS	HD WORKS DN SCANNER ONLINE	HD WORKS DN SCANNER OFFLINE	HD DN SCANNER	1
ABST12	HD_WORKS	HEADWORKS ALARMS	GRIT PUMP FAIL TO START OK	GRIT PUMP FAIL TO START	GRIT PUMP	1
ABST12	HD_WORKS	HEADWORKS ALARMS	GRIT BLOWER 2B COMM FAIL	GRIT BLOWER 2B COMM OK	GRIT BLOWER 2B COMM	1
ABST12	HD_WORKS	HEADWORKS ALARMS	CONTROL POWER BREAKER OPEN	CONTROL POWER BREAKER CLOSED	CONTROL POWER	1
ABST12	HD_WORKS	HEADWORKS ALARMS	FOOD WASTE BREAKER OPEN	FOOD WASTE BREAKER CLOSED	FOOD WASTE	1
ABST12	HD_WORKS	HEADWORKS ALARMS	RAG COMPACTOR POWER OK	RAG COMPACTOR POWER FAIL	RAG COMPACTOR	1
ABST12	HD_WORKS	HEADWORKS ALARM	MAIN BREAKER COMM FAIL	MAIN BREAKER COMM OK	MAIN BREAKER COMM	1
ABST12	HD_WORKS	HEADWORKS ALARMS	GRIT BLOWER 1A COMM FAIL	GRIT BLOWER 1A COMM OK	GRIT BLOWER 1A COMM	1
ABST12	HD_WORKS	HEADWORKS ALARM	E FERRIC SUMP PMP BREAKER OPEN	E FERRIC SUMP PMP BREAKER CLOSED	E FERRIC SUMP	1
ABST12	HD_WORKS	HEADWORKS ALARMS	AREA STREET LIGHT BREAKER OPEN	AREA STREET LIGHT BREAKER CLOSED	AREA STREET LIGHT	1
ABST12	HD_WORKS	HEADWORKS ALARM	BAR SCREEN 1 BREAKER OPEN	BAR SCREEN 1 BREAKER CLOSED	BAR SCREEN 1	1
ABST12	HD_WORKS	HEADWORKS ALARM	BAR SCREEN 3 OK	BAR SCREEN 3 FAIL	BAR SCREEN 3	1
ABST12	HD_WORKS	HEADWORKS ALARMS	RAG COMPACTOR FAIL TO START OK	RAG COMPACTOR FAIL TO START	HD WORKS RAG COMPACTOR	1
ABST12	HD_WORKS	HEADWORKS ALARMS	BLOWER 2 FAIL TO START OK	BLOWER 2 FAIL TO START	HD WORKS BLOWER 2	1
ABST12	HD_WORKS	HEADWORKS ALARMS	DIGESTER CLEANING COMM FAIL	DIGESTER CLEANING COMM OK	DIGESTER CLEANING COMM	1
ABST12	HD_WORKS	HEADWORKS ALARM	EAST GRIT AUGER COMM FAIL	EAST GRIT AUGER COMM OK	EAST GRIT AUGER COMM	1
ABST12	HD_WORKS	HEADWORKS ALARM	AIR LIFT 1+2 COMM FAIL	AIR LIFT 1+2 COMM OK	AIR LIFT 1+2 COMM	1
ABST12	HD_WORKS	HEADWORKS ALARM	GRIT BLOWER 1 OK	GRIT BLOWER 1 FAIL	GRIT BLOWER 1	1
ABST12	HD_WORKS	HEADWORKS ALARMS	GRIT VAULT SUMP COMM FAIL	GRIT VAULT SUMP COMM OK	GRIT VAULT SUMP COMM	1
ABST12	HD_WORKS	HEADWORKS ALARMS	HEADWORKS LIGHTING COMM FAIL	HEADWORKS LIGHTING COMM OK	HEADWORKS LIGHTING COMM	1
ABST12	HD_WORKS	HEADWORKS ALARMS	GRIT BLOWER 2 POWER FAIL	GRIT BLOWER 2 POWER OK	GRIT BLOWER 2	1
ABST12	HD_WORKS	HEADWORKS ALARMS	BAR SCREEN 3 COMM FAIL	BAR SCREEN 3 COMM OK	BAR SCREEN 3 COMM	1
ABST12	HD_WORKS	HEADWORKS ALARMS	GRIT BLOWER 1 PRESSURE OK	GRIT BLOWER 1 PRESSURE HIGH	GRIT BLOWER 1	1
ABST12	HD_WORKS	HEADWORKS ALARM	BAR SCREEN 2 OK	BAR SCREEN 2 FAIL	BAR SCREEN 2	1
ABST12	HD_WORKS	HEADWORKS ALARMS	RAG COMPACTOR OK	RAG COMPACTOR FAIL	RAG COMPACTOR	1
CP6013	HEADWORKS	NORTH HDWRKS INFLUENT FLOWMETER	ALARM TYPE		0.0	1
CP6013	HEADWORKS	EAST INF PH ALARM	HIGH ALARM	PH HIGH	8.5	1
CP6013	HEADWORKS	HEADWORKS CONDUCTIVITY	ALARM TYPE	INF EC LOW	400.0	1
CP6013	HEADWORKS	WEST INF PH ALARM	HIGH ALARM	PH HIGH	8.0	1
CP6013	HEADWORKS	EAST INF PH ALARM	ALARM TYPE	PH LOW	6.5	1
CP6013	HEADWORKS	WEST INF PH ALARM	ALARM TYPE	PH LOW	6.5	1
CP6013	HEADWORKS	PRIMARY PH	HIGH ALARM	PH HIGH	8.5	1

CP	COMPOUND	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
CP6013	HEADWORKS	SOUTH INFLUENT FLOWMETER	BAD	SOUTH INFLUENT SIGNAL LOSS	BAD I/O	1
CP6013	HEADWORKS	PRIMARY CONDUCTIVITY	HIGH ALARM	HIGH COND	1800.0	1
CP6013	HEADWORKS	NORTH HDWRKS INFLUENT FLOWMETER	BAD	NORTH INFLUENT SIGNAL LOSS	BAD I/O	1
CP6013	HEADWORKS	SOUTH INFLUENT FLOWMETER	HIGH ALARM	SOUTH INFLUENT HIGH FLOW	37.0	1
CP6013	HEADWORKS	PRIMARY PH	ALARM TYPE	PH LOW	6.0	1
CP6013	HEADWORKS	NORTH HDWRKS INFLUENT FLOWMETER	HIGH ALARM	NORTH INFLUENT HIGH FLOW	41.0	1
CP6013	HEADWORKS	PRIMARY CONDUCTIVITY	ALARM TYPE	LOW COND	400.0	1
CP6013	HEADWORKS	HEADWORKS CONDUCTIVITY	HIGH ALARM	INF EC HIGH	1800.0	1
CP6013	HEADWORKS	SOUTH INFLUENT FLOWMETER	ALARM TYPE		0.0	1
CP6013	HEADWORKS	COMBINATION PH	HIGH ALARM	HEADWORKS PH HIGH	8.0	1
CP6013	HEADWORKS	PRIMARY PH	LOW LOW ALARM		0.0	5
CP6013	HEADWORKS	PRIMARY PH	HIGH HIGH ALARM		100.0	5
CP6013	HEADWORKS	PRIMARY CONDUCTIVITY	LOW LOW ALARM		0.0	5
CP6013	HEADWORKS	PRIMARY CONDUCTIVITY	HIGH HIGH ALARM		100.0	5
CP6013	HEADWORKS	SOUTH INFLUENT FLOWMETER	LOW LOW ALARM		0.0	5
CP6013	HEADWORKS	SOUTH INFLUENT FLOWMETER	HIGH HIGH ALARM		100.0	5
CP6013	HEADWORKS	NORTH HDWRKS INFLUENT FLOWMETER	LOW LOW ALARM		0.0	5
CP6013	HEADWORKS	PRIMARY PH	BAD		BAD I/O	5
CP6013	HEADWORKS	NORTH HDWRKS INFLUENT FLOWMETER	HIGH HIGH ALARM		100.0	5
CP6013	HEADWORKS	HEADWORKS CONDUCTIVITY	LOW LOW ALARM		0.0	5
CP6013	HEADWORKS	PRIMARY CONDUCTIVITY	BAD		BAD I/O	5
CP6013	HEADWORKS	HEADWORKS CONDUCTIVITY	HIGH HIGH ALARM		100.0	5
CP6013	HEADWORKS	EAST INF PH ALARM	LOW LOW ALARM		0.0	5
CP6013	HEADWORKS	COMBINATION PH	HIGH HIGH ALARM		100.0	5
CP6013	HEADWORKS	WEST INF PH ALARM	LOW LOW ALARM		0.0	5
CP6013	HEADWORKS	EAST INF PH ALARM	HIGH HIGH ALARM		100.0	5
CP6013	HEADWORKS	HEADWORKS CONDUCTIVITY	BAD		BAD I/O	5
CP6013	HEADWORKS	WEST INF PH ALARM	HIGH HIGH ALARM		100.0	5
CP6013	HEADWORKS	EAST INF PH ALARM	BAD		BAD I/O	5
CP6013	HEADWORKS	WEST INF PH ALARM	BAD		BAD I/O	5
CP6013	HEADWORKS	EAST PH LO ALARM DELAYED	EAST PH NORMAL	EAST PH LO	EAST PH LO ALARM	1
CP6013	HEADWORKS	EAST PH HI ALARM DELAYED	EAST PH NORMAL	EAST PH HI	EAST PH HI ALARM	1
CP6013	HEADWORKS	INFLUENT EC LO ALARM DELAYED	INFLUENT EC NORMAL	INFLUENT EC LO	INFLUENT EC LO ALARM	1
CP6013	HEADWORKS	WEST PH LO DELAYED ALARM	WEST PH NORMAL	WEST PH LO	WEST PH LO ALARM	1
CP6013	HEADWORKS	INFLUENT EC HI DELAYED ALARM	INFLUENT EC NORMAL	INFLUENT EC HI	INFLUENT EC HI ALARM	1
CP6013	HEADWORKS	WEST PH HI DELAYED ALARM	WEST PH NORMAL	WEST PH HI	WEST PH HI ALARM	1
CP6013	HEADWORKS	PRIMARY PH DELAYED HI ALARM	PRI PH NORMAL	PRI PH HI	PRI PH HI ALARM	1
CP6013	HEADWORKS	PRI PH LO DELAYED ALARM	PRI PH NORMAL	PRI PH LO	PRI PH LO ALM	1
CP6013	LAGOONS	RP-1, LAGOON #1	BAD	FBM M07B07, OUTPUT 7 BAD	BAD I/O	1
CP6013	LAGOONS	RP-1, LAGOON #1	HIGH ALARM	HIGH LEVEL	809.0	1
CP6013	LAGOONS	RP-1, LAGOON #1	ALARM TYPE		0.0	1
CP6013	LAGOONS	RP-1, LAGOON #1	LOW ALARM		0.0	1
CP6013	LAGOONS	RP-1, LAGOON #1	HIGH ALARM	HIGH LEVEL, POTENTIAL OVERFLOW	810.0	1
CP6013	LAGOONS	RP-1, LAGOON #1	LOW LOW ALARM		0.0	5
CP6013	LAGOONS	RP-1, LAGOON #1	HIGH HIGH ALARM		100.0	5
CP6013	LAGOONS	RP-1, LAGOON #2	BAD	FBM M07B07, OUTPUT 8 BAD	BAD I/O	1
CP6013	LAGOONS	RP-1, LAGOON #2	HIGH ALARM	HIGH LEVEL	808.0	1
CP6013	LAGOONS	RP-1, LAGOON #2	ALARM TYPE		0.0	1
CP6013	LAGOONS	RP-1, LAGOON #2	LOW ALARM		0.0	1
CP6013	LAGOONS	RP-1, LAGOON #2	HIGH ALARM	HIGH LEVEL, POTENTIAL OVERFLOW	809.5	1
CP6013	LAGOONS	RP-1, LAGOON #2	LOW LOW ALARM		0.0	5

CP	COMPOUND	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
CP6013	LAGOONS	RP-1, LAGOON #2	HIGH HIGH ALARM		100.0	5
CP6013	PANEL_ALARMS	RP-1 ALARMS	CONVEYOR FAIL OK	CONVEYOR FAILURE	HEADWORKS AREA	1
CP6013	PANEL_ALARMS	RP-1 ALARMS	HDWKS AERATION BLWR OK	HDWKS AERATION BLWR FAIL	HEADWORKS AERATION BLOWER	1
CP6013	PANEL_ALARMS	RP-1 ALARMS	GRIT FAIL OK	GRIT CLASSIFIERS FAILURE	HEADWORKS AREA	1
CP6013	PANEL_ALARMS	RP-1 ALARMS	BAR SCRN 1 OR 3 OK	BAR SCRN 1 OR 3 FAILURE	BAR SCREEN #1 OR #3	1
CP6013	PANEL_ALARMS	RP-1 ALARMS	GRIT PMP FLOOD OK	GRIT PMP FLOOD ALARM	HEADWORKS AREA	1
CP6013	PANEL_ALARMS	RP-1 ALARMS	GRIT PMP FAILURE OK	GRIT PMP FAILURE	HEADWORKS AREA	1
CP6013	PANEL_ALARMS	RP-1 ALARMS	BAR SCRN 2 OR 4 OK	BAR SCRN 2 OR 4 FAILURE	BAR SCREEN #2 OR #4	1
ABST12	PRI_GALLERY	REMOTE I/O ALARM	PG01 RIO NORMAL	PG01 RIO FAIL	PRI GALLERY RIO ALARM	5
ABST12	PRI_GALLERY	REMOTE I/O ALARM	PRI GALLERY RIO ALARM	PRI GALLERY RIO ALARM	PRI GALLERY RIO ALARM	5
ABST12	PRI_GALLERY	PRI GALLERY COMM ALARMS	PG01 COMM ALARM	PG01 COMM ALARM	PG01 COMM ALARM	5
ABST12	PRI_GALLERY	PRI GALLERY COMM ALARMS	PG01 COMM OK	PG01 COM FAIL	PG01 COMM ALARM	5
ABST12	PRI_GALLERY	PRIMARY GALLERY ALARMS	AIR PRESSURE NORMAL	LOW AIR PRESSURE	AIR PRESSURE	5
ABST12	PRI_GALLERY	PRIMARY GALLERY ALARMS	SUMP LEVEL NORMAL	SUMP FLOOD	SUMP LEVEL	1
ABST12	PRI_GALLERY	PRIMARY GALLERY ALARMS	SUMP PUMP NORMAL	SUMP PUMP NORMAL	SUMP PUMP	1
ABST12	PRI_GALLERY	PRI GALLERY ALMS	SEQUENCE 1 NORMAL	SEQUENCE 1 FAIL	SEQUENCE 1	5
ABST12	PRI_GALLERY	PRI GALLERY ALMS	SEQUENCE 2 NORMAL	SEQUENCE 2 FAIL	SEQUENCE 2	5
ABST12	PRI_GALLERY	PRI GALLERY ALMS	SEQUENCE 3 NORMAL	SEQUENCE 3 FAIL	SEQUENCE 3	5
ABST12	PRI_GALLERY	PRIMARY GALLERY ALARMS	PUMP 1 NORMAL	PUMP 1 FAIL	PUMP 1	5
ABST12	PRI_GALLERY	PRIMARY GALLERY ALARMS	PUMP 2 NORMAL	PUMP 2 FAIL	PUMP 2	5
ABST12	PRI_GALLERY	PRIMARY GALLERY ALARMS	PUMP 3 NORMAL	PUMP 3 FAIL	PUMP 3	5
ABST12	PRI_GALLERY	ALARMS FROM PRI GALLERY	VALVE 1 NORMAL	VALVE 1 FAIL	VALVE 1	5
ABST12	PRI_GALLERY	ALARMS FROM PRI GALLERY	VALVE 2 NORMAL	VALVE 2 FAIL	VALVE 2	5
ABST12	PRI_GALLERY	ALARMS FROM PRI GALLERY	VALVE 3 NORMAL	VALVE 3 FAIL	VALVE 3	5
ABST12	PRI_GALLERY	ALARMS FROM PRI GALLERY	VALVE 4 NORMAL	VAVLE 4 FAIL	VALVE 4	5
ABST12	PRI_GALLERY	ALARMS FROM PRI GALLERY	VALVE 5 NORMAL	VALVE 5 FAIL	VALVE 5	5
ABST12	PRI_GALLERY	ALARMS FROM PRI GALLERY	VALVE 6 NORMAL	VALVE 6 FAIL	VALVE 6	5
ABST12	PRI_GALLERY	ALARMS FROM PRI GALLERY	VALVE 7 NORMAL	VALVE 7 FAIL	VALVE 7	5
ABST12	PRI_GALLERY	ALARMS FROM PRI GALLERY	VALVE 8 NORMAL	VALVE 8 FAIL	VALVE 8	5
ABST12	PRI_GALLERY	PRIMARY GALLERY ALARMS	VALVE 9 NORMAL	VALVE 7 FAIL	VALVE 9	5
ABST12	PRI_GALLERY	PRIMARY GALLERY ALARMS	VALVE 10 NORMAL	VALVE 10 FAIL	VALVE 10	5
CP6013	PRI_LEV	EAST PRIMARY EFFLUENT LEVEL	HIGH ALARM	HIGH LEVEL	7.5	1
CP6013	PRI_LEV	EAST PRIMARY EFFLUENT LEVEL	ALARM TYPE		0.0	1
CP6013	PRI_LEV	EAST PRIMARY EFFLUENT LEVEL	LOW LOW ALARM		0.0	5
CP6013	PRI_LEV	EAST PRIMARY EFFLUENT LEVEL	HIGH HIGH ALARM		100.0	5
CP6013	PRI_LEV	EAST PRIMARY EFFLUENT LEVEL	BAD		BAD I/O	5
CP6013	PRI_LEV	WEST PRIMARY EFFLUENT LEVEL	HIGH ALARM	HIGH LEVEL	4.0	1
CP6013	PRI_LEV	WEST PRIMARY EFFLUENT LEVEL	ALARM TYPE		1.499999881	1
CP6013	PRI_LEV	WEST PRIMARY EFFLUENT LEVEL	LOW LOW ALARM		0.0	5
CP6013	PRI_LEV	WEST PRIMARY EFFLUENT LEVEL	HIGH HIGH ALARM		100.0	5
CP6013	PRI_LEV	WEST PRIMARY EFFLUENT LEVEL	BAD		BAD I/O	5
CP4012	RAS_WAS_A	CLAIRFIER #1 FLOW	ALARM TYPE	CLARIFIER 1 LOW FLOW	1.5	1
CP4012	RAS_WAS_A	CLAIRFIER #1 FLOW	HIGH ALARM		100.0	1
CP4012	RAS_WAS_A	CLAIRFIER #1 FLOW	HIGH HIGH ALARM		100.0	5
CP4012	RAS_WAS_A	CLAIRFIER #1 FLOW	LOW LOW ALARM		0.0	5
CP4012	RAS_WAS_A	CLAIRFIER #1 FLOW	BAD		BAD I/O	5
CP4012	RAS_WAS_A	CLAIRFIER #2 FLOW	ALARM TYPE	CLARIFIER 2 FLOW LOW	1.5	1

CP	COMPOUND	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
CP4012	RAS_WAS_A	CLAIRFIER #2 FLOW	HIGH ALARM		100.0	1
CP4012	RAS_WAS_A	CLAIRFIER #2 FLOW	HIGH HIGH ALARM		100.0	5
CP4012	RAS_WAS_A	CLAIRFIER #2 FLOW	LOW LOW ALARM		0.0	5
CP4012	RAS_WAS_A	CLAIRFIER #2 FLOW	BAD		BAD I/O	5
CP4012	RAS_WAS_A		LOW ALARM	RAS 1 FLOW LOW	2.0	1
CP4012	RAS_WAS_A		LOW ALARM	RAS 2 FLOW LOW	2.0	1
CP4012	RAS_WAS_A	RAS BUILDING 1 ALARMS	RAS PMP 1 OK	RAS PMP 1 FAILED	RAS BLDG 1	1
CP4012	RAS_WAS_A	RAS BUILDING 1 ALARMS	RAS PMP 2 OK	RAS PMP 2 FAILED	RAS BLDG 1	1
CP4012	RAS_WAS_A	RAS BUILDING 1 ALARMS	RAS PMP 3 OK	RAS PMP 3 FAILED	RAS BLDG 1	1
CP4012	RAS_WAS_A	RAS BUILDING 1 ALARMS	RAS 1 SCUM WELL OK	RAS 1 SCUM WELL HIGH	RAS BLDG 1	1
CP4012	RAS_WAS_A	RAS BUILDING 1 ALARMS				1
CP4012	RAS_WAS_A	RAS BUILDING 1 ALARMS	RAS 1 BASEMENT OK	RAS 1 BASEMENT FLOOD	RAS BLDG 1	1
CP4012	RAS_WAS_A	RAS BUILDING 1 ALARMS	RAS 1 INST AIR OK	RAS 1 INST AIR LOW	RAS BLDG 1	1
CP4012	RAS_WAS_A	RAS BUILDING 1 ALARMS	RAS 1 SEAL WATER OK	RAS 1 SEAL WATER LOW	RAS BLDG 1	1
CP4012	RAS_WAS_A		CLARIF 1 OK	CLARIF 1 FAILED	RAS BLDG 1	1
CP4012	RAS_WAS_A		CLAR 1 RAS PUMP OK	CLAR 1 RAS PUMP OFF	CLARIFIER 1	1
CP4012	RAS_WAS_A		CLAIR #1 RUNNING	CLAIR #1 STOPPED		1
CP4012	RAS_WAS_A		CLARIF 2 OK	CLARIF 2 FAILED	RAS BLDG 1	1
CP4012	RAS_WAS_A		CLAR 2 RAS PUMP OK	CLAR 2 RAS PUMP OFF	CLARIFIER 2	1
CP4012	RAS_WAS_A		CLAIR #2 RUNNING	CLIAR #2 STOPPED		1
CP4012	RAS_WAS_A		LOW ALARM	WAS A FLOW LOW	25.0	2
CP4012	RAS_WAS_A	WAS A LOW FLOW DELAYED ALM	WAS A FLOW NORMAL	WAS A LOW FLOW ALARM	WAS A LOW FLOW DELAYED ALM	2
CP4012	RAS_WAS_A	WAS A FLOW METER	ALARM TYPE	LOW FLOW	20.0	2
CP4012	RAS_WAS_A	WAS A FLOW METER	LOW LOW ALARM		0.0	5
CP4012	RAS_WAS_A	WAS A FLOW METER	BAD		BAD I/O	5
CP4012	RAS_WAS_A		LOW ALARM	WAS B FLOW LOW	19.0	2
CP4012	RAS_WAS_A	WAS B LOW FLOW ALARM DELAYED	WAS B FLOW NORMAL	WAS B LOW FLOW ALARM	WAS B LOW FLOW ALARM DELAYED	1
CP4012	RAS_WAS_A	WAS B FLOW METER	ALARM TYPE	LOW FLOW	20.0	2
CP4012	RAS_WAS_A	WAS B FLOW METER	LOW LOW ALARM		0.0	5
CP4012	RAS_WAS_A	WAS B FLOW METER	BAD		BAD I/O	5
CP4012	RAS_WAS_B	RAS WAS B ALARMS	CLARIFIER 3 RAS PUMP OK	CLARIFIER 3 RAS PUMP OFF	CLARIFIER RAS PUMP	1
CP4012	RAS_WAS_B	RAS WAS B ALARMS	CLAIR #3 RUNNING	CLAIR #3 STOPPED		1
CP4012	RAS_WAS_B		LOW ALARM	RAS 3 FLOW LOW	2.0	1
CP4012	RAS_WAS_B		CLAIR 3 OK	CLAIR 3 FAILED	RAS BLDG 1	1
CP4012	RAS_WAS_B	CLAIRAFIER 3 FLOW METER	HIGH ALARM		100.0	1
CP4012	RAS_WAS_B	CLAIRAFIER 3 FLOW METER	ALARM TYPE	CLARIFIER 3 LOW FLOW	1.5	1
CP4012	RAS_WAS_B	CLAIRAFIER 3 FLOW METER	LOW LOW ALARM		0.0	5
CP4012	RAS_WAS_B	CLAIRAFIER 3 FLOW METER	BAD		BAD I/O	5
CP4012	RAS_WAS_B	CLAIRAFIER 3 FLOW METER	HIGH HIGH ALARM		100.0	5
CP4012	RAS_WAS_B	RAS WAS B ALARMS	CLARIFIER 4 RAS PUMP OK	CLARIFIER 4 RAS PUMP OFF	CLARIFIER RAS PUMP	1
CP4012	RAS_WAS_B	RAS WAS B ALARMS	CLAIR #4 RUNNING	CLAIR #4 STOPPED		1
CP4012	RAS_WAS_B		LOW ALARM	RAS 4 FLOW LOW	2.0	1
CP4012	RAS_WAS_B		CLAIR 4 OK	CLAIR 4 FAILED	RAS BLDG 1	1
CP4012	RAS_WAS_B	CLAIRAFIER 4 FLOW METER	HIGH ALARM		100.0	1
CP4012	RAS_WAS_B	CLAIRAFIER 4 FLOW METER	ALARM TYPE	CLARIFIER 4 FLOW LOW	1.5	1
CP4012	RAS_WAS_B	CLAIRAFIER 4 FLOW METER	LOW LOW ALARM		0.0	5
CP4012	RAS_WAS_B	CLAIRAFIER 4 FLOW METER	BAD		BAD I/O	5
CP4012	RAS_WAS_B	CLAIRAFIER 4 FLOW METER	HIGH HIGH ALARM		100.0	5
CP4012	RAS_WAS_B		WAS PMP 1 OK	WAS PMP 1 FAILED	RAS BLDG 1	1
CP4012	RAS_WAS_B		WAS PMP 2 OK	WAS PMP 2 FAILED	RAS BLDG 1	1
CP4012	RAS_WAS_B		WAS PMP 3 OK	WAS PMP 3 FAILED	RAS BLDG 1	1
CP4012	RAS_WAS_B		RAS PMP 4 OK	RAS PMP 4 FAILED	RAS BLDG 1	1
CP4012	RAS_WAS_B		RAS PMP 5 OK	RAS PMP 5 FAILED	RAS BLDG 1	1

CP	COMPOUND	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
CP4012	RAS_WAS_B		RAS PMP 6 OK	RAS PMP 6 FAILED	RAS BLDG 1	1
CP6013	RAS_WAS_C	RAS BUILDING 2 ALARMS	RAS 2 CLIAR 5 OK	RAS 2 CLIAR 5 FAILED	RAS BUILDING 2	1
CP6013	RAS_WAS_C		CLARIFIER 5 RAS PUMP OK	CLARIFIER 5 RAS PUMP OFF	CLARIFIER 5 RAS	1
CP6013	RAS_WAS_C	RAS BUILDING 2 ALARMS	CLIAR #5 RUNNING	CLAIR #5 STOPPED		1
CP6013	RAS_WAS_C		LOW ALARM	RAS 5 FLOW LOW	2.0	1
CP6013	RAS_WAS_C	CLAIRFIER 5 FLOW METER INPUT	HIGH ALARM		100.0	1
CP6013	RAS_WAS_C	CLAIRFIER 5 FLOW METER INPUT	ALARM TYPE	CLARIFIER 5 LOW FLOW	2.0	1
CP6013	RAS_WAS_C	CLAIRFIER 5 FLOW METER INPUT	LOW LOW ALARM		0.0	5
CP6013	RAS_WAS_C	CLAIRFIER 5 FLOW METER INPUT	HIGH HIGH ALARM		100.0	5
CP6013	RAS_WAS_C	CLAIRFIER 5 FLOW METER INPUT	BAD		BAD I/O	5
CP6013	RAS_WAS_C	RAS BUILDING 2 ALARMS	RAS 2 CLAIR 6 OK	RAS 2 CLAIR 6 FAILED	RAS BUILDING 2	1
CP6013	RAS_WAS_C		CLARIFIER 6 RAS PUMP OK	CLARIFIER 6 RAS PUMP OFF	CLARIFIER 6 RAS	1
CP6013	RAS_WAS_C	RAS BUILDING 2 ALARMS	CLAIR #6 RUNNING	CLAIR #6 STOPPED		1
CP6013	RAS_WAS_C		LOW ALARM	RAS 6 FLOW LOW	2.0	1
CP6013	RAS_WAS_C	CLAIRFIER 6 FLOW METER INPUT	HIGH ALARM		100.0	1
CP6013	RAS_WAS_C	CLAIRFIER 6 FLOW METER INPUT	ALARM TYPE	CLARIFIER 6 LOW FLOW	2.0	1
CP6013	RAS_WAS_C	CLAIRFIER 6 FLOW METER INPUT	HIGH HIGH ALARM		100.0	5
CP6013	RAS_WAS_C	CLAIRFIER 6 FLOW METER INPUT	BAD		BAD I/O	5
CP6013	RAS_WAS_C	CLAIRFIER 6 FLOW METER INPUT	LOW LOW ALARM		0.0	5
CP6013	RAS_WAS_C	RAS 2 ALARMS	RAS 2 WAS PMP 4 OK	RAS 2 WAS PMP 4 FAILED	RAS BUILDING 2	1
CP6013	RAS_WAS_C	RAS 2 ALARMS	RAS 2 WAS PMP 5 OK	RAS 2 WAS PMP 5 FAILED	RAS BUILDING 2	1
CP6013	RAS_WAS_C	RAS 2 ALARMS	RAS 2 PMP 7 OK	RAS 2 PMP 7 FAILED	RAS BUILDING 2	1
CP6013	RAS_WAS_C	RAS 2 ALARMS	RAS 2 PMP 8 OK	RAS 2 PMP 8 FAILED	RAS BUILDING 2	1
CP6013	RAS_WAS_C	RAS 2 ALARMS	RAS 2 PMP 9 OK	RAS 2 PMP 9 FAILED	RAS BUILDING 2	1
CP6013	RAS_WAS_C	RAS 2 ALARMS				1
CP6013	RAS_WAS_C	RAS 2 ALARMS	RAS 2 SEAL WATER OK	RAS 2 SEAL WATER FAIL	RAS BUILDING 2	1
CP6013	RAS_WAS_C	RAS 2 ALARMS	RAS 2 BASEMENT OK	RAS 2 BASEMENT FLOOD	RAS BUILDING 2	1
CP6013	RAS_WAS_C	RAS BUILDING 2 ALARMS	RAS 2 INST AIR OK	RAS 2 INST AIR LOW PRESS	RAS BUILDING 2	1
CP6013	RAS_WAS_C	RAS BUILDING 2 ALARMS	CLAIR #6 RUNNING	CLAIR #6 STOPPED		1
CP6013	RAS_WAS_C	RAS 2 SCUMWELL DELAYED ALARM	RAS 2 SCUMWELL NORMAL	RAS 2 SCUMWELL LEVEL HI ALM	RAS 2 SCUMWELL LEVEL HI ALM	1
CP6013	RAS_WAS_C		LOW ALARM	WAS C FLOW LOW	10.0	1
CP6013	RAS_WAS_C	WAS C LOW FLOW ALARM DELAYED	WAS C FLOW NORMAL	WAS C LOW FLOW ALARM	WAS C LOW FLOW ALARM DELAYED	1
CP6013	RAS_WAS_C	WAS C FLOW METER INPUT	ALARM TYPE	LOW FLOW	10.0	2
CP6013	RAS_WAS_C	WAS C FLOW METER INPUT	BAD		BAD I/O	5
CP6013	RAS_WAS_C	WAS C FLOW METER INPUT	LOW LOW ALARM		0.0	5
CP6013	RP1_5_BYPASS	RP1 BYPASS FLOW #3	HIGH ALARM	BYPASS FLOW HIGH	10.0	1
CP6013	RP1_5_BYPASS		ALARM TYPE	RP1 BYPASS FLOW HIGH	2.0	1
CP6013	RP1_5_BYPASS	RP1 BYPASS GATE POSITION	HIGH ALARM	BYPASS GATE POSITION HIGH	10.0	1
CP6013	RP1_5_BYPASS		ALARM TYPE	BYPASS DEVIATION ALARM	0.5	1
CP6013	RP1_5_BYPASS	RP1 BYPASS FLOW #3	HIGH HIGH ALARM		100.0	5
CP6013	RP1_5_BYPASS	RP1 BYPASS GATE POSITION	HIGH HIGH ALARM		100.0	5
CP6013	RP1_5_BYPASS		SLUICE GATE AUTO	SLUICE GATE CLOSE	RP1 BYPASS	1
CP6013	RP1_IPS	SYS A FLOW PID CNTL	ALARM TYPE	FLOW ABOVE SET POINT	5.0	1
CP6013	RP1_IPS	SYS A FLOW PID CNTL	ALARM TYPE	FLOW BELOW SET POINT	5.0	1
CP6013	RP1_IPS	SYS A LEVEL PID CNTL	ALARM TYPE	LEV ABOVE SET POINT	3.0	1
CP6013	RP1_IPS	SYS A LEVEL PID CNTL	ALARM TYPE	LEV BELOW SET POINT	3.0	1
CP6013	RP1_IPS	SYS B FLOW PID CNTL	ALARM TYPE	FLOW ABOVE SET POINT	5.0	2
CP6013	RP1_IPS	SYS B FLOW PID CNTL	ALARM TYPE	FLOW BELOW SET POINT	5.0	2

CP	COMPOUND	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
CP6013	RP1_IPS	SYS B LEVEL PID CNTL	ALARM TYPE	LEV ABOVE SET POINT	3.0	1
CP6013	RP1_IPS	SYS B LEVEL PID CNTL	ALARM TYPE	LEV BELOW SET POINT	3.0	1
CP6013	RP1_IPS	SYS C FLOW PID CNTL	ALARM TYPE	FLOW ABOVE SET POINT	5.0	1
CP6013	RP1_IPS	SYS C FLOW PID CNTL	ALARM TYPE	FLOW BELOW SET POINT	5.0	1
CP6013	RP1_IPS	SYS C LEVEL PID CNTL	ALARM TYPE	LEV BELOW SET POINT	3.0	1
CP6013	RP1_IPS	SYS C LEVEL PID CNTL	ALARM TYPE	LEV ABOVE SET POINT	3.0	1
CP6013	RP1_IPS	RP1 IPS ALARMS	AIR PRESS OK	LOW AIR	IPS SYS C	1
CP6013	RP1_IPS	RP1 IPS ALARMS	PLC-1 OK	PLC-1 FAIL	BUBBLER	1
CP6013	RP1_IPS	RP1 IPS ALARMS	480 BUSS OK	480 BUSS FAIL	IPS SYS C	1
CP6013	RP1_IPS	RP1 IPS ALARMS	480 BUSS OK	480 BUSS FAIL	IPS SYS A&B	1
CP6013	RP1_IPS	RP1 IPS ALARMS	AIR PRESS OK	LOW AIR	IPS SYS A&B	1
CP6013	RP1_IPS	IPS A HI FLOW DELAYED ALM	IPS A FLOW NORMAL	IPS A FLOW HI ALM	IPS A HI FLOW DELAYED ALM	1
CP6013	RP1_IPS	IPS B LOW FLOW DELAYED ALM	IPS A FLOW NORMAL	IPS A LO FLOW ALM	IPS A LO FLOW DELAYED ALM	1
CP6013	RP1_IPS	IPS A FLOW DEVIATION ALM	IPS A FLOW NORMAL	IPS A FLOW DEVIATION HI	IPS A FLOW DEVIATION DELAYED ALM	1
CP6013	RP1_IPS	IPS A FLOW DEVIATION ALM	IPS A FLOW NORMAL	IPS A FLOW DEVIATION LO ALM	IPS A FLOW DEVIATION LO ALM	1
CP6013	RP1_IPS	IPS B HI FLOW DELAYED ALM	IPS B FLOW NORMAL	IPS B HI FLOW ALM	IPS B HI FLOW ALM DELAYED	1
CP6013	RP1_IPS	IPS B LO FLOW ALM DELAYED	IPS B FLOW NORMAL	IPS B LO FLOW ALM	IPS B LO FLOW ALM DELAYED	1
CP6013	RP1_IPS	IPS B HI FLOW DEVIATION ALM	IPS B FLOW NORMAL	IPS B HI FLOW DEVIATION ALM	IPS B HI FLOW DEVIAITON ALM	1
CP6013	RP1_IPS	IPS B LOW FLOW DEVIATION ALM	IPS B FLOW NORMAL	IPS B LOW FLOW DEVIATION ALM	IPS B LOW FLOW DEVIATION ALM	1
CP6013	RP1_IPS	IPS C HI FLOW ALM DELAYED	IPS C FLOW NORMAL	IPS C HI FLOW ALM	IPS C HI FLOW ALM DELAYED	1
CP6013	RP1_IPS	IPS C LO FLOW ALM DELAYED	IPS C FLOW NORMAL	IPS C LO FLOW ALM.	IPS C LO FLOW ALM DELAYED	1
CP6013	RP1_IPS	IPS C HI FLOW DEVIATION ALM	IPS C FLOW NORMAL	IPS C HI FLOW DEVIATION ALM	IPS C HI FLOW DEVIAITON ALM	1
CP6013	RP1_IPS	IPS C LOW FLOW DEVIATION ALM	IPS C FLOW NORMAL	IPS C LOW FLOW DEVIATION ALM	IPS C LOW FLOW DEVIATION ALM	1
CP6013	RP1_IPS	RP1 STORM DRAIN HI LEVEL ALARM	LEVEL NORMAL	HI LEVEL	RP1 STORM DRAIN ALARM	1
CP6013	RP1_IPS	RP1 IPS SYS A ALARMS	ENABLED	LOCKED OUT	IPS SYS A	1
CP6013	RP1_IPS	RP1 IPS SYS A ALARMS	LEVEL OK	LOW LEVEL	IPS SYS A	1
CP6013	RP1_IPS	RP1 IPS SYS A ALARMS	RESET	FAILED	IPS PUMP #5	1
CP6013	RP1_IPS	RP1 IPS SYS A ALARMS	RESET	FAILED	IPS PUMP #4	1
CP6013	RP1_IPS	RP1 IPS SYS A ALARMS	LEVEL OK	HIGH LEVEL	IPS SYS A	1
CP6013	RP1_IPS	RP1 IPS SYS A ALARMS	RESET	FAILED	IPS PUMP #6	1
CP6013	RP1_IPS	IPS SYS A FLOW	HIGH ALARM		100.0	1
CP6013	RP1_IPS	IPS SYS A FLOW	ALARM TYPE	LOW FLOW	2.0	1
CP6013	RP1_IPS	IPS SYS A FLOW	LOW LOW ALARM		0.0	5
CP6013	RP1_IPS	IPS SYS A FLOW	HIGH HIGH ALARM		100.0	5
CP6013	RP1_IPS	IPS SYS A FLOW	BAD		BAD I/O	5
CP6013	RP1_IPS	SYS A SEQ CNTL	IPS SYS A SEQ FAIL	IPS SYS A SEQ FAIL	IPS SYS A SEQ FAIL	1
CP6013	RP1_IPS	RP1 IPS SYS B ALARMS	ENABLED	LOCKED OUT	IPS SYS B	1
CP6013	RP1_IPS	RP1 IPS SYS B ALARMS	LEVEL OK	LOW LEVEL	IPS SYS B	1
CP6013	RP1_IPS	RP1 IPS SYS B ALARMS	RESET	FAILED	IPS PUMP #2	1
CP6013	RP1_IPS	RP1 IPS SYS B ALARMS	RESET	FAILED	IPS PUMP #1	1
CP6013	RP1_IPS	RP1 IPS SYS B ALARMS	RESET	FAILED	IPS PUMP #3	1
CP6013	RP1_IPS	IPS SYS B FLOW	HIGH ALARM		100.0	1
CP6013	RP1_IPS	IPS SYS B FLOW	ALARM TYPE	LOW FLOW	2.0	1
CP6013	RP1_IPS	IPS SYS B FLOW	LOW LOW ALARM		0.0	5
CP6013	RP1_IPS	IPS SYS B FLOW	HIGH HIGH ALARM		100.0	5
CP6013	RP1_IPS	IPS SYS B FLOW	BAD		BAD I/O	5
CP6013	RP1_IPS	SYS B SEQ CNTL	IPS SYS B SEQ FAIL	IPS SYS B SEQ FAIL	IPS SYS B SEQ FAIL	1
CP6013	RP1_IPS	RP1 IPS SYS C ALARMS	RESET	FAILED	IPS PUMP #9	1
CP6013	RP1_IPS	RP1 IPS SYS C ALARMS	LEVEL OK	LOW LEVEL	IPS SYS C	1
CP6013	RP1_IPS	RP1 IPS SYS C ALARMS	RESET	FAILED	IPS PUMP #10	1
CP6013	RP1_IPS	RP1 IPS SYS C ALARMS	RESET	FAILED	IPS PUMP #8	1
CP6013	RP1_IPS	RP1 IPS SYS C ALARMS	RESET	FAILED	IPS PUMP #7	1
CP6013	RP1_IPS	IPS SYS C FLOW	HIGH ALARM		100.0	1

CP	COMPOUND	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
CP6013	RP1_IPS	IPS SYS C FLOW	ALARM TYPE	LOW FLOW	2.0	1
CP6013	RP1_IPS	IPS SYS C FLOW	LOW LOW ALARM		0.0	5
CP6013	RP1_IPS	IPS SYS C FLOW	HIGH HIGH ALARM		100.0	5
CP6013	RP1_IPS	IPS SYS C FLOW	BAD		BAD I/O	5
CP6013	RP1_IPS	SYS C SEQ CNTL	IPS SYS C SEQ FAIL	IPS SYS C SEQ FAIL	IPS SYS C SEQ FAIL	1

#	SECTION	LOCATION	PROCESS	EQUIPMENT	ALARM NEEDED
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

REASON

CP	COMPOUND	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
ABST16	3PHASE	ALARM BLOCK 1	DIG RECIR. PUMP 3205 OK	DIG RECIR. PUMP 3205 FAIL	DIG RECIR. PUMP 3205 STAT	1
ABST16	3PHASE	ALARM BLOCK 1	3PHASE PLC COMM OK	3PHASE PLC COMM FAIL	3PHASE PLC COMM STATUS	1
ABST16	3PHASE	ALARM BLOCK 2 FOR 3 PHASE	DIG XFR VALVE 3220 OK	DIG XFR VALVE 3220 FAIL	DIG XFR VALVE 3220 STAT	5
ABST16	3PHASE	ALARM BLOCK 2 FOR 3 PHASE	DIG XFR VALVE 3223 OK	DIG XFR VALVE 3223 FAIL	DIG XFR VALVE 3223 STAT	5
ABST16	3PHASE	ALARM BLOCK 2 FOR 3 PHASE	DIG 1 DF VALVE 3224 OK	DIG 1 DF VALVE 3224 FAIL	DIG 1 DF VALVE 3224 STAT	5
ABST16	3PHASE	ALARM BLOCK 2 FOR 3 PHASE	DIG 2 DF VALVE 3225 OK	DIG 2 DF VALVE 3225 FAIL	DIG 2 DF VALVE 3225 STAT	5
ABST16	3PHASE	ALARM BLOCK 2 FOR 3 PHASE	DIG XFR VALVE 3222 OK	DIG XFR VALVE 3222 FAIL	DIG XFR VALVE 3222 STAT	5
ABST16	3PHASE	ALARM BLOCK 2 FOR 3 PHASE	DIG XFR VALVE 3221 OK	DIG XFR VALVE 3221 FAIL	DIG XFR VALVE 3221 STAT	5
ABST16	3PHASE	ALARM BLOCK 2 FOR 3 PHASE	DIG 3 INLET 2 VALVE 3226 OK	DIG 3 INLET 2 VALVE 3226 FAIL	DIG 3 INLET 2 VALVE 3226 STAT	5
ABST16	3PHASE	ALARM BLOCK 2 FOR 3 PHASE	DIG 3 INLET 1 VALVE 3227 OK	DIG 3 INLET 1 VALVE 3227 FAIL	DIG 3 INLET 1 VALVE 3227 STAT	5
ABST16	3PHASE	3 PHASE ALARM BLOCK 3	DIG 4 INLET 2 VALVE 3228 OK	DIG 4 INLET 2 VALVE 3228 FAIL	DIG 4 INLET 2 VALVE 3228 STAT	5
ABST16	3PHASE	3 PHASE ALARM BLOCK 3	DIG 6 INLET VALVE 3231 OK	DIG 6 INLET VALVE 3231 FAIL	DIG 6 INLET VALVE 3231 STAT	5
ABST16	3PHASE	3 PHASE ALARM BLOCK 3	DIG 7 INLET VALVE 3232 OK	DIG 7 INLET VALVE 3232 FAIL	DIG 7 INLET VALVE 3232 STAT	5
ABST16	3PHASE	3 PHASE ALARM BLOCK 3	DIG 5 INLET 1 VALVE 3230 OK	DIG 5 INLET 1 VALVE 3230 FAIL	DIG 5 INLET 1 VALVE 3230 STAT	5
ABST16	3PHASE	3 PHASE ALARM BLOCK 3	DIG 2 INLET VALVE 3234 OK	DIG 2 INLET VALVE 3234 FAIL	DIG 2 INLET VALVE 3234 STAT	5
ABST16	3PHASE	3 PHASE ALARM BLOCK 3	DIG 4 INLET 1 VALVE 3229 OK	DIG 4 INLET 1 VALVE 3229 FAIL	DIG 4 INLET 1 VALVE 3229 STAT	5
ABST16	3PHASE	3 PHASE ALARM BLOCK 4	DIG 4 BP VALVE 3204 OK	DIG 4 BP VALVE 3204 FAIL	DIG 4 BP VALVE 3204 STATUS	5
ABST16	3PHASE	3 PHASE ALARM BLOCK 4	DIG 5 BP VALVE 3205 OK	DIG 5 BP VALVE 3205 FAIL	BIG 5 BP VALVE 3205 STATUS	5
ABST16	3PHASE	3 PHASE ALARM BLOCK 4	DIG 3 OUTLET VALVE 3203 OK	DIG 3 OUTLET VALVE 3203 FAIL	DIG 3 OUTLET VALVE 3203 STATUS	5
ABST16	3PHASE	3 PHASE ALARM BLOCK 4	DIG 7 BP VALVE 3207 OK	DIG 7 BP VALVE 3207 FAIL	DIG 7 BP VALVE 3207 STATUS	5
ABST16	3PHASE	3 PHASE ALARM BLOCK 4	DIG 2 OUTLET VALVE 3202 OK	DIG 2 OUTLET VALVE 3202 FAIL	DIG 2 OUTLET VALVE 3202 STATUS	5
ABST16	3PHASE	3 PHASE ALARM BLOCK 4	DIG 1 OUTLET VALVE 3201 OK	DIG 1 OUTLET VALVE 3201 FAIL	DIG 1 OUTLET VALVE 3201 STATUS	5
ABST16	3PHASE	3 PHASE ALARM BLOCK 5	DIG XFR PUMP 3213 OK	DIG XFR PUMP 3213 FAIL	DIG XFR PUMP 3213 STATUS	2
ABST16	3PHASE	3 PHASE ALARM BLOCK 5	DIG XFR PUMP 3217 OK	DIG XFR PUMP 3217 FAIL	DIG XFR PUMP 3217 STATUS	2
ABST16	3PHASE	3 PHASE ALARM BLOCK 5	DIG XFR PUMP 3218 OK	DIG XFR PUMP 3218 FAIL	DIG XFR PUMP 3218 STATUS	2
ABST16	3PHASE	3 PHASE ALARM BLOCK 5	DIG XFR PUMP 3212 OK	DIG XFR PUMP 3212 FAIL	DIG XFR PUMP 3212 STATUS	2
ABST16	3PHASE	3 PHASE ALARM BLOCK 5	DIG XFR PUMP 3216 OK	DIG XFR PUMP 3216 FAIL	DIG XFR PUMP 3216 STATUS	2
ABST16	3PHASE	3 PHASE ALARM BLOCK 5	DIG XFR PUMP 3214 OK	DIG XFR PUMP 3214 FAIL	DIG XFR PUMP 3214 STATUS	2
ABST16	3PHASE	3 PHASE ALARM BLOCK 5	DIG XFR PUMP 3215 OK	DIG XFR PUMP 3215 FAIL	DIG XFR PUMP 3215 STATUS	2
ABST16	3PHASE_XFRA	TRANSFER A ALARMS	DIG XFR A RUNTIME OK	DIG XFR A RUNTIME EXCEEDED	DIG XFR A RUNTIME STATUS	1
ABST16	3PHASE_XFRA	TRANSFER A ALARMS	DIG XFR A NORMAL OPERATION	DIG XFR A SKIP UNAVAIL STEP	DIG XFR A NORMAL	1
ABST16	3PHASE_XFRA	TRANSFER A ALARMS	DIG XFR A OK	DIG XFR A FAIL TO COMPLETE	DIG XFR A STATUS	1
ABST16	3PHASE_XFRA	TRANSFER A ALARMS	DIG LEVEL SP REACH ALARM	DIG XFR A DIG SP RCH SHTDN REQ	DIG LEVEL SP NORMAL	5
ABST16	3PHASE_XFRB	TRANSFER B ALARMS	DIG XFR B OK	DIG XFR B FAIL TO COMPLETE	DIG XFR B STATUS	2

CP	COMPOUND	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
ABST16	3PHASE_XFRB	TRANSFER B ALARMS	DIG XFR B OK	DIG XFR B SKIP STEP	DIG XFR B STATUS	2
ABST16	3PHASE_XFRC	DIG TRANSFER C ALARMS	DIG XFR C OK	DIG XFR C FAIL TO COMPLETE	DIG XFR C STATUS	2
ABST16	3PHASE_XFRC	DIG TRANSFER C ALARMS	DIG XFR C OK	DIG XFR C DIG SP RCH SHUTDN REQ	DIG XFR C SETPOINT REACHED	5
CP3002	AMSC	EAST SLUDGE TANK LEVEL	LOW ALARM	EAST SLUDGE TANK LEVEL LO	1.299999833	1
CP3002	AMSC	EAST SLUDGE TANK LEVEL	HIGH ALARM	EAST SLUDGE TANK LEVEL HI	10.29999733	1
ABST12	CEMS_1	CEM 2 NOX O2 CORRECTED	HIGH HIGH ALARM	NOX LIMIT EXCEEDED	40.0	1
ABST12	CEMS_1	CEM 2 NOX O2 CORRECTED	HIGH ALARM	HIGH WARNING	39.0	1
ABST12	CEMS_1	CEMS 2 PLC COMM FAIL	CEMS 2 COMM FAIL	CEMS 2 COMM FAIL	CEMS 2 COMM FAIL	1
ABST12	CEMS_1	CEMS 2 PLC COMM FAIL	CEMS 2 COMM OK	CEMS 2 COMM FAIL	CEMS 2 COMM	1
ABST12	CEMS_1	CEM 1 NOX O2 CORRECTED	HIGH HIGH ALARM	NOX LIMIT EXCEEDED	40.0	1
ABST12	CEMS_1	CEM 1 NOX O2 CORRECTED	HIGH ALARM	HIGH WARNING	39.0	1
ABST12	CEMS_1	CEMS 1 PLC COM FAIL	CEMS 1 COMM FAIL	CEMS 1 COMM FAIL	CEMS 1 COMM FAIL	1
ABST12	CEMS_1	CEMS 1 PLC COM FAIL	CEMS 1 COMM OK	CEMS 2 COMM FAIL	CEMS 1	1
ABST12	COGEN	RP1 COGEN ALARMS	RUNNING	SHUT DOWN	COGEN #2	1
ABST12	COGEN	COGEN MASTER SLC COMM FAIL	COGEN MASTER SLC COMM OK	COGEN MASTER SLC COMM FAIL		1
ABST12	COGEN	RP1 COGEN ALARMS	RUNNING	SHUT DOWN	COGEN #1	1
CP4012	DAFT_1_2	ALARMS PLANT 2	TRICKLING WET WELL OK	TRICKLING FILTER WET WELL HIGH	TRICKLING FILTER	1
CP4012	DAFT_1_2	ALARMS PLANT 2	TORQUE OK	HIGH TORQUE	PLT2 SEC CLAR	1
CP4012	DAFT_1_2	ALARMS PLANT 2	DAFT 1 WETWELL OK	DAFT 1 WETWELL HI	DAFT 1 WETWELL	1
CP4012	DAFT_1_2	ALARMS PLANT 2	DAFT 2 WETWELL OK	DAFT 2 WETWELL HI	DAFT 2 WETWELL	1
CP4012	DAFT_1_2	ALARMS PLANT 2	PUMP OK	PUMP FAILED	BP 102	1
CP4012	DAFT_1_2	ALARMS PLANT 2	PUMP OK	PUMP FAILED	BP 101	1
CP4012	DAFT_1_2	ALARMS PLANT 2	TORQUE OK	HIGH TORQUE	PLT2 PRI CLAR	1
CP4012	DAFT_1_2	ALARMS PLANT 2	SMB AIR PRESS OK	SMB AIR PRESS LOW	DAFT AIR	1
CP4012	DAFT_1_2	DAFT PUMP ALRMS	DAFT 2 BUBBLE LEVEL OK	DAFT 2 BUBBLER LOW LEVEL ALARM	DAFT 2 BUBBLER LEVEL	5
CP4012	DAFT_1_2	DAFT PUMP ALRMS	DAFT 2 BUBBLER AIR OK	DAFT 2 BUBBLER LOW AIR FAULT	DAFT 2 BUBBLER AIR	5
CP4012	DAFT_1_2	DAFT PUMP ALRMS	DAFT 1 BUBBLE LEVEL OK	DAFT 1 BUBBLER LOW LEVEL ALARM	DAFT 1 BUBBLER LEVEL	5
CP4012	DAFT_1_2	DAFT PUMP ALRMS	DAFT 1 BUBBLER AIR OK	DAFT 1 BUBBLER LOW AIR FAULT	DAFT 1 BUBBLER AIR	5
CP4012	DAFT_1_2	DAFT 1 BOTTOM DRIVE START/STOP	MOTOR OK	MOTOR FAIL	DAFT 1 BOTTOM DRIVE	1
CP4012	DAFT_1_2	DAFT 1 BOTTOM DRIVE START/STOP			DAFT 1 BOTTOM DRIVE	5
CP4012	DAFT_1_2	DAFT PRESSURE PUMP # 1	PUMP 1 OK	PUMP 1 FAILED	DAFT PRESS PMP 1	1
CP4012	DAFT_1_2	DAFT PRESSURE PUMP # 1			DAFT PRESS PMP 1	5
CP4012	DAFT_1_2	DAFT 1 TOP DRIVE START/STOP	MOTOR OK	MOTOR FAIL	DAFT 1 TOP DRIVE	1
CP4012	DAFT_1_2	DAFT 1 TOP DRIVE START/STOP			DAFT 1 TOP DRIVE	5
CP4012	DAFT_1_2	DAFT 2 BOTTOM DRIVE START/STOP	MOTOR OK	MOTOR FAIL	DAFT 2 BOTTOM DRIVE	1
CP4012	DAFT_1_2	DAFT 2 BOTTOM DRIVE START/STOP			DAFT 2 BOTTOM DRIVE	5
CP4012	DAFT_1_2	DAFT PRESSURE PUMP # 2	PUMP OK	PUMP FAILED	DAFT PRESS PMP 2	1

CP	COMPOUND	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
CP4012	DAFT_1_2	DAFT PRESSURE PUMP # 2			DAFT PRESS PMP 2	5
CP4012	DAFT_1_2	DAFT 2 TOP DRIVE START/STOP	MOTOR OK	MOTOR FAIL	DAFT 2 TOP DRIVE	1
CP4012	DAFT_1_2	DAFT 2 TOP DRIVE START/STOP			DAFT 2 TOP DRIVE	5
CP4012	DAFT_1_2	DAFT TRANSFER PUMP #1	TRANS PUMP 1 OK	TRANS PUMP 1 FAILED	DAFT TRANS PUMP 1	1
CP4012	DAFT_1_2	DAFT TRANSFER PUMP #1			DAFT TRANS PUMP 1	5
CP4012	DAFT_1_2	DAFT TRANS PUMP #2	TRANS PUMP 2 OK	TRANS PUMP 2 FAILED	DAFT TRANS PUMP 2	1
CP4012	DAFT_1_2	DAFT TRANS PUMP #2			DAFT TRANS PUMP 2	5
CP4012	DAFT_1_2	DAFT TRANS PUMP #3	TRANS PUMP 3 OK	TRANS PUMP 3 FAILED	DAFT TRANS PUMP 3	1
CP4012	DAFT_1_2	DAFT TRANS PUMP #3			DAFT TRANS PUMP 3	5
CP4012	DAFT_1_2	DAFT TRANS PUMP #4	TRANS PUMP 4 OK	TRANS PUMP 4 FAILED	DAFT TRANS PUMP 4	1
CP4012	DAFT_1_2	DAFT TRANS PUMP #4			DAFT TRANS PUMP 4	5
CP4012	DAFT_1_2	DAFT 1 BUBBLER WET WELL LEVEL	ALARM TYPE	DAFT 1 WETWELL LOW LEVEL ALARM	4.5	1
CP4012	DAFT_1_2	DAFT 1 BUBBLER WET WELL LEVEL	HIGH ALARM	DAFT 1 WETWELL HIGH LEVEL ALARM	10.0	1
CP4012	DAFT_1_2	DAFT 1 BUBBLER WET WELL LEVEL	HIGH HIGH ALARM		100.0	5
CP4012	DAFT_1_2	DAFT 1 BUBBLER WET WELL LEVEL	LOW LOW ALARM		0.0	5
CP4012	DAFT_1_2	DAFT 1 BUBBLER WET WELL LEVEL	BAD		BAD I/O	5
CP4012	DAFT_1_2	DAFT 2 WET WELL LEVEL	ALARM TYPE	DAFT 2 WETWELL LOW LEVEL ALARM	4.300000191	1
CP4012	DAFT_1_2	DAFT 2 WET WELL LEVEL	HIGH ALARM	DAFT 2 WETWELL HIGH LEVEL ALARM	10.0	1
CP4012	DAFT_1_2	DAFT 2 WET WELL LEVEL	HIGH HIGH ALARM		100.0	5
CP4012	DAFT_1_2	DAFT 2 WET WELL LEVEL	LOW LOW ALARM		0.0	5
CP4012	DAFT_1_2	DAFT 2 WET WELL LEVEL	BAD		BAD I/O	5
CP4012	DAFT_1_2	DIGESTER #3 GAS MIXER	MIXER O.K.	MIXER FAILED	DIGESTER #3 GAS MIXER	1
CP4012	DAFT_1_2	DIGESTER #3 GAS MIXER			DIGESTER #3 GAS MIXER	5
CP4012	DAFT_1_2	DIGESTER #4 GAS MIXER			DIGESTER #4 GAS MIXER	5
CP4012	DAFT_1_2	DIGESTER #4 GAS MIXER	MIXER O.K.	MIXER FAILED	DIGESTER #4 GAS MIXER	5
CP4012	DAFT_1_2	DIGESTER #5 GAS MIXER	MIXER O.K.	MIXER FAILED	DIGESTER #5 GAS MIXER	1
CP4012	DAFT_1_2	DIGESTER #5 GAS MIXER			DIGESTER #5 GAS MIXER	5
CP4012	DAFT_1_2	CONTROL FOR DAFT TMR BLOCK	DAFT TIME CONTROL FAIL	DAFT TIME CONTROL FAIL	DAFT TIME CONTROL FAIL	1
CP3016	DEWAT_DIO	BELTWASH SUMP HI LVL	SUMP LEVEL OK	HI SUMP LEVEL	BELTWASH SUMP	1
CP3016	DEWAT_DIO	DEWATERING	BELT PRESS 1 OK	BELT PRESS 1 FAIL	BP1_FAIL_ALM	1
CP3016	DEWAT_DIO	DEWATERING	BELT PRESS 2 OK	BELT PRESS 2 FAIL	BP2_FAIL_ALM	1
CP3016	DEWAT_DIO	DEWATERING	BELT PRESS 3 OK	BELT PRESS 3 FAIL	BP3_FAIL_ALM	1
CP3016	DEWAT_DIO	DEWATERING	BELT PRESS 4 OK	BELT PRESS 4 FAIL	BP4_FAIL_ALM	1
CP3016	DEWAT_DIO	BP FILTRATE PUMP ALARMS	PUMP 1 OK	P1 FAIL TO RUN	BP FILTRATE PMP 1	1
CP3016	DEWAT_DIO	BP FILTRATE PUMP ALARMS	PUMP 2 OK	P2 FAIL TO RUN	BP FILTRATE PMP 2	1
CP3016	DEWAT_DIO	BP FILTRATE PUMP ALARMS	PUMP 3 OK	P3 FAIL TO RUN	BP FILTRATE PMP 3	1
CP3016	DEWAT_UW	DEWATERING GOLF COURSE VALVE	T01A05 FAILED	T01A05 FAILED	GOLF COURSE VALVE AT DEWATERING	1

CP	COMPOUND	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
CP3016	DEWAT_UW	DEWATERING GOLF COURSE VALVE	OK	FAILED	GOLF COURSE VALVE AT DEWATERING	2
CP3016	DEWATERING	POLY PUMP 3 SPEED TO BELTPRESS	ALARM TYPE		BAD I/O	1
CP3016	DEWATERING	SLUDGE PUMP 4 FLOWMETER TO BP	BAD	FLOWMETER FAIL	BAD I/O	2
CP3016	DEWATERING	SLUDGE PUMP 4 FLOWMETER TO BP	HIGH ALARM		150.0	2
CP3016	DEWATERING	SLUDGE PUMP 4 FLOWMETER TO BP	ALARM TYPE	SLUDGE FLOW 4 LOW	30.0	2
CP3016	DEWATERING	SLUDGE PUMP 4 FLOWMETER TO BP	HIGH HIGH ALARM		125.0	5
CP3016	DEWATERING	SLUDGE PUMP 4 FLOWMETER TO BP	LOW LOW ALARM		0.0	5
CP3016	DEWATERING	SLUDGE PUMP 1 FLOWMETER TO BP	BAD	FLOWMETER FAIL	BAD I/O	2
CP3016	DEWATERING	SLUDGE PUMP 1 FLOWMETER TO BP	HIGH ALARM		145.0	2
CP3016	DEWATERING	SLUDGE PUMP 1 FLOWMETER TO BP	ALARM TYPE	SLUDGE FLOW 1 LOW	30.0	2
CP3016	DEWATERING	SLUDGE PUMP 1 FLOWMETER TO BP	HIGH HIGH ALARM		125.0	5
CP3016	DEWATERING	SLUDGE PUMP 1 FLOWMETER TO BP	LOW LOW ALARM		0.0	5
CP3016	DEWATERING	SLUDGE PUMP 2 FLOWMETER TO BP	BAD	FLOWMETER FAIL	BAD I/O	2
CP3016	DEWATERING	SLUDGE PUMP 2 FLOWMETER TO BP	HIGH ALARM		150.0	2
CP3016	DEWATERING	SLUDGE PUMP 2 FLOWMETER TO BP	ALARM TYPE	SLUDGE FLOW 2 LOW	30.0	2
CP3016	DEWATERING	SLUDGE PUMP 2 FLOWMETER TO BP	HIGH HIGH ALARM		125.0	5
CP3016	DEWATERING	SLUDGE PUMP 2 FLOWMETER TO BP	LOW LOW ALARM		0.0	5
CP3016	DEWATERING	SLUDGE PUMP 3 FLOWMETER TO BP	BAD	FLOWMETER FAIL	BAD I/O	2
CP3016	DEWATERING	SLUDGE PUMP 3 FLOWMETER TO BP	HIGH ALARM		150.0	2
CP3016	DEWATERING	SLUDGE PUMP 3 FLOWMETER TO BP	ALARM TYPE	SLUDGE FLOW 3 LOW	30.0	2
CP3016	DEWATERING	SLUDGE PUMP 3 FLOWMETER TO BP	HIGH HIGH ALARM		125.0	5
CP3016	DEWATERING	SLUDGE PUMP 3 FLOWMETER TO BP	LOW LOW ALARM		0.0	5
CP6013	DIG_CONTROL	DIGESTER #4 INLET VALVE CONTROL			DIG#4	1
CP6013	DIG_CONTROL	DIGESTER #5 INLET VALVE CONTROL			DIG#5	1
CP6013	DIG_CONTROL	DIGESTER #6 INLET VALVE CONTROL			DIG#6	1
CP6013	DIG_CONTROL	DIGESTER #1 INLET VALVE CONTROL			DIG#1	1
CP6013	DIG_CONTROL	DIGESTER #7 INLET VALVE CONTROL			DIG#7	1

CP	COMPOUND	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
CP6013	DIG_CONTROL	DIGESTER #2 INLET VALVE CONTROL			DIG#2	1
CP6013	DIG_CONTROL	DIGESTER #3 INLET VALVE CONTROL			DIG#3	1
CP6013	DIG_CONTROL	DIGESTER #5 INLET VALVE CONTROL	INLET VAL OK	INLET VAL FAIL	DIG#5	5
CP6013	DIG_CONTROL	DIGESTER #6 INLET VALVE CONTROL	INLET VAL OK	INLET VAL FAIL	DIG#6	5
CP6013	DIG_CONTROL	DIGESTER #1 INLET VALVE CONTROL	INLET VAL OK	INLET VAL FAILED	DIG#1	5
CP6013	DIG_CONTROL	DIGESTER #7 INLET VALVE CONTROL	INLET VAL OK	INLET VAL FAIL	DIG#7	5
CP6013	DIG_CONTROL	DIGESTER #2 INLET VALVE CONTROL	INLET VAL OK	INLET VAL FAIL	DIG#2	5
CP6013	DIG_CONTROL	DIGESTER #3 INLET VALVE CONTROL	INLET VAL OK	INLET VAL FAIL	DIG#3	5
CP6013	DIG_CONTROL	DIGESTER #4 INLET VALVE CONTROL	INLET VAL OK	INLET VAL FAIL	DIG#4	5
CP4012	DIG_HEAT	DIGESTER 7 TEMPATURE	ALARM TYPE	LOW	122.0	1
CP4012	DIG_HEAT	DIGESTER 6 TEMPATURE	ALARM TYPE	LOW	95.0	1
CP4012	DIG_HEAT	DIGESTER 2 TEMPATURE	ALARM TYPE	LOW	108.0	1
CP4012	DIG_HEAT	DIGESTER 7 TEMPATURE	BAD		BAD I/O	5
CP4012	DIG_HEAT	DIGESTER 6 TEMPATURE	BAD		BAD I/O	5
CP4012	DIG_HEAT	DIGESTER 2 TEMPATURE	BAD		BAD I/O	5
CP4012	DIG_HEAT	DIGESTER 7 TEMPATURE	LOW LOW ALARM		0.0	5
CP4012	DIG_HEAT	DIGESTER 6 TEMPATURE	LOW LOW ALARM		0.0	5
CP4012	DIG_HEAT	DIGESTER 2 TEMPATURE	LOW LOW ALARM		0.0	5
CP6013	DIG_CONTROL	DIGESTER AUTO SEQUENCE CONTROL	DIGESTER AUTO CONTROL FAIL	DIGESTER AUTO CONTROL FAIL	DIGESTER AUTO CONTROL FAIL	5
CP4012	DIG_HEAT	NORTH BOILER ALARMS	FLAME OK	FLAME FAIL	NORTH BOILER	5
CP4012	DIG_HEAT	NORTH BOILER ALARMS	WATER OK	LOW WATER	NORTH BOILER	5
CP4012	DIG_HEAT	NORTH BOILER ALARMS	DIG GAS OK	HI DIG GAS PRESS	NORTH BOILER	5
CP4012	DIG_HEAT	NORTH BOILER ALARMS	DIG GAS OK	LOW DIG GAS PRESS	NORTH BOILER	5
CP4012	DIG_HEAT	NORTH BOILER ALARMS	TEMP OK	HIGH TEMP	NORTH BOILER	5
CP4012	DIG_HEAT		FLAME OK	FLAME FAIL	SOUTH BOILER	5
CP4012	DIG_HEAT		WATER OK	LOW WATER	SOUTH BOILER	5
CP4012	DIG_HEAT		DIG GAS OK	HI DIG GAS PRESS	SOUTH BOILER	5
CP4012	DIG_HEAT		DIG GAS OK	LOW DIG GAS PRESS	SOUTH BOILER	5
CP4012	DIG_HEAT		TEMP OK	TEMP HIGH	SOUTH BOILER	5
CP3016	DIG_WITHDRWL	DIG PUMP 1 START/STOP	LOW ALARM	PUMP CALL TO STOP	-7.0	5
CP3016	DIG_WITHDRWL	DIG PUMP 1 START/STOP	HIGH ALARM	PUMP CALL TO RUN	-6.800000191	5
CP3016	DIG_WITHDRWL	DIGEST 1 WITHDRWL PUMP	PMP OK	PMP FAIL	DIGESTER 1 WDRL PMP	1
CP3016	DIG_WITHDRWL	DIGEST 1 WITHDRWL PUMP			DIGESTER 1 WDRL PMP	5
CP4012	DIGEST	DIG 1 GAS MIXER FAIL	OK	FAIL	DIG 1 GAS MIXER	1
CP4012	DIGEST	DIG 1 RECIRC PUMP FAIL	OK	FAIL	DIG 1 RECIRC PMP	1
CP4012	DIGEST	DIG 2 GAS MIXER FAIL	OK	FAIL	DIG 2 GAS MIXER	1
CP4012	DIGEST	DIG 2 RECIRC PUMP FAIL	OK	FAIL	DIG 2 RECIRC PMP	1

CP	COMPOUND	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
CP4012	DIGEST	DIG 3 RECIRC PUMP FAIL	OK	FAIL	DIG 3 RECIRC PMP	1
CP4012	DIGEST	DIG 4 RECIRC PUMP FAIL	OK	FAIL	DIG 4 RECIRC PMP	1
CP4012	DIGEST	DIG 5 RECIRC PUMP FAIL	OK	FAIL	DIG 5 RECIRC PMP	1
CP4012	DIGEST	DIG 6 RECIRC PUMP FAIL	OK	FAIL	DIG 6 RECIRC PMP FAIL	1
CP4012	DIGEST	DIG 7 RECIRC PUMP FAIL	OK	FAIL	DIG 7 RECIRC PMP FAIL	1
CP3016	DIGEST_GAS	DOME 1 GAS LEVEL	ALARM TYPE	LOW	1.0	1
CP3016	DIGEST_GAS	DOME 1 GAS LEVEL	HIGH ALARM	HIGH	6.300000191	1
CP3016	DIGEST_GAS	DOME 1 GAS LEVEL	LOW LOW ALARM		0.0	5
CP3016	DIGEST_GAS	DOME 1 GAS LEVEL	BAD		BAD I/O	5
CP3016	DIGEST_GAS	DOME 1 GAS LEVEL	HIGH HIGH ALARM		100.0	5
CP3016	DIGEST_GAS	DOME 2 GAS LEVEL	ALARM TYPE	LOW	3.0	1
CP3016	DIGEST_GAS	DOME 2 GAS LEVEL	HIGH ALARM	HIGH	6.0	1
CP3016	DIGEST_GAS	DOME 2 GAS LEVEL	LOW LOW ALARM		0.0	5
CP3016	DIGEST_GAS	DOME 2 GAS LEVEL	BAD		BAD I/O	5
CP3016	DIGEST_GAS	DOME 2 GAS LEVEL	HIGH HIGH ALARM		100.0	5
CP3016	DIGEST_GAS	DIGESTER 1 GAS FLOWMETER	ALARM TYPE		-200.0	1
CP3016	DIGEST_GAS	DIGESTER 1 GAS FLOWMETER	HIGH ALARM	DIG #1 HIGH FLOW CHK J-TUBE	17000.0	1
CP3016	DIGEST_GAS	DIGESTER 1 GAS FLOWMETER	BAD	FLOWMETER FAIL	BAD I/O	2
CP3016	DIGEST_GAS	DIGESTER 1 GAS FLOWMETER	HIGH HIGH ALARM		100.0	5
CP3016	DIGEST_GAS	DIGESTER 1 GAS FLOWMETER	LOW LOW ALARM		0.0	5
CP3016	DIGEST_GAS	DIGESTER 2 GAS FLOWMETER	ALARM TYPE	DIG 2 LOW GAS FLOW	500.0	1
CP3016	DIGEST_GAS	DIGESTER 2 GAS FLOWMETER	HIGH ALARM	DIG 2 HIGH GAS FLOW	22000.0	1
CP3016	DIGEST_GAS	DIGESTER 2 GAS FLOWMETER	BAD	FLOWMETER FAIL	BAD I/O	2
CP3016	DIGEST_GAS	DIGESTER 2 GAS FLOWMETER	HIGH HIGH ALARM		100.0	5
CP3016	DIGEST_GAS	DIGESTER 2 GAS FLOWMETER	LOW LOW ALARM		0.0	5
CP3016	DIGEST_GAS	DIGESTER 3 GAS FLOWMETER	ALARM TYPE		-200.0	1
CP3016	DIGEST_GAS	DIGESTER 3 GAS FLOWMETER	HIGH ALARM	HIGH DIG 3 PRES. CHK J-TUBE	17500.0	1
CP3016	DIGEST_GAS	DIGESTER 3 GAS FLOWMETER	BAD	FLOWMETER FAIL	BAD I/O	2
CP3016	DIGEST_GAS	DIGESTER 3 GAS FLOWMETER	HIGH HIGH ALARM		100.0	5
CP3016	DIGEST_GAS	DIGESTER 3 GAS FLOWMETER	LOW LOW ALARM		0.0	5
CP3016	DIGEST_GAS	DIGESTER 4 GAS FLOWMETER	ALARM TYPE		-200.0	1
CP3016	DIGEST_GAS	DIGESTER 4 GAS FLOWMETER	HIGH ALARM	DIG #4 HIGH GAS PRESS CHK J-TUBE	17500.0	1
CP3016	DIGEST_GAS	DIGESTER 4 GAS FLOWMETER	BAD	FLOWMETER FAIL	BAD I/O	2
CP3016	DIGEST_GAS	DIGESTER 4 GAS FLOWMETER	HIGH HIGH ALARM		100.0	5
CP3016	DIGEST_GAS	DIGESTER 4 GAS FLOWMETER	LOW LOW ALARM		0.0	5
CP3016	DIGEST_GAS	DIGESTER 5 GAS FLOWMETER	ALARM TYPE		0.0	1
CP3016	DIGEST_GAS	DIGESTER 5 GAS FLOWMETER	HIGH ALARM	DIG #5 HIGH GAS FLOW CHK J-TUBE	35000.0	1
CP3016	DIGEST_GAS	DIGESTER 5 GAS FLOWMETER	BAD	FLOWMETER FAIL	BAD I/O	2
CP3016	DIGEST_GAS	DIGESTER 5 GAS FLOWMETER	HIGH HIGH ALARM		100.0	5

CP	COMPOUND	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
CP3016	DIGEST_GAS	DIGESTER 5 GAS FLOWMETER	LOW LOW ALARM		0.0	5
CP3016	DIGEST_GAS	DIGESTER 6 GAS FLOWMETER	ALARM TYPE		0.0	1
CP3016	DIGEST_GAS	DIGESTER 6 GAS FLOWMETER	HIGH ALARM	DIG #6 HIGH GAS FLOW CHK J-TUBE	35500.0	1
CP3016	DIGEST_GAS	DIGESTER 6 GAS FLOWMETER	BAD	FLOWMETER FAIL	BAD I/O	2
CP3016	DIGEST_GAS	DIGESTER 6 GAS FLOWMETER	HIGH HIGH ALARM		100.0	5
CP3016	DIGEST_GAS	DIGESTER 6 GAS FLOWMETER	LOW LOW ALARM		0.0	5
CP3016	DIGEST_GAS	DIGESTER 7 GAS FLOWMETER	ALARM TYPE		0.0	1
CP3016	DIGEST_GAS	DIGESTER 7 GAS FLOWMETER	HIGH ALARM	DIG #7 HIGH GAS FLOW CHK J-TUBE	35500.0	1
CP3016	DIGEST_GAS	DIGESTER 7 GAS FLOWMETER	BAD	FLOWMETER FAIL	BAD I/O	2
CP3016	DIGEST_GAS	DIGESTER 7 GAS FLOWMETER	HIGH HIGH ALARM		100.0	5
CP3016	DIGEST_GAS	DIGESTER 7 GAS FLOWMETER	LOW LOW ALARM		0.0	5
CP3016	DIGEST_GAS	DIGESTER GAS FLOW ALARMS		DIG #3 HI GAS FLO CHK J TUBE	DIG3_GAS_FLO	1
CP3016	DIGEST_GAS		HIGH ALARM	H2S LBS HIGH	4.0	1
CP3016	DIGEST_GAS		HIGH HIGH ALARM		100.0	5
CP3016	DIGEST_LEVEL	DIGESTER 1 SLUDGE LEVEL	BAD	TRANSMITTER FAIL	BAD I/O	1
CP3016	DIGEST_LEVEL	DIGESTER 1 SLUDGE LEVEL	HIGH HIGH ALARM	CRITICAL HIGH LEVEL	-1.0	1
CP3016	DIGEST_LEVEL	DIGESTER 1 SLUDGE LEVEL	ALARM TYPE	LOW	-8.0	1
CP3016	DIGEST_LEVEL	DIGESTER 1 SLUDGE LEVEL	HIGH ALARM	HIGH	-5.800000191	1
CP3016	DIGEST_LEVEL	DIGESTER 1 SLUDGE LEVEL	LOW LOW ALARM		0.0	1
CP3016	DIGEST_LEVEL	DIGESTER 2 LEVEL TRANSMITTER	BAD	TRANSMITTER FAIL	BAD I/O	1
CP3016	DIGEST_LEVEL	DIGESTER 2 LEVEL TRANSMITTER	HIGH HIGH ALARM	CRITICAL HIGH LEVEL	-0.5	1
CP3016	DIGEST_LEVEL	DIGESTER 2 LEVEL TRANSMITTER	ALARM TYPE	LOW	-10.0	1
CP3016	DIGEST_LEVEL	DIGESTER 2 LEVEL TRANSMITTER	HIGH ALARM	HIGH	-1.0	1
CP3016	DIGEST_LEVEL	DIGESTER 2 LEVEL TRANSMITTER	LOW LOW ALARM		0.0	1
CP3016	DIGEST_LEVEL	DIGESTER 3 LEVEL TRANSMITTER	BAD	TRANSMITTER FAIL	BAD I/O	1
CP3016	DIGEST_LEVEL	DIGESTER 3 LEVEL TRANSMITTER	HIGH HIGH ALARM	CRITICAL HIGH LEVEL	-0.5	1
CP3016	DIGEST_LEVEL	DIGESTER 3 LEVEL TRANSMITTER	ALARM TYPE	LOW	-10.0	1
CP3016	DIGEST_LEVEL	DIGESTER 3 LEVEL TRANSMITTER	HIGH ALARM	HIGH	-1.0	1
CP3016	DIGEST_LEVEL	DIGESTER 3 LEVEL TRANSMITTER	LOW LOW ALARM		0.0	1
CP3016	DIGEST_LEVEL	DIGESTER 4 LEVEL	BAD	TRANSMITTER FAIL	BAD I/O	1
CP3016	DIGEST_LEVEL	DIGESTER 4 LEVEL	HIGH HIGH ALARM	CRITICAL HIGH LEVEL	-0.5	1
CP3016	DIGEST_LEVEL	DIGESTER 4 LEVEL	ALARM TYPE	LOW	-10.0	1
CP3016	DIGEST_LEVEL	DIGESTER 4 LEVEL	HIGH ALARM	HIGH	-1.0	1
CP3016	DIGEST_LEVEL	DIGESTER 4 LEVEL	LOW LOW ALARM		0.0	1
CP3016	DIGEST_LEVEL	DIGESTER 5 LEVEL TRANSMITTER	BAD	TRANSMITTER FAIL	BAD I/O	1

CP	COMPOUND	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
CP3016	DIGEST_LEVEL	DIGESTER 5 LEVEL TRANSMITTER	HIGH HIGH ALARM	CRITICAL HIGH LEVEL	-0.5	1
CP3016	DIGEST_LEVEL	DIGESTER 5 LEVEL TRANSMITTER	ALARM TYPE	LOW	-10.0	1
CP3016	DIGEST_LEVEL	DIGESTER 5 LEVEL TRANSMITTER	HIGH ALARM	HIGH	-1.0	1
CP3016	DIGEST_LEVEL	DIGESTER 5 LEVEL TRANSMITTER	LOW LOW ALARM		0.0	1
CP3016	DIGEST_LEVEL	DIGESTER 6 LEVEL TRANSMITTER	BAD	TRANSMITTER FAIL	BAD I/O	1
CP3016	DIGEST_LEVEL	DIGESTER 6 LEVEL TRANSMITTER	HIGH HIGH ALARM	CRITICAL HIGH LEVEL	-0.5	1
CP3016	DIGEST_LEVEL	DIGESTER 6 LEVEL TRANSMITTER	ALARM TYPE	LOW	-10.0	1
CP3016	DIGEST_LEVEL	DIGESTER 6 LEVEL TRANSMITTER	HIGH ALARM	HIGH	-1.0	1
CP3016	DIGEST_LEVEL	DIGESTER 6 LEVEL TRANSMITTER	LOW LOW ALARM		0.0	1
CP3016	DIGEST_LEVEL	DIGESTER 7 LEVEL TRANSMITTER	BAD	TRANSMITTER FAIL	BAD I/O	1
CP3016	DIGEST_LEVEL	DIGESTER 7 LEVEL TRANSMITTER	HIGH HIGH ALARM	CRITICAL HIGH LEVEL	-0.5	1
CP3016	DIGEST_LEVEL	DIGESTER 7 LEVEL TRANSMITTER	ALARM TYPE	LOW	-9.0	1
CP3016	DIGEST_LEVEL	DIGESTER 7 LEVEL TRANSMITTER	HIGH ALARM	HIGH	-1.0	1
CP3016	DIGEST_LEVEL	DIGESTER 7 LEVEL TRANSMITTER	LOW LOW ALARM		0.0	1
CP3016	DIGEST_PRESS	DIGESTER 1 GAS PRESSURE	BAD	DIG 1 PRESS BAD	BAD I/O	1
CP3016	DIGEST_PRESS	DIGESTER 1 GAS PRESSURE	ALARM TYPE	LOW	3.5	1
CP3016	DIGEST_PRESS	DIGESTER 1 GAS PRESSURE	HIGH ALARM	HIGH	11.0	1
CP3016	DIGEST_PRESS	DIGESTER 1 GAS PRESSURE	LOW LOW ALARM		0.0	5
CP3016	DIGEST_PRESS	DIGESTER 1 GAS PRESSURE	HIGH HIGH ALARM		100.0	5
CP3016	DIGEST_PRESS	DIGESTER 2 GAS PRESSURE	BAD	DIG 2 PRESS BAD	BAD I/O	1
CP3016	DIGEST_PRESS	DIGESTER 2 GAS PRESSURE	ALARM TYPE	LOW	3.5	1
CP3016	DIGEST_PRESS	DIGESTER 2 GAS PRESSURE	HIGH ALARM	HIGH	11.0	1
CP3016	DIGEST_PRESS	DIGESTER 2 GAS PRESSURE	LOW LOW ALARM		0.0	5
CP3016	DIGEST_PRESS	DIGESTER 2 GAS PRESSURE	HIGH HIGH ALARM		100.0	5
CP3016	DIGEST_PRESS	DIGESTER 3 GAS PRESSURE	BAD	DIG 3 PRESS BAD	BAD I/O	1
CP3016	DIGEST_PRESS	DIGESTER 3 GAS PRESSURE	ALARM TYPE	LOW	3.0	1
CP3016	DIGEST_PRESS	DIGESTER 3 GAS PRESSURE	HIGH ALARM	HIGH	11.0	1
CP3016	DIGEST_PRESS	DIGESTER 3 GAS PRESSURE	LOW LOW ALARM		0.0	5
CP3016	DIGEST_PRESS	DIGESTER 3 GAS PRESSURE	HIGH HIGH ALARM		100.0	5
CP3016	DIGEST_PRESS	DIGESTER 4 GAS PRESSURE	BAD	DIG 4 PRESS BAD	BAD I/O	1
CP3016	DIGEST_PRESS	DIGESTER 4 GAS PRESSURE	ALARM TYPE	LOW	3.25	1
CP3016	DIGEST_PRESS	DIGESTER 4 GAS PRESSURE	HIGH ALARM	HIGH	11.0	1
CP3016	DIGEST_PRESS	DIGESTER 4 GAS PRESSURE	LOW LOW ALARM		0.0	5
CP3016	DIGEST_PRESS	DIGESTER 4 GAS PRESSURE	HIGH HIGH ALARM		100.0	5

CP	COMPOUND	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
CP3016	DIGEST_PRESS	DIG 5 PRESSURE	BAD	DIG 5 PRESS BAD	BAD I/O	1
CP3016	DIGEST_PRESS	DIG 5 PRESSURE	ALARM TYPE	LOW	3.0	1
CP3016	DIGEST_PRESS	DIG 5 PRESSURE	HIGH ALARM	HIGH	11.0	1
CP3016	DIGEST_PRESS	DIG 5 PRESSURE	LOW LOW ALARM		0.0	5
CP3016	DIGEST_PRESS	DIG 5 PRESSURE	HIGH HIGH ALARM		100.0	5
CP3016	DIGEST_PRESS	DIG 6 PRESSURE	BAD	DIG 6 PRESS BAD	BAD I/O	1
CP3016	DIGEST_PRESS	DIG 6 PRESSURE	ALARM TYPE	LOW	3.5	1
CP3016	DIGEST_PRESS	DIG 6 PRESSURE	HIGH ALARM	HIGH	11.0	1
CP3016	DIGEST_PRESS	DIG 6 PRESSURE	HIGH HIGH ALARM		100.0	5
CP3016	DIGEST_PRESS	DIG 6 PRESSURE	LOW LOW ALARM		0.0	5
CP3016	DIGEST_PRESS	DIG 7 PRESSURE	BAD	DIG 7 PRESS BAD	BAD I/O	1
CP3016	DIGEST_PRESS	DIG 7 PRESSURE	ALARM TYPE	LOW	3.5	1
CP3016	DIGEST_PRESS	DIG 7 PRESSURE	HIGH ALARM	HIGH	11.0	1
CP3016	DIGEST_PRESS	DIG 7 PRESSURE	HIGH HIGH ALARM		100.0	5
CP3016	DIGEST_PRESS	DIG 7 PRESSURE	LOW LOW ALARM		0.0	5
CP3016	DIGEST_TEMP	TEMPERATURE XMITTER DIGESTER 7	BAD	TRANSMITTER FAIL	BAD I/O	2
CP3016	DIGEST_TEMP	TEMPERATURE XMITTER DIGESTER 7	ALARM TYPE	DIGESTER 7 TEMP LOW	93.0	2
CP3016	DIGEST_TEMP	TEMPERATURE XMITTER DIGESTER 7	HIGH ALARM	DIGESTER 7 TEMP HIGH	120.0	2
CP3016	DIGEST_TEMP	TEMPERATURE XMITTER DIGESTER 7	HIGH HIGH ALARM		100.0	5
CP3016	DIGEST_TEMP	TEMPERATURE XMITTER DIGESTER 7	LOW LOW ALARM		0.0	5
ABST12	ERB_GAS_SYS	SAFETY VALVE CLOSED		SAFETY VALVE CLOSED	ERB	1
ABST12	ERB_GAS_SYS	SAFETY VALVE DISABLED	SAFETY VALVE ENABLED	SAFETY VALVE DISABLED	ERB	2
ABST12	ERB_GAS_SYS			SAFETY VALVE OPEN	ERB	5
CP3016	FILTR_HOPPER	HOPPER WEIGHT SCALE	ALARM TYPE		1000.0	2
CP3016	FILTR_HOPPER	HOPPER WEIGHT SCALE	HIGH ALARM	HOPPER HIGH	64000.0	2
CP3016	FILTR_HOPPER	HOPPER WEIGHT SCALE	LOW LOW ALARM		0.0	2
CP3016	FILTR_HOPPER	HOPPER WEIGHT SCALE	BAD	SCALE FAIL	BAD I/O	2
CP3016	FILTR_HOPPER	HOPPER WEIGHT SCALE	HIGH HIGH ALARM	HOPPER HIGH SHUTDOWN	68000.0	2
CP3016	GT	GT SCUM LEVEL BLK FOR CONTROL	ALARM TYPE	FOR CONTROL ONLY	0.5	2
CP3016	GT	GT SCUM LEVEL BLK FOR CONTROL	HIGH ALARM	FOR CONTROL ONLY	10.0	2
CP3016	GT	GT SCUM LEVEL BLK FOR CONTROL	LOW LOW ALARM		0.0	5
CP3016	GT	GT SCUM LEVEL BLK FOR CONTROL	BAD		BAD I/O	5
CP3016	GT	GT SCUM LEVEL BLK FOR CONTROL	HIGH HIGH ALARM		100.0	5
CP3016	GT		NORMAL	FAIL TO OPEN	GT SCUM VLV AG-PV-118	5
CP3016	GT		NORMAL	FAIL TO CLOSE	GT SCUM VLV AG-PV-118	5
CP3016	GT		NORMAL	HI LEVEL	GT SUMP HI LEVEL SENSOR	5
CP3016	GT		NORMAL	FAIL TO RUN	GT SLUDGE PUMP APS-3201	5
CP3016	GT		NORMAL	FAIL TO STOP	GT SLUDGE PUMP APS-3201	5
CP3016	GT		NORMAL	HI LEVEL	GT SUMP LO LEVEL SENSOR	5

CP	COMPOUND	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
CP3016	GT		NORMAL	FAIL TO OPEN	GT SLUDGE VLV AG-PV-116	5
CP3016	GT		NORMAL	FAIL TO CLOSE	GT SLUDGE VLV AG-PV-116	5
CP4012	LOAD_MGT	LOAD MGMT ALARMS	CLOSED	OPEN	UTILITY TRANSFER MODE	1
CP4012	LOAD_MGT	LOAD MGMT ALARMS	CLOSE	OPEN	PRIORITY 3 (BLOWERS)	1
CP4012	LOAD_MGT	LOAD MGMT ALARMS	RETURN TO UTILITY	OPEN UTILITY	UTILTIY MAIN	1
CP4012	LOAD_MGT	LOAD MGMT ALARMS	CLOSE	OPEN	PRIORITY 2 (IPS)	1
CP4012	LOAD_MGT	LOAD MGMT ALARMS	CLOSE	OPEN	PRIORITY 4 (DEWAT)	1
CP3016	ODOR_CONTROL	BIO FILTER HIGH TEMP ALARM	HIGH HIGH ALARM	ODOR BIO FILTER HI HI TEMP	20.0	1
CP3016	ODOR_CONTROL	BIO FILTER HIGH TEMP ALARM	HIGH ALARM	ODOR BIO FILTER HIGH TEMP	15.0	1
CP3016	ODOR_CONTROL	BIO FILTER 1 TEMPERATURE	HIGH HIGH ALARM		100.0	5
CP3016	ODOR_CONTROL	BIO FILTER 1 TEMPERATURE	HIGH ALARM	BIO FILTER TEMP HIGH	100.0	5
CP3016	ODOR_CONTROL	BIO FILTER 2 TEMPERATURE	HIGH HIGH ALARM		100.0	5
CP3016	ODOR_CONTROL	BIO FILTER 2 TEMPERATURE	HIGH ALARM	BIO FILTER 2 TEMP HIGH	100.0	5
CP3016	ODOR_CONTROL	BLOWER 1 FAIL	BLOWER 2 MOTOR OK	BLOWER 2 MOTOR FAIL	BLOWER 2	1
CP3016	ODOR_CONTROL	BLOWER 1 MOTOR	BLOWER 1 OK	BLOWER 1 FAIL	ODOR BLOWER 1	5
CP3016	ODOR_CONTROL	BLOWER 1 MOTOR			ODOR BLOWER 1	5
CP3016	ODOR_CONTROL	BLOWER 1 DIFFERENTIAL PRESSURE	HIGH ALARM	BLOWER 1 DIFFERENTIAL HIGH	15.0	5
CP3016	ODOR_CONTROL	BLOWER 1 DIFFERENTIAL PRESSURE	HIGH HIGH ALARM		100.0	5
CP3016	ODOR_CONTROL	BLOWER 1 DISCHARGE TEMPERATURE	HIGH ALARM	BLOWER 1 DISCHARGE TEMP HIGH	104.0	1
CP3016	ODOR_CONTROL	BLOWER 1 DISCHARGE TEMPERATURE	HIGH HIGH ALARM	BLOWER 1 DISCHARGE TEMP HI HI	110.0	1
CP3016	ODOR_CONTROL	BLOWER 2 FAIL	BLOWER 2 MOTOR OK	BLOWER 2 MOTOR FAIL	BLOWER 2	1
CP3016	ODOR_CONTROL	BLOWER 2 MOTOR	BLOWER 2 OK	BLOWER 2 FAIL	ODOR BLOWER 2	5
CP3016	ODOR_CONTROL	BLOWER 2 MOTOR			ODOR BLOWER 2	5
CP3016	ODOR_CONTROL	BLOWER 2 DIFFERENTIAL PRESSURE	HIGH ALARM	BLOWER 2 DIFFERENTIAL HIGH	11.5	1
CP3016	ODOR_CONTROL	BLOWER 2 DIFFERENTIAL PRESSURE	HIGH HIGH ALARM	BLOWER 2 DIFFERENTIAL HI HI	13.0	1
CP3016	ODOR_CONTROL	BLOWER 2 TEMPERATURE	HIGH ALARM	BLOWER 2 DISCHARGE TEMP HIGH	104.0	1
CP3016	ODOR_CONTROL	BLOWER 2 TEMPERATURE	HIGH HIGH ALARM	BLOWER 2 DISCHARGE TEMP HI HI	110.0	1
CP3016	ODOR_CONTROL	BLOWER 3 FAIL	BLOWER 3 MOTOR OK	BLOWER 3 MOTOR FAIL	BLOWER 3	1
CP3016	ODOR_CONTROL	BLOWER 3 MOTOR			ODOR BLOWER 3	5
CP3016	ODOR_CONTROL	BLOWER 3 MOTOR	BLOWER 3 OK	BLOWER 3 FAIL	ODOR BLOWER 3	5
CP3016	ODOR_CONTROL	BLOWER 3 DIFFERNTIAL PRESSURE	HIGH HIGH ALARM	BLOWER 3 DIFFERENTIAL HI HI	12.0	1
CP3016	ODOR_CONTROL	BLOWER 3 DIFFERNTIAL PRESSURE	HIGH ALARM	BLOWER 3 DIFFERENTIAL HIGH	10.0	1
CP3016	ODOR_CONTROL	BLOWER 3 DISCHARGE TEMPERATURE	HIGH HIGH ALARM	BLOWER 3 DISCHARGE TEMP HI HI	110.0	1
CP3016	ODOR_CONTROL	BLOWER 3 DISCHARGE TEMPERATURE	HIGH ALARM	BLOWER 3 DISCHARGE TEMP HIGH	104.0	1
CP3016	ODOR_CONTROL					1

CP	COMPOUND	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
CP3016	ODOR_CONTROL	DEWATERING BUILDING H2S HIGH	H2S NORMAL	H2S HIGH	DEWATERING H2S ALARM	1
CP3016	ODOR_CONTROL	RP1 ODOR CONTROL ALARMS	BLOWER 2 FLOW OK	BLOWER 2 LOW FLOW	RP1 ODOR BLOWER 2	1
CP3016	ODOR_CONTROL	RP1 ODOR CONTROL ALARMS	BLOWER 1 FLOW OK	BLOWER 1 LOW FLOW	RP1 ODOR BLOWER 1	1
CP3016	ODOR_CONTROL	RP1 ODOR CONTROL ALARMS	BLOWER 3 FLOW OK	BLOWER 3 LOW FLOW	RP1 ODOR BLOWER 3	1
CP3016	ODOR_CONTROL	RP1 ODOR CONTROL ALARMS	BLOWER 1 DIFF PRESS OK	BLOWER 1 DIFF PRESS HIGH	RP1 ODOR BLOWER 1	1
CP3016	ODOR_CONTROL	RP1 ODOR CONTROL ALARMS	BLOWER 2 DIFF PRESS OK	BLOWER 2 DIFF PRESS HIGH	RP1 ODOR BLOWER 2	1
CP3016	ODOR_CONTROL	RP1 ODOR CONTROL ALARMS	BLOWER 3 DIFF PRESS OK	BLOWER 3 DIFF PRESS HIGH	RP1 ODOR BLOWER 3	1
CP3016	ODOR_CONTROL	SUMP FAIL ALARM	SUMP NORMAL	SUMP FAIL	ODOR CONTROL SUMP	1
CP3016	ODOR_CONTROL	ODOR CONTROL SUMP HIGH ALARM	SUMP NORMAL	SUMP HIGH	ODOR CONTROL SUMP	1
CP6013	PANEL_ALARMS		DAFT 3 TOP DRIVE OK	DAFT 3 TOP DRIVE FAIL	DAFT #3	1
CP6013	PANEL_ALARMS		DAFT 3 WET WELL OK	DAFT 3 WET WELL HIGH	DAFT #3	1
CP6013	PANEL_ALARMS		DAFT 3 FLOOD OK	DAFT 3 FLOOD ALARM	DAFT #3	1
CP6013	PANEL_ALARMS		DAFT 3 RECIC PMP OK	DAFT 3 RECIC PMP FAILED	DAFT #3	1
CP6013	PANEL_ALARMS		DAFT 3 WET WELL OK	DAFT 3 WET WELL LOW	DAFT #3	1
CP6013	PANEL_ALARMS		DAFT 3 SLDG PMP OK	DAFT E SLDG PMP FAILED	DAFT #3	1
CP4012	PCB_INPUTS		INTERUPT ENABLED	INTERUPT DISABLED	EDISON I6	1
CP4012	PCB_INPUTS	BACKUP GENERATOR ALARMS	GENERATOR 2 STOP	GENERATOR 2 RUNNING	GEN #2	1
CP4012	PCB_INPUTS	BACKUP GENERATOR ALARMS	GENERATOR 1 STOP	GENERATOR 1 RUNNING	GEN #1	1
CP4012	PCB_INPUTS	BACKUP GENERATOR ALARMS	GENERATOR 3 STOP	GENERATOR 3 RUNNING	GEN #3	1
CP4012	PCB_INPUTS	BACKUP GEN MASTER CONTROL	CLOSED	OPEN	DIST H4	1
CP4012	PCB_INPUTS	BACKUP GEN MASTER CONTROL	CLOSED	OPEN	DIST H2	1
CP4012	PCB_INPUTS	BACKUP GEN MASTER CONTROL	CLOSED	OPEN	DIST H3	1
CP4012	PCB_INPUTS	BACKUP GEN MASTER CONTROL	CLOSED	OPEN	DIST H5	1
CP4012	PCB_INPUTS	BACKUP GEN MASTER CONTROL	CLOSED	OPEN	DIST H1	1
CP4012	PCB_INPUTS	BACKUP GEN MASTER CONTROL	BREAKER CLOSED	BREAKER OPEN	DIST H6	1
CP4012	PCB_INPUTS	BACKUP GEN MASTER CONTROL	BREAKER CLOSED	BREAKER OPEN	DIST H7	1
CP4012	PCB_INPUTS	BACKUP GEN MASTER CONTROL	BREAKER CLOSED	BREAKER OPEN	DIST H8	1
CP4012	PCB_INPUTS	BACKUP GEN MASTER CONTROL	OPEN	CLOSED	GEN #2 CB	:IP_CNTL_SEQ.IO00 01
CP4012	PCB_INPUTS	BACKUP GEN MASTER CONTROL	OPEN	CLOSED	GEN #1 CB	:IP_CNTL_SEQ.IO00 01
CP4012	PCB_INPUTS	BACKUP GEN MASTER CONTROL	OPEN	CLOSED	GEN #3 CB	:IP_CNTL_SEQ.IO00 01

CP	COMPOUND	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
CP4012	PCB_INPUTS	BACKUP GEN MASTER CONTROL	CLOSED TRANSITION	OPEN TRANSITION	MODE SELECT	1
CP4012	PCB_INPUTS	BACKUP GEN MASTER CONTROL	RETURN TO AUTO	NOT IN AUTO	MASTER HOA	1
CP4012	PCB_INPUTS	BACKUP GEN MASTER CONTROL	MASTER ALARM ACK. AT PANEL	MASTER CONTROL PANEL ALARM	BACKUP GEN	1
CP4012	PCB_INPUTS	BACKUP GEN MASTER CONTROL	BREAKER OPEN	BREAKER CLOSED	GEN MAIN	:IP_CNTL_SEQ.IO00001
CP4012	PCB_INPUTS	BACKUP GEN MASTER CONTROL	BREAKER CLOSED	BREAKER OPEN	UTIL MAIN	:IP_CNTL_SEQ.IO00002
CP4012	PCB_INPUTS	EDISON INTERUPTION ALARMS	COMPLETE	STARTED	EDISON TEST	1
CP4012	PCB_INPUTS	EDISON INTERUPTION ALARMS	ACTIVE	NOT ACT	SEQ_CONTROL	1
CP4012	PCB_INPUTS	EDISON INTERUPTION ALARMS	POWER CURTAILMENT OK	POWER CURTAILMENT FAIL	SCE	1
CP4012	PCB_INPUTS	EDISON INTERUPTION ALARMS	PHONE ACK FROM SCREEN	PHONE ALARM RECEIVED	SCE	1
CP4012	PCB_INPUTS	EDISON INTERUPTION ALARMS	OK	FAILED	SEQ CONTROL	1
CP4012	PCB_INPUTS	EDISON INTERUPTION ALARMS	MAIN BUS FAIL, 12 KV	MAIN BUS OK, 12 KV	PLANT DIST	1
CP4012	PCB_INPUTS	EDISON INTERUPTION ALARMS	AUTOMATIC TRANSFER TO UTILITY	AUTO TRANSFER TO BACKUP POWER	SCE ALARM	1
CP4012	PCB_INPUTS	EDISON INTERUPTION ALARMS	UTILITY POWER ON LINE	BACKUP POWER ON LINE	POWER DIST	3
CP4012	PCB_INPUTS	PCB FUEL TANK LEVEL	ALARM TYPE	LOW LEVEL, HAVE TANK FILLED	2500.0	1
CP4012	PCB_INPUTS	PCB FUEL TANK LEVEL	HIGH ALARM	HIGH LEVEL	3800.0	1
CP4012	PCB_INPUTS	PCB FUEL TANK LEVEL	HIGH HIGH ALARM		100.0	5
CP4012	PCB_INPUTS	PCB FUEL TANK LEVEL	LOW LOW ALARM		0.0	5
CP4012	PCB_INPUTS	PCB FUEL TANK LEVEL	BAD		BAD I/O	5
CP4012	PLANT_2	PLANT 2 ALARMS	BASEMENT FLOOD OK	BASEMENT FLOOD	PLANT 2 ALARM	1
CP4012	PLANT_2	PLANT 2 CHLORINE LEAK	FEED RM OK	FEED RM LEAK	CL2 LEAK DETECT PLT 2	1
CP4012	PLANT_2	PLANT 2 ALARMS	EVAP LEVEL OK	EVAP LEVEL LOW	PLANT 2 ALARM	1
CP4012	PLANT_2	PLANT 2 ALARMS	EVAP OUT PRESS OK	EVAP OUT PRESS LOW	PLANT 2 ALARM	1
CP4012	PLANT_2	PLT 2 W TRICK FIL P1 FAIL	PUMP 1 OK	PUMP 1 FAIL	PLANT 2 TRICK FIL	1
CP4012	PLANT_2	PLT 2 E TRICK FIL P2 FAIL	PUMP 2 OK	PUMP 2 FAIL	PLANT 2 TRICK FIL	1
CP4012	PLANT_2	PLANT 2 ALARMS	UTILITY WATER OK	UTILITY WATER LOW	PLANT 2 ALARM	1
CP4012	PLANT_2	PLANT 2 ALARMS	EVAP TEMP OK	EVAP TEMP HIGH	PLANT 2 ALARM	1
CP4012	PLANT_2	PLANT 2 CHLORINE LEAK	STOR RM OK	STOR RM LEAK	CL2 LEAK DETECT PLT 2	1
CP4012	PLANT_2	PLT 2 BASEMENT FLOOD	OK	ALARM	PLANT 2 FLOOD	1
CP4012	PLANT_2	PLANT 2 ALARMS	EVAP INLET PRESS OK	EVAP INLET PRESS HIGH	PLANT 2 ALARM	1
CP4012	PLANT_2	PLANT 2 ALARMS	EVAP TEMP OK	EVAP TEMP LOW	PLANT 2 ALARM	1
CP4012	PLANT_2	PLANT 2 ALARMS	AIR PRESSURE OK	AIR PRESSURE FAIL	PLANT 2	1
CP4012	PLANT_2	PLANT 2 ALARMS	SPLITTER BOX OK	SPLITTER BOX FLOOD	PLANT 2 ALARM	1
CP4012	PLANT_2	PLT 2 W SLUDGE PMP FAIL	PUMP OK	PUMP FAIL	PLT 2 WEST SLUDGE PMP	2
CP4012	PLANT_2	PLT 2 W PRI CLARIFIER FAIL	OK	FAIL	PLT 2 WEST CLARIFIER	2
CP4012	PLANT_2	PLT 2 E PRI CLARIFIER FAIL	OK	FAIL	PLT 2 EAST CLARIFIER	2

CP	COMPOUND	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
CP4012	PLANT_2	PLT 2 E SLUDGE PMP FAIL	PUMP OK	PUMP FAIL	PLT 2 EAST SLUDGE PMP	2
ABST12	PRB	PRB PLC COMM FAIL	PRB COMM OK	PRB COMM FAIL	PRB COMM FAIL	1
ABST12	PRB	PRB PLC COMM FAIL	PRB COMM FAIL	PRB COMM FAIL	PRB COMM FAIL	1
CP3016	SLDG_BLD	SLUDGE BLENDING TANK 1 LEVEL	BAD	TRANSMITTER 1 FAIL	BAD I/O	2
CP3016	SLDG_BLD	SLUDGE BLENDING TANK 1 LEVEL	LOW LOW ALARM		0.0	3
CP3016	SLDG_BLD	SLUDGE BLENDING TANK 1 LEVEL	HIGH HIGH ALARM	TANK LEVEL HIGH SHUTDOWN	27.0	3
CP3016	SLDG_BLD	SLUDGE BLENDING TANK 1 LEVEL	ALARM TYPE	TANK LEVEL LOW	6.5	3
CP3016	SLDG_BLD	SLUDGE BLENDING TANK 1 LEVEL	HIGH ALARM	TANK LEVEL HIGH	25.0	3
CP3016	SLDG_BLD	SLUDGE BLENDING TANK 2 LEVEL	BAD	TRANSMITTER FAIL	BAD I/O	2
CP3016	SLDG_BLD	SLUDGE BLENDING TANK 2 LEVEL	LOW LOW ALARM		0.0	3
CP3016	SLDG_BLD	SLUDGE BLENDING TANK 2 LEVEL	HIGH HIGH ALARM	TANK LEVEL HIGH SHUTDOWN	27.0	3
CP3016	SLDG_BLD	SLUDGE BLENDING TANK 2 LEVEL	ALARM TYPE	TANK LEVEL LOW	7.0	3
CP3016	SLDG_BLD	SLUDGE BLENDING TANK 2 LEVEL	HIGH ALARM	TANK LEVEL HIGH	25.0	3
ABST12	SMB_LCP	SMB ALARMS	PUMP 1 OK	PUMP 1 FAIL	PRI LOOP	1
ABST12	SMB_LCP	SMB ALARMS	PUMP 2 OK	PUMP 2 FAIL	PRI LOOP	1
ABST12	SMB_LCP	SMB ALARMS	PUMP 4 OK	PUMP 4 FAIL	SEC LOOP	1
ABST12	SMB_LCP	SMB ALARMS	PUMP 3 OK	PUMP 3 FAIL	SEC LOOP	1
ABST12	SMB_LCP	SMB ALARMS	PUMP 5 OK	PUMP 5 FAIL	SEC LOOP	5
ABST12	SMB_LCP	SMB ALARMS	PRI FLOW OK	PRI FLOW LOW	PRI LOOP	5
ABST12	SMB_LCP	SMB ALARMS	PRI FLOW OK	PRI FLOW HIGH	PRI LOOP	5
ABST12	SMB_LCP	SMB ALARMS	TEMP OK	TEMP HIGH	PRI LOOP	5
ABST12	SMB_LCP	SMB ALARMS	FLOW OK	FLOW LOW	SMB	5
ABST12	SMB_LCP	SMB ALARMS	INLET PRESS OK	INLET PRESS LOW	SMB	5
ABST12	SMB_LCP	SMB ALARMS	DIFF PRESS OK	DIFF PRESS LOW	SMB	5
ABST12	SMB_LCP	SMB ALARMS	TEMP OK	TEMP HIGH	SEC LOOP	5
ABST12	SMB_LCP	SMB ALARMS	PRESS OK	PRESS LOW	PRI LOOP	5
ABST12	SMB_LCP	SMB ALARMS	PRESS OK	PRESS HIGH	SEC LOOP	5
ABST12	SMB_LCP	SMB ALARMS	DIFF PRESS OK	DIFF PRESS HIGH	SMB	5
ABST12	SMB_LCP	SMB ALARMS	TEMP OK	TEMP LOW	SEC LOOP	5
ABST12	SMB_LCP	SMB PLC COMM FAIL	SMB COMM OK	SMB COMM FAIL	SMB COMM FAIL	1
ABST12	SMB_LCP	SMB PLC COMM FAIL	SMB COMM FAIL	SMB COMM FAIL	SMB COMM FAIL	1

#	SECTION	LOCATION	PROCESS	EQUIPMENT	ALARM NEEDED
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

REASON

CP	COMPOUND	BLOCK	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
CP3002	001_SHUTDOWN	001_GATE	001 GATE ACTUATOR	OK	FAIL	001 GATE	1
CP3002	001_SHUTDOWN	001_GATE	001 GATE ACTUATOR			001 GATE	1
CP3001	002_SHUTDOWN	002_GATE	002 GATE ACTUATOR	OK	FAIL	002 GATE	1
CP3001	002_SHUTDOWN	002_GATE	002 GATE ACTUATOR			002 GATE	1
CP3002	ALUM_CONTROL	ME18_SP	ME18 SP TO S/S ALUM PMPS	HIGH ALARM	NTU HI START ALUM PUMP	5.0	5
CP3002	ALUM_CONTROL	ME18_SP	ME18 SP TO S/S ALUM PMPS	LOW ALARM	NTU LO STOP ALUM PUMP	4.699999809	5
CP3002	ALUM_CONTROL	PMP_3_S_S	ALUM PUMP 3 START/STOP	ALUM PUMP 3 OK	ALUM PUMP 3 FAIL	ALUM PUMP 3	1
CP3002	ALUM_CONTROL	PMP_4_S_S	ALUM PUMP 4 START/STOP	ALUM PUMP 4 OK	ALUM PUMP 4 FAIL	ALUM PUMP 4	1
CP3002	ALUM_CONTROL	PMP_1_S_S	ALUM PUMP 1 START/STOP	ALUM PUMP 1 START/STOP BAD	ALUM PUMP 1 START/STOP BAD	ALUM PUMP 1	1
CP3002	ALUM_CONTROL	PMP_2_S_S	ALUM PUMP 2 START/STOP	ALUM PUMP 2 START/STOP BAD	ALUM PUMP 2 START/STOP BAD	ALUM PUMP 2	1
CP3002	ALUM_CONTROL	PMP_1_S_S	ALUM PUMP 1 START/STOP	ALUM PUMP 1 OK	ALUM PUMP 1 FAIL	ALUM PUMP 1	1
CP3002	ALUM_CONTROL	PMP_3_S_S	ALUM PUMP 3 START/STOP	ALUM PUMP 3 START/STOP BAD	ALUM PUMP 3 START/STOP BAD	ALUM PUMP 3	1
CP3002	ALUM_CONTROL	PMP_2_S_S	ALUM PUMP 2 START/STOP	ALUM PUMP 2 OK	ALUM PUMP 2 FAIL	ALUM PUMP 2	1
CP3002	ALUM_CONTROL	PMP_4_S_S	ALUM PUMP 4 START/STOP	ALUM PUMP 4 START/STOP BAD	ALUM PUMP 4 START/STOP BAD	ALUM PUMP 4	1
CP3002	AMSC	RA26	OES CHLORINE RESIDUAL	HIGH ALARM	OES CL2 RESIDUAL HIGH	11.0	1
CP3002	AMSC	RA19	ME18 CL2 RESID.	HIGH ALARM	ME18 CL2 RESID. HIGH	11.0	1
CP3002	AMSC	FM1_BLCH_ALM		HIGH ALARM	HIGH BLEACH FLOW FM 1	7.0	1
CP3002	AMSC	RA27	NES CHLORINE RESIDUAL	LOW ALARM	NES CL2 RESIDUAL LO	6.000000954	1
CP3002	AMSC	RA26	OES CHLORINE RESIDUAL	LOW ALARM	OES CL2 RESIDUAL LOW	5.5	1
CP3002	AMSC	RA55	UTILITY WATER PRESSURE	HIGH ALARM	UTILITY WATER PRESSURE HI	107.0	1
CP3002	AMSC	RA19	ME18 CL2 RESID.	LOW ALARM	ME18 CL2 RESID. LOW	4.0	1
CP3002	AMSC	FM1_BLCH_ALM		LOW ALARM	LOW BLEACH FLOW FM 1	2.0	1
CP3002	AMSC	RA50	OES EFFLUENT TURBIDITY	HIGH ALARM	OES EFFLUENT TURBIDTY HI	2.799999952	1
CP3002	AMSC	RA10	TERTIARY PLANT INFLUENT FLOW	HIGH ALARM	TERT PLANT INF FLOW HIGH	54.0	1
CP3002	AMSC	RA55	UTILITY WATER PRESSURE	LOW ALARM	UTILITY WATER PRESSURE LO	63.0	1
CP3002	AMSC	RA19	ME18 CL2 RESID.	HIGH HIGH ALARM	ME18 CL2 RESID.HIGH	20.0	1
CP3002	AMSC	RA50	OES EFFLUENT TURBIDITY	LOW ALARM	OES EFFL TURBIDITY LO	0.0	1
CP3002	AMSC	RA10	TERTIARY PLANT INFLUENT FLOW	LOW ALARM	TERT PLANT INF FLOW LOW	25.0	1
CP3002	AMSC	RA27	NES CHLORINE RESIDUAL	HIGH ALARM	NES CL2 RESIDUAL HIGH	12.0	1
CP3002	AMSC	RA56	NES PLANT EFFL TURBIDITY	HIGH ALARM	NES PLANT EFF TURBIDITY HI	2.399999857	4
CP3002	AMSC	RA56	NES PLANT EFFL TURBIDITY	LOW ALARM	NES PLANT EFF TURBIDITY LO	0.199999914	4
CP3002	AMSC	RA48	WASTE WASH WATER FLOW	LOW ALARM	WASTE WASH WATER FLOW LO	5800.0	5
CP3002	AMSC	RA16	WASTE WASHWATER BASIN EAST LEVEL	HIGH ALARM	EAST BASIN HIGH	6.0	5
CP3002	AMSC	RA15	WASTE WASHWATER BASIN WEST LEVEL	HIGH ALARM	BASIN WEST HIGH	6.0	5
CP3002	AMSC	RA14	SURFACE WASH FLOW FILT 18-24	HIGH ALARM	SRF WSH FLOW FILT 18-24 HI	924.0	5
CP3002	AMSC	RA54	UTILITY WATER FLOW	HIGH ALARM	UTILITY WATER FLOW HI	7000.0	5
CP3002	AMSC	RA13	EFFL FLOW FILTERS 9-26	HIGH ALARM	EFFL FLOW FILTERS 9-26 HI	35.0	5
CP3002	AMSC	BDA2	TP-1 BAD ANALOG INPUTS	WASTE WTR BASN A LEVEL OK	WASTE WTR BASN A LEVEL BAD	LI6535	1
CP3002	AMSC	BDA2	TP-1 BAD ANALOG INPUTS	EFF FLOW FILTERS 18-24 OK	EFF FLOW FILTERS 18-24 BAD	FI6525	1
CP3002	AMSC	BDA2	TP-1 BAD ANALOG INPUTS	SURF WSH FLW FIL 18-24 OK	SURF WSH FLW FIL 18-24 BAD	FI6532	1
CP3002	AMSC	BDA2	TP-1 BAD ANALOG INPUTS	TERTIARY PLNT INF FLOW OK	TERTIARY PLNT INF FLOW BAD	FI6520	1
CP3002	AMSC	BDA2	TP-1 BAD ANALOG INPUTS	EFF FLOW FILTERS 1-17 OK	EFF FLOW FILTERS 1-17 BAD	FI6515	1

CP	COMPOUND	BLOCK	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
CP3002	AMSC	BDA2	TP-1 BAD ANALOG INPUTS	TRTRY SET BSN INF FLOW OK	TRTRY SET BSN INF FLOW BAD	FIR6511	1
CP3002	AMSC	BDA4	TP-1 BAD ANALOG INPUTS	CHLORINE RESIDUAL OK	CHLORINE RESIDUAL BAD	AIR7312	1
CP3002	AMSC	BDA4	TP-1 BAD ANALOG INPUTS	UTILITY WATER FLOW OK	UTILITY WATER FLOW BAD	FIR6550	1
CP3002	AMSC	BDA4	TP-1 BAD ANALOG INPUTS	UTILITY WATER PRESSURE OK	UTILITY WATER PRESSURE BAD	PIR6551	1
CP3002	AMSC	BDA4	TP-1 BAD ANALOG INPUTS	PLANT EFF CONDUCTIVITY OK	PLANT EFF CONDUCTIVITY BAD	AIR6556	1
CP3002	AMSC	BDA4	TP-1 BAD ANALOG INPUTS	ME18 CL2 OK	ME18 CL2 LOW	ME18 CL2	1
CP3002	AMSC	BDA4	TP-1 BAD ANALOG INPUTS	CHLORINE RESIDUAL OK	CHLORINE RESIDUAL BAD	AIR7311	1
CP3002	AMSC	BDA4	TP-1 BAD ANALOG INPUTS	INF TURBIDITY OK	INF TURBIDITY HIGH	ALM_CALC BO01	1
CP3002	AMSC	BDA4	TP-1 BAD ANALOG INPUTS	TERTIARY PLNT EFF TURB OK	TERTIARY PLNT EFF TURB BAD	TUIR6557	1
CP3002	AMSC	BDA7	TP-1 BAD ANALOG INPUTS	PLANT EFF TURBIDITY OK	PLANT EFF TURBIDITY BAD	TUIR6555	1
CP3002	AMSC	BDA7	TP-1 BAD ANALOG INPUTS	FIL 1-8 SURF WASH FLOW OK	FIL 1-8 SURF WASH FLOW BAD	FIR6530	1
CP3002	AMSC	BDA7	TP-1 BAD ANALOG INPUTS	FIL 9-14 SURF WSH FLOW OK	FIL 9-14 SURF WSH FLOW BAD	FIR6531	1
CP3002	AMSC	BDA7	TP-1 BAD ANALOG INPUTS				1
CP3002	AMSC	BDA7	TP-1 BAD ANALOG INPUTS	PLANT INF TURBIDITY OK	PLANT INF TURBIDITY BAD	TUIR6525	1
CP3002	AMSC	BDA7	TP-1 BAD ANALOG INPUTS	EAST SLUDGE TANK LEVEL OK	EAST SLUDGE TANK LEVEL BAD	LI6545	1
CP3002	AMSC	BDA7	TP-1 BAD ANALOG INPUTS	WASTE WASH WTR FLOW OK	WASTE WASH WTR FLOW BAD	FIR6540	1
CP3002	AMSC	HS6561	UTILITY WATER PUMP 1 START/STOP	UTIL WATER PMP 1 START/STOP BAD	UTIL WATER PMP 1 START/STOP BAD	UTL WTR PMP1	5
CP3002	AMSC	HS6561	UTILITY WATER PUMP 1 START/STOP	RTN TO NORM	MOTOR FAIL	UTL WTR PMP1	5
CP3002	AMSC	HS6562	UTILITY WATER PUMP 2 START/STOP	UTIL WATER PUMP 2 START/STOP BAD	UTIL WATER PUMP 2 START/STOP BAD	UTL WTR PMP2	5
CP3002	AMSC	HS6562	UTILITY WATER PUMP 2 START/STOP	RTN TO NORM	MOTOR FAIL	UTL WTR PMP2	5
CP3002	AMSC	HS6563	UTILITY WATER PUMP 3 START/STOP	UTIL WATER PUMP 3 START/STOP BAD	UTIL WATER PUMP 3 START/STOP BAD	UTL WTR PMP3	5
CP3002	AMSC	HS6563	UTILITY WATER PUMP 3 START/STOP	RTN TO NORM	MOTOR FAIL	UTL WTR PMP3	5
CP3002	AMSC	HS6564	UTILITY WATER PUMP 4 START/STOP	UTIL WATER PUMP 4 START/STOP BAD	UTIL WATER PUMP 4 START/STOP BAD	UTL WTR PMP4	5
CP3002	AMSC	HS6564	UTILITY WATER PUMP 4 START/STOP	RTN TO NORM	MOTOR FAIL	UTL WTR PMP4	5
CP3002	AMSC	HS6565	UTILITY WATER PUMP 5 START/STOP	RTN TO NORM	MOTOR FAIL	UTL WTR PMP5	5
CP3002	AMSC	HS6565	UTILITY WATER PUMP 5 START/STOP	UTIL WATER PUMP 5 START/STOP BAD	UTIL WATER PUMP 5 START/STOP BAD	UTL WTR PMP5	5
CP3002	AMSC	ME18_CL_H_DL	ME18 CL2 RESIDUAL HI ALM DELAYED	ME18 CL2 RESIDUAL NORMAL	ME18 CL2 RESIDUAL HI	ME18 CL2 RESIDUAL HI ALM DELAYED	1
CP3002	AMSC	ME18_CL_L_DL	ME18 CL2 RESIDUAL LO ALM DELAYED	ME18 CL2 RESIDUAL NORMAL	ME18 CL2 RESIDUAL LO ALM	ME18 CL2 RESIDUAL LO ALM DELAYED	1
CP3002	AMSC	RA09	SECOND CLARIFIER EFFLUENT FLOW	HIGH ALARM	SEC CLARIF EFF FLOW HIGH	32.0	5
CP3002	AMSC	RA11	TERT PLNT SETTL BASINS INF FLOW	HIGH ALARM	T PLNT SET BASN INF FLO HI	24.0	5
CP3002	AMSC	RA11	TERT PLNT SETTL BASINS INF FLOW	LOW ALARM	T PLNT SET BASN INF FLO LO	-1.0	5
CP3002	AMSC	RA12	EFFL FLOW FILTERS 1-8	HIGH ALARM	EFFL FLOW FILTERS 1-8 HI	22.0	5
CP3002	AMSC	RA12	EFFL FLOW FILTERS 1-8	LOW ALARM	EFFL FLOW FILTERS 1-8 LO	0.0	5
CP3002	AMSC	RA13	EFFL FLOW FILTERS 9-26	LOW ALARM	EFFL FLOW FILTERS 9-26 LO	0.0	5
CP3002	AMSC	RA14	SURFACE WASH FLOW FILT 18-24	LOW ALARM	SRF WSH FLOW FILT 18-24 LO	0.0	5
CP3002	AMSC	RA15	WASTE WASHWATER BASIN WEST LEVEL	LOW ALARM	BASIN WEST LOW	-1.0	5

CP	COMPOUND	BLOCK	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
CP3002	AMSC	RA16	WASTE WASHWATER BASIN EAST LEVEL	LOW ALARM	EAST BASIN LOW	-0.899999917	5
CP3002	AMSC	RA48	WASTE WASH WATER FLOW	HIGH ALARM	WASTE WASH WATER FLOW HI	5700.0	5
CP3002	AMSC	RA52	NES EFFLUENT CONDUCTIVITY	HIGH ALARM	NES EFFL CONDUCTIVITY HI	1600.0	5
CP3002	AMSC	RA52	NES EFFLUENT CONDUCTIVITY	LOW ALARM	NES EFFL CONDUCTIVITY LO	0.0	5
CP3002	AMSC	RA54	UTILITY WATER FLOW	LOW ALARM	UTILITY WATER FLOW LO	0.0	5
CP3002	AMSC	TP1TURBHH_DL	TP1 INFL.TURB. HIHI DELAYED ALM	TP1 TURBIDITY NORMAL	TP1 TURBIDITY HI ALARM	TP1 INFL. TURB. HIHI ALM DELAYED	1
CP3002	AMSC	TP1TURBHI_DL	TP1 INF.TURB.HI DELAYED ALARM	TP1 INFLUENT TURBIDITY NORMAL	TP1 INFLUENT TURBIDIDTY HI ALM	TP1 INF.TURBIDITY HI ALM DELAYED	1
CP3002	AMSC	HS6564	UTILITY WATER PUMP 4 START/STOP	RTN TO NORM	MOTOR FAIL	UTL WTR PMP4	5
CP3001	CCB3_BYPASS	SBS_FLOW_ALM		HIGH ALARM		40.0	5
CP3001	CCB3_BYPASS	SBS_FLOW_ALM		LOW ALARM		30.0	5
CP3001	COMMON	002_TURB	002 TURBIDITY	HIGH ALARM	TURBIDITY HIGH	2.389999866	1
CP3001	COMMON	002_TURB	002 TURBIDITY	HIGH HIGH ALARM		100.0	5
CP3001	COMMON	002ZCHLORALM	002 ZCHLOR FOR CLN CYC ALM	HIGH ALARM		6.899999619	2
CP3001	COMMON	002ZCHLORALM	002 ZCHLOR FOR CLN CYC ALM	HIGH HIGH ALARM		100.0	5
CP3001	COMMON	1_4ZCHLORALM	RP1_4 ZCHLOR CLN CYC ALM	HIGH ALARM		6.899999619	2
CP3001	COMMON	1_4ZCHLORALM	RP1_4 ZCHLOR CLN CYC ALM	HIGH HIGH ALARM		100.0	5
CP3001	COMMON	ALARMS1		SBS PUMPS 3 OR 4 FLOW OK	SBS PUMPS 3 OR 4 FLOW LOW	SBS SYSTEM PUMPS 3 OR 4	1
CP3001	COMMON	ALARMS1		SBS PUMPS 1 OR 2 FLOW OK	SBS PUMPS 1 OR 2 FLOW LOW	SBS SYSTEM PUMPS 1 AND 2	1
CP3001	COMMON	ALARMS1		SBS PUMPS 1 AND 2 OK	SBS PUMPS 1 AND 2 IN ALARM	SBS BUILDING	1
CP3001	COMMON	ALARMS1		SBS BUILDING POWER NORMAL	SBS BUILDING POWER FAIL	SBS BUILDING	1
CP3001	COMMON	ALARMS1		SBS PUMPS 3 AND 4 OK	SBS PUMPS 3 AND 4 IN ALARM	SBS BUILDING	1
CP3001	COMMON	ALARMS1		002 AFTER RESIDUAL OK	002 AFTER RESIDUAL HIGH	AUTO START SBS PUMPS	1
CP3001	COMMON	ALARMS1		002 Z-CHLOR BACKWASH COMPLETE	002 Z-CHLOR BACKWASHING		5
CP3001	COMMON	ALARMS2		002 ZCHLOR CLEAN CYCLE OK	002 ZCHLOR CLEAN CYCLE FAIL	002 ZCHLOR CLEANING CYCLE	5
CP3001	COMMON	ALARMS2		RP4 ZCHLOR CLEAN CYCLE OK	RP4 ZCHLOR CLEAN CYCLE FAIL	RP4 ZCHLOR CLEAN CYCLE	5
CP3001	COMMON	ALARMS2		SBS TANK 3801 LEVEL OK	SBS TANK 3801 LEVEL LOW	SBS STATION AGM CONTACT	5
CP3001	COMMON	ALARMS2		SBS TANK 3801 LEVEL OK	SBS TANK 3801 LEVEL HIGH	SBS STATION AGM CONTACT	5
CP3001	COMMON	ALARMS2		SBS TANK 3802 LEVEL OK	SBS TANK 3802 LEVEL LOW	SBS STATION AGM CONTACT	5
CP3001	COMMON	ALARMS2		SBS TANK 3802 LEVEL OK	SBS TANK 3802 LEVEL HIGH	SBS STATION AGM CONTACT	5
CP3001	COMMON	ALARMS2		RP1/4 ZCHLOR CLEAN CYCLE OK	RP1/4 ZCHLOR CLEAN CYCLE FAIL	RP1/4 ZCHLOR CLEAN CYCLE	5
CP3001	COMMON	CAIT3805_CL2	SPLITTER BOX CL2	HIGH ALARM	SPLITTER BOX CL2 HIGH	10.0	1
CP3001	COMMON	CAIT3805_CL2	SPLITTER BOX CL2	ALARM TYPE	SPLITTER BOX CL2 LOW	3.0	1
CP3001	COMMON	CAIT3805_CL2	SPLITTER BOX CL2	LOW LOW ALARM		0.0	5
CP3001	COMMON	CAIT3805_CL2	SPLITTER BOX CL2	HIGH HIGH ALARM		100.0	5
CP3001	COMMON	CAIT3805_CL2	SPLITTER BOX CL2	BAD		BAD I/O	5
CP3001	COMMON	NORTH_002_PH	NORTH 002 CHANNEL PH	ALARM TYPE	LOW PH	5.0	2
CP3001	COMMON	NORTH_002_PH	NORTH 002 CHANNEL PH	HIGH ALARM	HIGH PH	8.5	2
CP3001	COMMON	NORTH_002_PH	NORTH 002 CHANNEL PH	LOW LOW ALARM		0.0	5
CP3001	COMMON	NORTH_002_PH	NORTH 002 CHANNEL PH	HIGH HIGH ALARM		100.0	5
CP3001	COMMON	NORTH_002_PH	NORTH 002 CHANNEL PH	BAD		BAD I/O	5
CP3001	COMMON	RP1_4_COND	RP1 RP4 COMB CONDUCTIVITY	ALARM TYPE	OUTFALLL CINDUCTIVITY LOW	100.0	1
CP3001	COMMON	RP1_4_COND	RP1 RP4 COMB CONDUCTIVITY	BAD	RP1/RP4 COMB COND SIGNAL BAD	BAD I/O	1

CP	COMPOUND	BLOCK	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
CP3001	COMMON	RP1_4_COND	RP1 RP4 COMB CONDUCTIVITY	HIGH ALARM	OUTFALL CONDUCTIVITY HIGH	1300.0	1
CP3001	COMMON	RP1_4_COND	RP1 RP4 COMB CONDUCTIVITY	LOW LOW ALARM		0.0	5
CP3001	COMMON	RP1_4_COND	RP1 RP4 COMB CONDUCTIVITY	HIGH HIGH ALARM		100.0	5
CP3001	COMMON	RP1_4_NTU	RP1 RP4 COMBINED TURBIDITY	BAD	RP1/RP4 COMB TURBITY SIGNAL BAD	BAD I/O	1
CP3001	COMMON	RP1_4_NTU	RP1 RP4 COMBINED TURBIDITY	HIGH ALARM	TURBIDITY HIGH	2.0	1
CP3001	COMMON	RP1_4_NTU	RP1 RP4 COMBINED TURBIDITY	ALARM TYPE		-1.0	1
CP3001	COMMON	RP1_4_NTU	RP1 RP4 COMBINED TURBIDITY	HIGH HIGH ALARM		100.0	5
CP3001	COMMON	RP1_4_NTU	RP1 RP4 COMBINED TURBIDITY	LOW LOW ALARM		0.0	5
CP3001	COMMON	RP1_4_PH	RP1 RP4 COMB PH	HIGH ALARM	PH HIGH	8.0	1
CP3001	COMMON	RP1_4_PH	RP1 RP4 COMB PH	ALARM TYPE	PH LOW	6.5	1
CP3001	COMMON	RP1_4_PH	RP1 RP4 COMB PH	BAD	RP1/RP4 COMB PH SIGNAL BAD	BAD I/O	1
CP3001	COMMON	RP1_4_PH	RP1 RP4 COMB PH	LOW LOW ALARM		0.0	5
CP3001	COMMON	RP1_4_PH	RP1 RP4 COMB PH	HIGH HIGH ALARM		100.0	5
CP3001	COMMON	RP1_4_TEMP	RP1 RP4/OVERFLOW COMB TEMP	HIGH ALARM	TEMP HIGH	31.0	1
CP3001	COMMON	RP1_4_TEMP	RP1 RP4/OVERFLOW COMB TEMP	ALARM TYPE	TEMP LOW	20.0	1
CP3001	COMMON	RP1_4_TEMP	RP1 RP4/OVERFLOW COMB TEMP	BAD	RP1/RP4 COMB TEMP	BAD I/O	1
CP3001	COMMON	RP1_4_TEMP	RP1 RP4/OVERFLOW COMB TEMP	LOW LOW ALARM		0.0	5
CP3001	COMMON	RP1_4_TEMP	RP1 RP4/OVERFLOW COMB TEMP	HIGH HIGH ALARM		100.0	5
CP3001	COMMON	RP1_4_ZCHLOR		HIGH HIGH ALARM	SBS/CL2 RES HIGH HIGH	-0.5	1
CP3001	COMMON	RP1_4_ZCHLOR		BAD	RP1/RP4 ZCHLOR SIGNAL BAD	BAD I/O	1
CP3001	COMMON	RP1_4_ZCHLOR		HIGH ALARM	RESIDUAL HIGH WARNING	-1.0	1
CP3001	COMMON	RP1_4_ZCHLOR		ALARM TYPE		-4.0	1
CP3001	COMMON	RP1_4_ZCHLOR		LOW LOW ALARM		-4.0	1
CP3001	COMMON	RP4ZCHLORALM	RP4 ZCHLOR FOR CLEAN CYC ALM	HIGH ALARM		6.899999619	2
CP3001	COMMON	RP4ZCHLORALM	RP4 ZCHLOR FOR CLEAN CYC ALM	HIGH HIGH ALARM		100.0	5
CP3001	DCH_MSC	MISC_AL	002 ABS SYSTEM	002 ABS PUMPS 3OR 4 FLOW OK	002 ABS PUMPS 3 OR 4 FLOW LOW	002 ABS SYSTEM SOUTH CONTACT	1
CP3001	DCH_MSC	MISC_AL	002 ABS SYSTEM	002 ABS PUMPS 3&4 TROUBLE OK	002 ABS PUMPS 3&4 TROUBLE ALARM	002 ABS SYSTEM	1
CP3001	DCH_MSC	MISC_AL	002 ABS SYSTEM	002 AFTER RESIDUAL OK	002 AFTER RESIDUAL HIGH	AUTO START ABS PUMPS	1
CP3001	DCH_MSC	MISC_AL	002 ABS SYSTEM	002 ABS PUMPS 1 OR 2 FLOW OK	002 ABS PUMPS 1 OR 2 FLOW LOW	002 ABS SYSTEM NORTH CONTACT	1
CP3001	DCH_MSC	MISC_AL	002 ABS SYSTEM	002 ABS PUMPS 1&2 TROUBLE OK	002 ABS PUMPS 1&2 TROUBLE ALARM	002 ABS SYSTEM	1
CP3001	DCH_MSC	MISC_AL	002 ABS SYSTEM	002 UTILITY POWER NORMAL	002 UTILITY POWER FAIL ALARM		1
CP3001	DCH_MSC	MISC_AL	002 ABS SYSTEM	002 Z-CHLOR BACKWASH COMPLETE	002 Z-CHLOR BACKWASHING		5
CP3001	DCH_MSC	MISC_AL	002 ABS SYSTEM				5
CP3001	DCH_MSC	MISC_ALM	002 ABS SYSTEM ALM	002 TANK 3801 LEVEL OK	002 TANK 3801 LOW LEVEL	AGM CONTACT ABS STATION	1
CP3001	DCH_MSC	MISC_ALM	002 ABS SYSTEM ALM	002 TANK 3801 LEVEL OK	002 TANK 3801 HIGH LEVEL	AGM CONTACT ABS STATION	1
CP3001	DCH_MSC	MISC_ALM	002 ABS SYSTEM ALM	002 TANK 3802 LEVEL OK	002 TANK 3802 LOW LEVEL	AGM CONTACT ABS STATION	1
CP3001	DCH_MSC	MISC_ALM	002 ABS SYSTEM ALM	002 TANK 3802 LEVEL OK	002 TANK 3802 HIGH LEVEL	AGM CONTACT ABS STATION	1
CP3001	DCH_MSC	AI3401	002 NORTH CL2 RESIDUAL - BEFORE	BAD	002 NORTH BASIN CL2 SIGNAL BAD	BAD I/O	1
CP3001	DCH_MSC	AI3401	002 NORTH CL2 RESIDUAL - BEFORE	HIGH ALARM	002 NORTH CL2 HIGH	10.0	1

CP	COMPOUND	BLOCK	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
CP3001	DCH_MSC	AI3401	002 NORTH CL2 RESIDUAL - BEFORE	ALARM TYPE	002 NORTH CL2 LOW	3.0	1
CP3001	DCH_MSC	AI3401	002 NORTH CL2 RESIDUAL - BEFORE	HIGH HIGH ALARM		100.0	5
CP3001	DCH_MSC	AI3401	002 NORTH CL2 RESIDUAL - BEFORE	LOW LOW ALARM		0.0	5
CP3001	DCH_MSC	AI3402	002 SOUTH CL2 RESIDUAL - BEFORE	BAD	002 SOUTH CL2 SIGNAL BAD	BAD I/O	1
CP3001	DCH_MSC	AI3402	002 SOUTH CL2 RESIDUAL - BEFORE	HIGH ALARM	002 SOUTH CL2 HIGH	10.0	1
CP3001	DCH_MSC	AI3402	002 SOUTH CL2 RESIDUAL - BEFORE	ALARM TYPE	002 SOUTH CL2 LOW	3.0	1
CP3001	DCH_MSC	AI3402	002 SOUTH CL2 RESIDUAL - BEFORE	HIGH HIGH ALARM		100.0	5
CP3001	DCH_MSC	AI3402	002 SOUTH CL2 RESIDUAL - BEFORE	LOW LOW ALARM		0.0	5
CP3001	DCH_MSC	002_TURB	002 TURBIDITY	HIGH ALARM	TURBIDITY HIGH	2.399999857	1
CP3001	DCH_MSC	002_TURB	002 TURBIDITY	ALARM TYPE		0.0	1
CP3001	DCH_MSC	002_TURB	002 TURBIDITY	LOW LOW ALARM		0.0	5
CP3001	DCH_MSC	002_TURB	002 TURBIDITY	HIGH HIGH ALARM		100.0	5
CP3001	DCH_MSC	002_TURB	002 TURBIDITY	BAD		BAD I/O	5
CP3001	DCH_MSC	AI3403	002 Z-CHLOR	HIGH ALARM	002 Z-CHLOR RESIDUAL WARNING	-0.899999917	2
CP3001	DCH_MSC	AI3403	002 Z-CHLOR	ALARM TYPE		-3.0	2
CP3001	DCH_MSC	AI3403	002 Z-CHLOR	BAD	002 AFTER DECHLOR SIGNAL BAD	BAD I/O	2
CP3001	DCH_MSC	AI3403	002 Z-CHLOR	LOW LOW ALARM		0.0	5
CP3001	DCH_MSC	AI3403	002 Z-CHLOR	HIGH HIGH ALARM		100.0	5
CP3001	DCH_MSC	NORTH_002_PH	NORTH 002 CHANNEL PH METER	LOW LOW ALARM	WW PARK PMP CUTOFF	5.0	1
CP3001	DCH_MSC	NORTH_002_PH	NORTH 002 CHANNEL PH METER	HIGH HIGH ALARM		100.0	1
CP3001	DCH_MSC	NORTH_002_PH	NORTH 002 CHANNEL PH METER	HIGH ALARM	HIGH PH	8.5	1
CP3001	DCH_MSC	NORTH_002_PH	NORTH 002 CHANNEL PH METER	ALARM TYPE	LOW PH	6.5	1
CP3001	DCH_MSC	NORTH_002_PH	NORTH 002 CHANNEL PH METER	BAD		BAD I/O	5
CP3001	DCH_MSC	FI3401	NORTH BASIN FLOW	BAD	NORTH BASIN FLOW SIGNAL BAD	BAD I/O	1
CP3001	DCH_MSC	FI3401	NORTH BASIN FLOW	HIGH ALARM	002 NORTH BASIN HIGH FLOW	25.0	1
CP3001	DCH_MSC	FI3401	NORTH BASIN FLOW	ALARM TYPE	002 NORTH BASIN LOW FLOW	2.0	1
CP3001	DCH_MSC	FI3401	NORTH BASIN FLOW	HIGH HIGH ALARM		100.0	5
CP3001	DCH_MSC	FI3401	NORTH BASIN FLOW	LOW LOW ALARM		0.0	5
CP3001	DCH_MSC	FI3402	SOUTH BASIN FLOW	BAD	SOUTH BASIN FLOW SIGNAL BAD	BAD I/O	1
CP3001	DCH_MSC	FI3402	SOUTH BASIN FLOW	HIGH ALARM	002 SOUTH BASIN HIGH FLOW	24.5	1
CP3001	DCH_MSC	FI3402	SOUTH BASIN FLOW	ALARM TYPE	002 SOUTH BASIN LOW FLOW	0.0	1
CP3001	DCH_MSC	FI3402	SOUTH BASIN FLOW	HIGH HIGH ALARM		100.0	5
CP3001	DCH_MSC	FI3402	SOUTH BASIN FLOW	LOW LOW ALARM		0.0	5
CP3001	DCH_MSC	AI3408	RP-1/RP-4 COMB CONDUCTIVITY	BAD	RP-1/RP-4 COMB COND BAD	BAD I/O	1
CP3001	DCH_MSC	AI3408	RP-1/RP-4 COMB CONDUCTIVITY	HIGH ALARM	OUTFALL COND HIGH	1300.0	1
CP3001	DCH_MSC	AI3408	RP-1/RP-4 COMB CONDUCTIVITY	ALARM TYPE	002 OUTFALL COND LOW	100.0	1
CP3001	DCH_MSC	AI3408	RP-1/RP-4 COMB CONDUCTIVITY	LOW LOW ALARM		0.0	5
CP3001	DCH_MSC	AI3408	RP-1/RP-4 COMB CONDUCTIVITY	HIGH HIGH ALARM		100.0	5
CP3001	DCH_MSC	AI3407	RP-1/RP-4 COMB. PH	ALARM TYPE	PH LOW	6.5	1

CP	COMPOUND	BLOCK	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
CP3001	DCH_MSC	AI3407	RP-1/RP-4 COMB. PH	BAD	RP-1/RP-4 COMB. PH SIGNAL BAD	BAD I/O	1
CP3001	DCH_MSC	AI3407	RP-1/RP-4 COMB. PH	HIGH ALARM	PH HIGH	8.0	1
CP3001	DCH_MSC	AI3407	RP-1/RP-4 COMB. PH	LOW LOW ALARM		0.0	5
CP3001	DCH_MSC	AI3407	RP-1/RP-4 COMB. PH	HIGH HIGH ALARM		100.0	5
CP3001	DCH_MSC	AI3406	RP-1/RP-4 COMB. TEMPERATURE	ALARM TYPE	TEMP LOW	19.899999619	1
CP3001	DCH_MSC	AI3406	RP-1/RP-4 COMB. TEMPERATURE	BAD	RP-1/RP-4 COMB. TEMP SIGNAL BAD	BAD I/O	1
CP3001	DCH_MSC	AI3406	RP-1/RP-4 COMB. TEMPERATURE	HIGH ALARM	TEMP HIGH	32.0	1
CP3001	DCH_MSC	AI3406	RP-1/RP-4 COMB. TEMPERATURE	LOW LOW ALARM		0.0	5
CP3001	DCH_MSC	AI3406	RP-1/RP-4 COMB. TEMPERATURE	HIGH HIGH ALARM		100.0	5
CP3001	DCH_MSC	AI3405	RP-1/RP-4 COMB. TURBIDITY	HIGH ALARM	TURBIDITY HIGH	2.0	1
CP3001	DCH_MSC	AI3405	RP-1/RP-4 COMB. TURBIDITY	ALARM TYPE		0.200000003	1
CP3001	DCH_MSC	AI3405	RP-1/RP-4 COMB. TURBIDITY	BAD	RP-1/RP-4 AFTER TURB. SIGNAL BAD	BAD I/O	1
CP3001	DCH_MSC	AI3405	RP-1/RP-4 COMB. TURBIDITY	LOW LOW ALARM		0.0	5
CP3001	DCH_MSC	AI3405	RP-1/RP-4 COMB. TURBIDITY	HIGH HIGH ALARM		100.0	5
CP3001	DCH_P1P2	P1P2STAT	002 PUMPS 1 AND 2 STATUS	002 PUMP 1 STOPPED	002 PUMP 1 RUNNING	ABS PUMP	1
CP3001	DCH_P1P2	P1P2STAT	002 PUMPS 1 AND 2 STATUS	002 PUMP 1 SWCH TO OFF	002 PUMP 1 IN HAND	002 MCC HAND SWITCH	5
CP3001	DCH_P1P2	P1P2STAT	002 PUMPS 1 AND 2 STATUS	002 PUMP 1 SWCH TO OFF	002 PUMP 1 IN AUTO	002 MCC HAND SWITCH	5
CP3001	DCH_P1P2	P1P2STAT	002 PUMPS 1 AND 2 STATUS	002 PUMP 1 STANDBY	002 PUMP 1 DUTY	ABS PUMP	5
CP3001	DCH_P1P2	P1P2STAT	002 PUMPS 1 AND 2 STATUS	002 PUMP 2 STOPPED	002 PUMP 2 RUNNING	ABS PUMP	1
CP3001	DCH_P1P2	P1P2STAT	002 PUMPS 1 AND 2 STATUS	002 PUMP 2 SWCH TO OFF	002 PUMP 2 IN HAND	002 MCC HAND SWITCH	5
CP3001	DCH_P1P2	P1P2STAT	002 PUMPS 1 AND 2 STATUS	002 PUMP 2 SWCH TO OFF	002 PUMP 2 IN AUTO	002 MCC HAND SWITCH	5
CP3001	DCH_P1P2	P1P2STAT	002 PUMPS 1 AND 2 STATUS	002 PUMP 2 STANDBY	002 PUMP 2 DUTY	ABS PUMP	5
CP3001	DCH_P1P2	DEV_ALM	ABS PMPS 1 & 2 DEVIATION ALARM	LOW DEVIATION	ABS FLOW PMPS 1 & 2 DEVIATION	15.0	1
CP3001	DCH_P1P2	DEV_ALM	ABS PMPS 1 & 2 DEVIATION ALARM	HIGH DEVIATION		20.0	1
CP3001	DCH_P1P2	HS3401	PUMP 1 RUN/STOP	002 ABS PUMP1 OFF	002 ABS PUMP1 ON		1
CP3001	DCH_P1P2	HS3401	PUMP 1 RUN/STOP				5
CP3001	DCH_P1P2	HS3402	PUMP 2 RUN/STOP	002 ABS PUMP2 OFF	002 ABS PUMP2 ON		1
CP3001	DCH_P1P2	HS3402	PUMP 2 RUN/STOP				5
CP3001	DCH_P3P4	P3P4STAT	002 PUMPS 3 AND 4 STATUS	002 PUMP 3 STOPPED	002 PUMP 3 RUNNING		1
CP3001	DCH_P3P4	P3P4STAT	002 PUMPS 3 AND 4 STATUS	002 PUMP 4 STOPPED	002 PUMP 4 RUNNING		1
CP3001	DCH_P3P4	P3P4STAT	002 PUMPS 3 AND 4 STATUS		002 PUMP 4 IN HAND		5
CP3001	DCH_P3P4	P3P4STAT	002 PUMPS 3 AND 4 STATUS	002 PUMP 4 STANDBY	002 PUMP 4 DUTY		5
CP3001	DCH_P3P4	P3P4STAT	002 PUMPS 3 AND 4 STATUS		002 PUMP 3 IN AUTO		5
CP3001	DCH_P3P4	P3P4STAT	002 PUMPS 3 AND 4 STATUS	002 PUMP 3 STANDBY	002 PUMP 3 DUTY		5
CP3001	DCH_P3P4	P3P4STAT	002 PUMPS 3 AND 4 STATUS		002 PUMP 3 IN HAND		5
CP3001	DCH_P3P4	P3P4STAT	002 PUMPS 3 AND 4 STATUS		002 PUMP 4 IN AUTO		5
CP3001	DCH_P3P4	DEV_ALM	ABS PMPS 3 & 4 DEVIATION ALARM	LOW DEVIATION	ABS FLOW PMPS 3 & 4 DEVIATION	15.0	1
CP3001	DCH_P3P4	DEV_ALM	ABS PMPS 3 & 4 DEVIATION ALARM	HIGH DEVIATION		20.0	1
CP3001	DCH_P3P4	CB_FLOW_ALM	CONTACT BASIN FLOW ALARM	HIGH ALARM	002 HIGH EFFLUENT FLOW	40.0	1
CP3001	DCH_P3P4	CB_FLOW_ALM	CONTACT BASIN FLOW ALARM	HIGH HIGH ALARM	002 HIGH HIGH EFF FLOW	43.0	1
CP3001	DCH_P3P4	HS3403	PUMP 3 RUN/STOP	002 ABS PUMP3 OFF	002 ABS PUMP3 ON		1
CP3001	DCH_P3P4	HS3403	PUMP 3 RUN/STOP				5
CP3001	DCH_P3P4	HS3404	PUMP 4 RUN/STOP	002 ABS PUMP4 OFF	002 ABS PUMP4 ON		1
CP3001	DCH_P3P4	HS3404	PUMP 4 RUN/STOP				5
ABST02	DCS_PAGE	DCS_PAGE					1

CP	COMPOUND	BLOCK	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
CP3001	DECHLOR_P1P2	RP4_CL2_1	RP4 BEFORE CL2 ANALYZER #1	BAD	RP4 CL2 #1 FAILED	BAD I/O	1
CP3001	DECHLOR_P1P2	RP4_ZCHLOR	RP4 AND RECYCLED OVERFLOW	HIGH ALARM	HIGH RESIDUAL WARNING	-1.0	1
CP3001	DECHLOR_P1P2	RP4_CL2_2		HIGH ALARM	#2 HIGH CL2	9.0	1
CP3001	DECHLOR_P1P2	RP4_CL2_2		ALARM TYPE	#2 LOW CL2	0.5	1
CP3001	DECHLOR_P1P2	RP4_CL2_1	RP4 BEFORE CL2 ANALYZER #1	HIGH ALARM	#1 HIGH CL2	9.0	1
CP3001	DECHLOR_P1P2	RP4_CL2_1	RP4 BEFORE CL2 ANALYZER #1	ALARM TYPE	#1 LOW CL2	0.5	1
CP3001	DECHLOR_P1P2	RP4_CL2_2		BAD	RP4 CL2 #2 FAILED	BAD I/O	1
CP3001	DECHLOR_P1P2	RP4_ZCHLOR	RP4 AND RECYCLED OVERFLOW	HIGH HIGH ALARM	HIGH HIGH RESIDUAL	-0.5	1
CP3001	DECHLOR_P1P2	RP4_CL2_2		HIGH HIGH ALARM		100.0	5
CP3001	DECHLOR_P1P2	RP4_CL2_1	RP4 BEFORE CL2 ANALYZER #1	HIGH HIGH ALARM		100.0	5
CP3001	DECHLOR_P1P2	RP4_CL2_2		LOW LOW ALARM		0.0	5
CP3001	DECHLOR_P1P2	RP4_CL2_1	RP4 BEFORE CL2 ANALYZER #1	LOW LOW ALARM		0.0	5
CP3001	DECHLOR_P1P2	BUMP_ALM		HIGH ALARM		-1.099999905	5
CP3001	DECHLOR_P1P2	P1_P2_STAT	RP4 ZCHLOR PUMPS 1-2 STATUS	SBS PUMP 1 STOPPED	SBS PUMP 1 RUNNING	SBS	1
CP3001	DECHLOR_P1P2	CL2_RCRC_OLF	CL2 RECIRC P2 OVERLOAD	OK	OVERLOAD	CL2 RECIRC P2	1
CP3001	DECHLOR_P1P2	P1_P2_STAT	RP4 ZCHLOR PUMPS 1-2 STATUS	SBS PUMP 2 STOPPED	SBS PUMP 2 RUNNING	SBS PUMP	1
CP3001	DECHLOR_P1P2	CL1_RCRC_OLF	CL2 RECIRC P1 OL FAIL	OK	OVERLOAD	CL2 RECIRC P1	1
CP3001	DECHLOR_P1P2	HS3401	PUMP 1 RUN/STOP	SBS PUMP1 OFF	SBS PUMP1 ON	RP4 ZCHLOR	1
CP3001	DECHLOR_P1P2	HS3402	PUMP 2 RUN/STOP	SBS PUMP 2 OFF	SBS PUMP 2 ON	RP4 ZCHLOR	1
CP3001	DECHLOR_P1P2	HS3401	PUMP 1 RUN/STOP			RP4 ZCHLOR	5
CP3001	DECHLOR_P1P2	P1_P2_STAT	RP4 ZCHLOR PUMPS 1-2 STATUS	SBS PUMP 2 OFF	SBS PUMP 2 AUTO	SBS MCC HAND SWITCH	5
CP3001	DECHLOR_P1P2	P1_P2_STAT	RP4 ZCHLOR PUMPS 1-2 STATUS	SBS PUMP 2 OFF	SBS PUMP 2 HAND	SBS MCC HAND SWITCH	5
CP3001	DECHLOR_P1P2	P1_P2_STAT	RP4 ZCHLOR PUMPS 1-2 STATUS	SBS PUMP 2 STANDBY	SBS PUMP 2 DUTY	SBS PUMP	5
CP3001	DECHLOR_P1P2	P1_P2_STAT	RP4 ZCHLOR PUMPS 1-2 STATUS	SBS PUMP 1 OFF	SBS PUMP 1 HAND	SBS MCC HAND SWITCH	5
CP3001	DECHLOR_P1P2	HS3402	PUMP 2 RUN/STOP			RP4 ZCHLOR	5
CP3001	DECHLOR_P1P2	P1_P2_STAT	RP4 ZCHLOR PUMPS 1-2 STATUS	SBS PUMP 1 OFF	SBS PUMP 1 AUTO	SBS MCC HAND SWITCH	5
CP3001	DECHLOR_P1P2	P1_P2_STAT	RP4 ZCHLOR PUMPS 1-2 STATUS	SBS PUMP 1 STANDBY	SBS PUMP 1 DUTY	SBS PUMP	5
CP3001	DECHLOR_P3P4	BASIN2_CL2	BASIN 2 CL2	HIGH ALARM	BASIN 2 CL2 HIGH	13.0	1
CP3001	DECHLOR_P3P4	BASIN3_CL2_2	BASIN 3 #2 SOUTH RESID ANALYZER	ALARM TYPE	CL2 #2 RESIDUAL LOW	1.5	1
CP3001	DECHLOR_P3P4	BASIN1_CT	BASIN #1 & #2 CONTACT TIME	LOW LOW ALARM	CT BELOW 450	450.0	1
CP3001	DECHLOR_P3P4	BASIN1_CL2	BASIN 1 CL2	HIGH ALARM	BASIN 1 CL2 HIGH	10.5	1
CP3001	DECHLOR_P3P4	BASIN3_CL2_1	BASIN 3 #1 NORTH RESID ANALYZER	ALARM TYPE	CL2 #1 RESIDUAL LOW	1.5	1
CP3001	DECHLOR_P3P4	CT_1N2_HRAVG	BASIN 1&2 CT 1 HOUR AVG	ALARM TYPE		460.0	1
CP3001	DECHLOR_P3P4	002_ZCHLOR		HIGH ALARM	002 ZCHLOR HIGH RESIDUAL WARNING	-1.0	1
CP3001	DECHLOR_P3P4	BASIN2_CL2	BASIN 2 CL2	ALARM TYPE	BASIN 2 CL2 LOW	2.0	1
CP3001	DECHLOR_P3P4	BASIN3_CT	BASIN #3 CONTACT TIME	BAD		BAD I/O	1
CP3001	DECHLOR_P3P4	CT_3_HRAVG	CT BASIN 3 HOURLY AVG	ALARM TYPE	LOW HOURLY AVG	460.0	1
CP3001	DECHLOR_P3P4	BASIN1_CL2	BASIN 1 CL2	ALARM TYPE	BASIN 1 CL2 LOW	3.200000048	1
CP3001	DECHLOR_P3P4	BASIN3_FM	BASIN 3 FLOW METER	BAD	BASIN 3 FLOW SIGNAL BAD	BAD I/O	1
CP3001	DECHLOR_P3P4	BASIN3_CT	BASIN #3 CONTACT TIME	ALARM TYPE	CT BELOW 475	475.0	1
CP3001	DECHLOR_P3P4	BASIN2_FM	BASIN 2 FLOW METER	BAD	BASIN 2 FLOW SIGNAL BAD	BAD I/O	1
CP3001	DECHLOR_P3P4	BASIN3_CL2_2	BASIN 3 #2 SOUTH RESID ANALYZER	BAD	BASIN 3 CL2 #2 SIGNAL BAD	BAD I/O	1

CP	COMPOUND	BLOCK	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
CP3001	DECHLOR_P3P4	BASIN1_CT	BASIN #1 & #2 CONTACT TIME	ALARM TYPE	CT BELOW 475	475.0	1
CP3001	DECHLOR_P3P4	BASIN3_CL2_1	BASIN 3 #1 NORTH RESID ANALYZER	BAD	BASIN 3 CL2 #1 SIGNAL BAD	BAD I/O	1
CP3001	DECHLOR_P3P4	BASIN2_FM	BASIN 2 FLOW METER	HIGH ALARM	BASIN 2 HIGH FLOW	24.5	1
CP3001	DECHLOR_P3P4	BASIN2_CL2	BASIN 2 CL2	BAD	BASIN 2 CL2 SIGNAL BAD	BAD I/O	1
CP3001	DECHLOR_P3P4	BASIN3_CL2_2	BASIN 3 #2 SOUTH RESID ANALYZER	HIGH ALARM	CL2 #2 RESIDUAL HIGH	12.0	1
CP3001	DECHLOR_P3P4	BASIN1_CL2	BASIN 1 CL2	BAD	BASIN 1 CL2 SIGNAL BAD	BAD I/O	1
CP3001	DECHLOR_P3P4	002_ZCHLOR		HIGH HIGH ALARM	002 ZCHLOR HIGH HIGH RESIDUAL	-1.0	1
CP3001	DECHLOR_P3P4	BASIN3_CT	BASIN #3 CONTACT TIME	LOW LOW ALARM	CT BELOW 450	450.0	1
CP3001	DECHLOR_P3P4	BASIN3_CL2_1	BASIN 3 #1 NORTH RESID ANALYZER	HIGH ALARM	CL2 #1 RESIDUAL HIGH	12.0	1
CP3001	DECHLOR_P3P4	BASIN2_FM	BASIN 2 FLOW METER	ALARM TYPE	BASIN 2 LOW FLOW	2.0	1
CP3001	DECHLOR_P3P4	BASIN3_DT	BASIN #3 DETENTION TIME	LOW LOW ALARM	DT BELOW 90	90.0	5
CP3001	DECHLOR_P3P4	BASIN1_DT	BASIN #1 & #2 DETENTION TIME	LOW LOW ALARM	DT BELOW 90	90.0	5
CP3001	DECHLOR_P3P4	BASIN3_FM	BASIN 3 FLOW METER	LOW LOW ALARM		0.0	5
CP3001	DECHLOR_P3P4	BASIN3_DT	BASIN #3 DETENTION TIME	BAD		BAD I/O	5
CP3001	DECHLOR_P3P4	BASIN2_FM	BASIN 2 FLOW METER	LOW LOW ALARM		0.0	5
CP3001	DECHLOR_P3P4	BASIN1_CT	BASIN #1 & #2 CONTACT TIME	BAD		BAD I/O	5
CP3001	DECHLOR_P3P4	BASIN3_CL2_2	BASIN 3 #2 SOUTH RESID ANALYZER	LOW LOW ALARM		0.0	5
CP3001	DECHLOR_P3P4	BASIN1_DT	BASIN #1 & #2 DETENTION TIME	BAD		BAD I/O	5
CP3001	DECHLOR_P3P4	BASIN3_FM	BASIN 3 FLOW METER	HIGH HIGH ALARM		100.0	5
CP3001	DECHLOR_P3P4	BASIN3_CL2_1	BASIN 3 #1 NORTH RESID ANALYZER	LOW LOW ALARM		0.0	5
CP3001	DECHLOR_P3P4	CT_1N2_HRAVG	BASIN 1&2 CT 1 HOUR AVG	LOW LOW ALARM	START TOTALIZER TIMER	450.0	5
CP3001	DECHLOR_P3P4	BASIN2_FM	BASIN 2 FLOW METER	HIGH HIGH ALARM		100.0	5
CP3001	DECHLOR_P3P4	BASIN2_CL2	BASIN 2 CL2	LOW LOW ALARM		0.0	5
CP3001	DECHLOR_P3P4	CT_3_HRAVG	CT BASIN 3 HOURLY AVG	LOW LOW ALARM	START TOTALIZER TIMER	450.0	5
CP3001	DECHLOR_P3P4	BASIN3_CL2_2	BASIN 3 #2 SOUTH RESID ANALYZER	HIGH HIGH ALARM		100.0	5
CP3001	DECHLOR_P3P4	BASIN1_CL2	BASIN 1 CL2	LOW LOW ALARM		0.0	5
CP3001	DECHLOR_P3P4	BASIN3_DT	BASIN #3 DETENTION TIME	ALARM TYPE	DT BELOW 95	95.0	5
CP3001	DECHLOR_P3P4	BASIN3_CL2_1	BASIN 3 #1 NORTH RESID ANALYZER	HIGH HIGH ALARM		100.0	5
CP3001	DECHLOR_P3P4	BASIN3_FM	BASIN 3 FLOW METER	HIGH ALARM	BASIN 3 HIGH FLOW	25.0	5
CP3001	DECHLOR_P3P4	BASIN2_CL2	BASIN 2 CL2	HIGH HIGH ALARM		100.0	5
CP3001	DECHLOR_P3P4	BASIN1_DT	BASIN #1 & #2 DETENTION TIME	ALARM TYPE	DT BELOW 95	95.0	5
CP3001	DECHLOR_P3P4	CT_1N2_HRAVG	BASIN 1&2 CT 1 HOUR AVG	BAD		BAD I/O	5
CP3001	DECHLOR_P3P4	BASIN1_CL2	BASIN 1 CL2	HIGH HIGH ALARM		100.0	5
CP3001	DECHLOR_P3P4	BASIN3_FM	BASIN 3 FLOW METER	ALARM TYPE	BASIN 3 LOW FLOW	0.5	5
CP3001	DECHLOR_P3P4	CT_3_HRAVG	CT BASIN 3 HOURLY AVG	BAD		BAD I/O	5
CP3001	DECHLOR_P3P4	P3_P4_STAT1	CT AND DT ALARM	DETENTION TIME ABOVE 95	DETENTION TIME BELOW 95	BASIN 1&2 DT	1
CP3001	DECHLOR_P3P4	P3_P4_STAT1	CT AND DT ALARM	CONTACT TIME ABOVE 475	CONTACT TIME BELOW 475	BASIN 3 CT	1
CP3001	DECHLOR_P3P4	HS3404	PUMP 4 RUN/STOP	SBS PUMP 4 OFF	SBS PUMP 4 ON		1
CP3001	DECHLOR_P3P4	P3_P4_STAT1	CT AND DT ALARM	CONTACT TIME ABOVE 450	CONTACT TIME BELOW 450	BASIN 3	1
CP3001	DECHLOR_P3P4	P3_P4_STAT	PUMPS 3 AND 4 STATUS	SBS PUMP 3 STOPPED	SBS PUMP 3 RUNNING		1
CP3001	DECHLOR_P3P4	P3_P4_STAT	PUMPS 3 AND 4 STATUS	SBS PUMP 4 STOPPED	SBS PUMP 4 RUNNING		1
CP3001	DECHLOR_P3P4	P3_P4_STAT1	CT AND DT ALARM	DETENTION TIME ABOVE 95	DETENTION TIME BELOW 95	BASIN 3 DT	1
CP3001	DECHLOR_P3P4	WESTWINFLOOD		NORMAL	FLOOD ALARM	WESTWIND PUMP STATION	1

CP	COMPOUND	BLOCK	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
CP3001	DECHLOR_P3P4	P3_P4_STAT1	CT AND DT ALARM	DETENTION TIME ABOVE 90	DETENTION TIME BELOW 90	BASIN 3	1
CP3001	DECHLOR_P3P4	P3_P4_STAT1	CT AND DT ALARM	DETENTION TIME ABOVE 90	DETENTION TIME BELOW 90	BASIN 1&2 DT	1
CP3001	DECHLOR_P3P4	P3_P4_STAT1	CT AND DT ALARM	CONTACT TIME ABOVE 450	CONTACT TIME BELOW 450	BASIN 1&2 CT	1
CP3001	DECHLOR_P3P4	P3_P4_STAT1	CT AND DT ALARM	CONTACT TIME ABOVE 475	CONTACT TIME BELOW 475	BASIN 1&2 CT	1
CP3001	DECHLOR_P3P4	HS3403	PUMP 3 RUN/STOP	SBS PUMP3 OFF	SBS PUMP3 ON		1
CP3001	DECHLOR_P3P4	P3_P4_STAT	PUMPS 3 AND 4 STATUS	SBS PUMP 4 STANDBY	SBS PUMP 4 DUTY		5
CP3001	DECHLOR_P3P4	P3_P4_STAT	PUMPS 3 AND 4 STATUS		SBS PUMP 4 IN AUTO		5
CP3001	DECHLOR_P3P4	P3_P4_STAT	PUMPS 3 AND 4 STATUS		SBS PUMP 4 IN HAND		5
CP3001	DECHLOR_P3P4	P3_P4_STAT	PUMPS 3 AND 4 STATUS		SBS PUMP 3 IN HAND		5
CP3001	DECHLOR_P3P4	HS3403	PUMP 3 RUN/STOP				5
CP3001	DECHLOR_P3P4	HS3404	PUMP 4 RUN/STOP				5
CP3001	DECHLOR_P3P4	P3_P4_STAT	PUMPS 3 AND 4 STATUS		SBS PUMP 3 IN AUTO		5
CP3001	DECHLOR_P3P4	P3_P4_STAT	PUMPS 3 AND 4 STATUS	SBS PUMP 3 STANDBY	SBS PUMP 3 DUTY		5
CP3002	FIL	RA08	ME18 T-PLANT INFLUENT FLOW	LOW DEVIATION	TERT PLANT INF FLOW LO LO	30.0	1
CP3002	FIL	RA08	ME18 T-PLANT INFLUENT FLOW	HIGH DEVIATION	TERT PLANT INF FLOW HI HI	20.0	1
CP3002	FIL	RA08	ME18 T-PLANT INFLUENT FLOW	HIGH ALARM	ME18 T-PLANT INF FLOW HIGH	38.0	5
CP3002	FIL	RA08	ME18 T-PLANT INFLUENT FLOW	LOW ALARM	ME18 T-PLANT INF FLOW LOW	7.0	5
CP3002	FIL	BDA1	BAD ANALOG INPUTS				1
CP3002	FIL	BDA1	BAD ANALOG INPUTS	TERTIARY PLNT INF FLOW OK	TERTIARY PLNT INF FLOW BAD	FI6501 T-PLANT INF FLOW	1
CP3001	FLOC_CONTL	FLOC_1_S_S	FLOC 1 START/STOP			FLOCULATOR NO.1	5
CP3001	FLOC_CONTL	FLOC_1_S_S	FLOC 1 START/STOP	OK	FAILED	FLOCULATOR NO.1	5
CP3001	FLOC_CONTL	FLOC_2_S_S	FLOC 2 START/STOP			FLOCULATOR NO.2	5
CP3001	FLOC_CONTL	FLOC_2_S_S	FLOC 2 START/STOP	OK	FAILED	FLOCULATOR NO.2	5
CP3001	FLOC_CONTL	FLOC_3_S_S	FLOC 3 START/STOP			FLOCULATOR NO.3	5
CP3001	FLOC_CONTL	FLOC_3_S_S	FLOC 3 START/STOP	OK	FAILED	FLOCULATOR NO.3	5
CP3001	FLOC_CONTL	FLOC_4_S_S	FLOC 4 START/STOP			FLOCULATOR NO.4	5
CP3001	FLOC_CONTL	FLOC_4_S_S	FLOC 4 START/STOP	OK	FAILED	FLOCULATOR NO.4	5
CP3001	FLOC_CONTL	FLOC_5_S_S	FLOC 5 START/STOP			FLOCULATOR NO.5	5
CP3001	FLOC_CONTL	FLOC_5_S_S	FLOC 5 START/STOP	OK	FAILED	FLOCULATOR NO.5	5
CP3001	FLOC_CONTL	FLOC_6_S_S	FLOC 6 START/STOP			FLOCULATOR NO.6	5
CP3001	FLOC_CONTL	FLOC_6_S_S	FLOC 6 START/STOP	OK	FAILED	FLOCULATOR NO.6	5
CP3001	FLOC_CONTL	FLOC_7_S_S	FLOC 7 START/STOP			FLOCULATOR NO.7	5
CP3001	FLOC_CONTL	FLOC_7_S_S	FLOC 7 START/STOP	OK	FAILED	FLOCULATOR NO.7	5
CP3001	FLOC_CONTL	FLOC_8_S_S	FLOC 8 START/STOP			FLOCULATOR NO.8	5
CP3001	FLOC_CONTL	FLOC_8_S_S	FLOC 8 START/STOP	OK	FAILED	FLOCULATOR NO.8	5
CP3002	INF	FN6501	TERTIARY INF. FLOW TO MCB	ALARM TYPE	TERT INF FLOW TO MCB BAD	BAD I/O	5
ABST12	MC_IN	MONTCLAIR2	MONTCLAIR ALARMS	AB UPS POWER OK	AB UPS POWER FAILED	MONTCLAIR	1
ABST12	MC_IN	MONTCLAIR1	MONTCLAIR ALARMS	BATT CHARGER OK	BATT CHARGER FAIL	MONTCLAIR	1
ABST12	MC_IN	MC_COMM_FAIL		COMM OK	COMM FAIL	MONTCLAIR	1
ABST12	MC_IN	MONTCLAIR2	MONTCLAIR ALARMS	DH485 OK	DH485 FAILED	MONTCLAIR	1
ABST12	MC_IN	MONTCLAIR1	MONTCLAIR ALARMS	GENERATOR OFF LINE	GENERATOR ON LINE	MONTCLAIR	1
ABST12	MC_IN	MONTCLAIR	MONTCLAIR ALARMS	INST AIR OK	INST AIR LOW	MONTCLAIR	1
ABST12	MC_IN	MONTCLAIR	MONTCLAIR ALARMS	MOTOR #1 TEMP OK	MOTOR #1 TEMP HIGH	MONTCLAIR	1
ABST12	MC_IN	MONTCLAIR	MONTCLAIR ALARMS	MOTOR #2 TEMP OK	MOTOR #2 TEMP HIGH	MONTCLAIR	1
ABST12	MC_IN	MONTCLAIR	MONTCLAIR ALARMS	MOTOR #3 TEMP OK	MOTOR #3 TEMP HIGH	MONTCLAIR	1
ABST12	MC_IN	MONTCLAIR2	MONTCLAIR ALARMS	PLC OK	PLC FAILED	MONTCLAIR	1
ABST12	MC_IN	MONTCLAIR1	MONTCLAIR ALARMS	PUMP #1 OK	PUMP #1 FAILED	MONTCLAIR	1
ABST12	MC_IN	MONTCLAIR	MONTCLAIR ALARMS	PUMP #1 FLOW OK	PUMP #1 LOW FLOW	MONTCLAIR	1

CP	COMPOUND	BLOCK	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
ABST12	MC_IN	MONTCLAIR1	MONTCLAIR ALARMS	PUMP #2 OK	PUMP #2 FAILED	MONTCLAIR	1
ABST12	MC_IN	MONTCLAIR	MONTCLAIR ALARMS	PUMP #2 FLOW OK	PUMP #2 LOW FLOW	MONTCLAIR	1
ABST12	MC_IN	MONTCLAIR1	MONTCLAIR ALARMS	PUMP #3 OK	PUMP #3 FAILED	MONTCLAIR	1
ABST12	MC_IN	MONTCLAIR	MONTCLAIR ALARMS	PUMP #3 FLOW OK	PUMP #3 LOW FLOW	MONTCLAIR	1
ABST12	MC_IN	MONTCLAIR	MONTCLAIR ALARMS	SUMP LEVEL OK	SUMP LEVEL HIGH	MONTCLAIR	1
ABST12	MC_IN	MONTCLAIR1	MONTCLAIR ALARMS	UTILITY POWER OK	UTILITY POWER FAIL	MONTCLAIR	1
ABST12	MC_IN	MONTCLAIR1	MONTCLAIR ALARMS	WET WELL OK	WET WELL LOW LEVEL	MONTCLAIR	1
ABST12	MC_IN	MONTCLAIR1	MONTCLAIR ALARMS	WET WELL OK	WET WELLHIGH LEVEL	MONTCLAIR	1
CP3001	MDO	HS6585	INFLUENT SAMPLE PUMP START/STOP	RTN TO NORM	MOTOR FAIL	INF SAM PMP	5
CP3001	MDO	HS6586	EFFLUENT SAMPLE PUMP START/STOP	RTN TO NORM	MOTOR FAIL	EFF SAM PMP	5
CP3001	MDO	HS6585	INFLUENT SAMPLE PUMP START/STOP	INF SAMPLE PUMP START/STOP BAD	INF SAMPLE PUMP START/STOP BAD	INF SAM PMP	5
CP3001	MDO	HS6586	EFFLUENT SAMPLE PUMP START/STOP	EFF SAMPLE PUMP START/STOP BAD	EFF SAMPLE PUMP START/STOP BAD	EFF SAM PMP	5
CP3002	MSC	BA02	DIGITAL INPUTS DF7B223	FILTER GAL. 1 OK	FILTER GAL. 1 FLOOD	FILTER GALLERY # 1	1
CP3002	MSC	BA02	DIGITAL INPUTS DF7B223	GAL. 1 OK	GAL. 1 OVERFLOW	FILTER GALLERY # 1	1
CP3002	MSC	BA02	DIGITAL INPUTS DF7B223	FILTER GAL. 2 OK	FILTER GAL. 2 FLOOD	FILTER GALLERY # 2	1
CP3002	MSC	BA02	DIGITAL INPUTS DF7B223	GAL. 2 OK	GAL. 2 OVERFLOW	FILTER GALLERY # 2	1
CP3002	MSC	RA44	FILTER 17 LEVEL	HIGH ALARM	FILTER #17 LEVEL HI	10.0	5
CP3002	MSC	RA44	FILTER 17 LEVEL	LOW ALARM	FILTER #17 LEVEL LO	-3.0	5
CP3002	MSC	BA14	TP-1 ALARMS	OFF FLASH MIXER 2	ON FLASH MIXER 2	ML6613 FLASH MIXER 2	0
CP3002	MSC	BA14	TP-1 ALARMS	OK NEW FLASHMIXER VAULT	FLOOD NEW FLASHMIXER VAULT	LAH8000 NEW FLASHMIXER VAULT	1
CP3002	MSC	BA08	TP-1 ALARMS	OK W WTR RECOV TNK LVL	HIGH W WTR RECOV TNK LVL	LAH6536 W WTR RECOV TNK LVL	1
CP3002	MSC	BA07	TP-1 ALARMS	OK INTKE WET WELL LVL	HIGH INTKE WET WELL LVL	LAH6500 INTKE WET WELL LVL	1
CP3002	MSC	BA15	TP-1 ALARMS	OK PLANT AIR PRESSURE	LOW PLANT AIR PRESSURE	PAL6705 PLANT AIR PRESSURE	1
CP3002	MSC	BA13	TP-1 ALARMS	OK T-M-1 VAULT	FLOOD T-M-1 VAULT	LAH6612 T-M-1 VAULT	1
CP3002	MSC	BA14	TP-1 ALARMS	OK UTIL WTR SYS PRESS	LOW UTIL WTR SYS PRESS	PAL6640	1
CP3002	MSC	BA15	TP-1 ALARMS	OK UTILITY WATER P3	FAIL UTILITY WATER P3	HS6563 UTIL WTR PMP 3	1
CP3002	MSC	BA14	TP-1 ALARMS	OK METER VAULT 101	FLOOD METER VAULT 101	LAH8010 METER VAULT 101	1
CP3002	MSC	BA15	TP-1 ALARMS	OK INTAKE PUMP WETWELL	LOW INTAKE PUMP WETWELL	LAL6549 INTAKE PMP WETWELL	1
CP3002	MSC	BA15	TP-1 ALARMS	OK UTILITY WATER P2	FAIL UTILTIY WATER P2	HS6562 UTIL WTR PMP 2	1
CP3002	MSC	BA13	TP-1 ALARMS	OK SUMP LVL IN BASEMENT	FLOOD SUMP LVL IN BASEMENT	LAH8066 SUMP IN BASEMENT	1
CP3002	MSC	BA08	TP-1 ALARMS	OK #2 FIL GALL SUMP LVL	HIGH #2 FIL GALL SUMP LVL	LAH6097 #2 FIL GALL SUMP LVL	1
CP3002	MSC	BA15	TP-1 ALARMS	OK UTILITY WATER P4	FAIL UTILITY WATER P4	HS6564 UTIL WATER PMP 4	1
CP3002	MSC	BA10	TP-1 ALARMS	OK E SLDG RC PMP PRESS	HIGH E SLDG RC PMP PRESS	PAH6551 E SLDG RC PMP PRESS	1
CP3002	MSC	BA15	TP-1 ALARMS	SCRUBBER PUMP OK	SCRUBBER PUMP FAIL	LOOP 754 SCRUBBER PMP	2
CP3002	MSC	BA15	TP-1 ALARMS	SEAL WATER PUMP OK	SEAL WATER PUMP FAIL	LOOP 755 SEAL WATER PMP	2
CP3002	MSC	BA15	TP-1 ALARMS	SODA TANK OK	SODA TANK HIGH	LOOP 742 SODA TANK	2
CP3002	MSC	BA13	TP-1 ALARMS	OK SEDIMENT BASIN LVL	HIGH SEDIMENT BASIN LVL	LAH8067 SEDIMENT BASIN LVL	2
CP3002	MSC	BA13	TP-1 ALARMS	OK SEDIMENT BASIN LVL	HIGH HIGH SEDIMENT BASIN LVL	LAH8068 SED BASIN LVL	2
CP3002	MSC	BA10	TP-1 ALARMS	OFF POLYMER PUMP 1A	ON POLYMER PUMP 1A	ML6570 POLY PMP 1A	5
CP3002	MSC	BA10	TP-1 ALARMS	OFF UTIL WATER PUMP2	ON UTIL WATER PUMP2	ML6562 UTIL WATER PMP 2	5
CP3002	MSC	BA08	TP-1 ALARMS	EFF WEIR BYPASS STA	CLOSED EFF WEIR BYPASS STA	ZL6521B EFF WEIR BYPASS	5
CP3002	MSC	BA13	TP-1 ALARMS	OK PLC FIL GAL 2	FLOOD PLC FILT GAL 2	PLC FILT GAL 2	5
CP3002	MSC	BA10	TP-1 ALARMS	OFF UTIL WATER PUMP4	ON UTIL WATER PUMP4	ML6564 UTIL WATER PMP 4	5

CP	COMPOUND	BLOCK	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
CP3002	MSC	BA13	TP-1 ALARMS	OFF FLASH MIXER 1	ON FLASH MIXER 1	ML6611 FLASH MIXER 1	5
CP3002	MSC	BA10	TP-1 ALARMS	OFF UTIL WATER PUMP5	ON UTIL WATER PUMP5	ML6565 UTIL WATER PMP 5	5
CP3002	MSC	BA07	TP-1 ALARMS	OK EAST BASIN BRIDGE	FAIL EAST BASIN BRIDGE	XA6583 EAST BASIN BRIDGE	5
CP3002	MSC	BA10	TP-1 ALARMS	OFF POLYMER PUMP 1B	ON POLYMER PUMP 1B	ML6571 POLY PMP 1B	5
CP3002	MSC	BA13	TP-1 ALARMS	OK COAG TANK 1 LEVEL	LOW COAG TANK 1 LEVEL	LAL6609 COAG TANK 1 LVL	5
CP3002	MSC	BA08	TP-1 ALARMS	48-INCH MOV STATUS	CLOSED 48-INCH MOV STATUS	ZL6520B 48 INCH MOV STATUS	5
CP3002	MSC	BA14	TP-1 ALARMS	OFF WASTE SLUDGE PMP 2	ON WASTE SLUDGE PMP 2	ML6642	5
CP3002	MSC	BA14	TP-1 ALARMS	OFF OES CL2 MIXING PMP 1	ON OES CL2 MIXING PMP 1	ML6616 OES CL2 MIXING PMP 1	5
CP3002	MSC	BA13	TP-1 ALARMS	OK COAG TANK 2 LEVEL	LOW COAG TANK 2 LEVEL	LAL6610 COAG TANK 2 LVL	5
CP3002	MSC	BA08	TP-1 ALARMS	OFF INTAKE PUMP2 STATUS	ON INTAKE PUMP2 STATUS	ML6513 INTAKE PMP 2 STATUS	5
CP3002	MSC	BA07	TP-1 ALARMS	OK E SLDG HLD TANK LVL	LOW E SLDG HLD TANK LVL	LAL6550 EA SLDG HLD TANK LVL	5
CP3002	MSC	BA10	TP-1 ALARMS	OFF UTIL WATER PUMP3	ON UTIL WATER PUMP3	ML6563 UTIL WATER PMP 3	5
CP3002	MSC	BA14	TP-1 ALARMS	OFF WASTE SLUDGE PMP 1	ON WASTE SLUDGE PMP 1	ML6641	5
CP3002	MSC	BA10	TP-1 ALARMS	OFF UTIL WATER PUMP1	ON UTIL WATER PUMP1	ML6561 UTIL WATER PMP 1	5
CP3002	MSC	BA07	TP-1 ALARMS	TERT INF VLV2 OPEN	OPEN TERT INF VLV2 OPEN	ZL6503A TERT INF VLV2	5
CP3002	MSC	BA07	TP-1 ALARMS	OFF EFF SAMPLE PMP	ON EFF SAMPLE PMP	ML6586 EFF SAMPLE PMP	5
CP3002	MSC	BA08	TP-1 ALARMS	OFF INTAKE PUMP1 STATUS	ON INTAKE PUMP1 STATUS	ML6512 INTAKE PMP 1 STATUS	5
CP3002	MSC	BA07	TP-1 ALARMS	TERT INF VLV1 OPEN	OPEN TERT INF VLV1 OPEN	ZL6502A TERT INF VLV1	5
CP3002	MSC	BA08	TP-1 ALARMS	48-INCH MOV STAT	OPEN 48-INCH MOV STAT	ZL6520A 48 INCH MOV STATUS	5
CP3002	MSC	BA07	TP-1 ALARMS	TERT INF VLV1 CLOSE	CLOSED TERT INF VLV1 CLOSE	ZL6502B TERT INF VLV1	5
CP3002	MSC	BA14	TP-1 ALARMS	OFF OES CL2 MIXING PMP 2	ON OES CL2 MIXING PMP 2	ML6618	5
CP3002	MSC	BA07	TP-1 ALARMS	TERT INF VLV2 CLOSE	CLOSED TERT INF VLV2 CLOSE	ZL6503B TERT INF VLV2	5
CP3002	MSC	BA08	TP-1 ALARMS	EFF WEIR BYPASS STA	OPEN EFF WEIR BYPASS STA	ZL6521A EFF WEIR BYPASS	5
CP3002	MSC	PSLG	UTIL WATER PUMP PRESSURE CONTRL	LOW ALARM	SECOND LAG OFF	85.0	5
CP3002	MSC	PFLG	UTIL WATER PUMP PRESSURE CONTRL	LOW ALARM	FIRST LAG OFF	92.0	5
CP3002	MSC	PSLG	UTIL WATER PUMP PRESSURE CONTRL	HIGH ALARM	SECOND LAG ON	97.0	5
CP3002	MSC	PFLG	UTIL WATER PUMP PRESSURE CONTRL	HIGH ALARM	FIRST LAG ON	100.0	5
CP3002	MSC	FSLG	UTILITY WATER PUMP FLOW CONTRL	LOW ALARM	SECOND LAG OFF	0.0	5
CP3002	MSC	FSLG	UTILITY WATER PUMP FLOW CONTRL	HIGH ALARM	SECOND LAG ON	0.0	5
CP3002	MSC	FFLG	UTILITY WATER PUMP FLOW CONTROL	LOW ALARM	FIRST LAG OFF	0.0	5
CP3002	MSC	FFLG	UTILITY WATER PUMP FLOW CONTROL	HIGH ALARM	FIRST LAG ON	0.0	5
CP3002	MSC	HS6641	WASTE SLUDGE PUMP 1 START/STOP	RTN TO NORM	MOTOR FAIL	WST SLG PMP1	2
CP3002	MSC	HS6641	WASTE SLUDGE PUMP 1 START/STOP	WASTE SLG PMP 1 STRT/STOP BAD	WASTE SLG PMP 1 STRT/STOP BAD	WST SLG PMP1	5
CP3002	MSC	HS6642	WASTE SLUDGE PUMP 2 START/STOP	RTN TO NORM	MOTOR FAIL	WST SLG PMP1	2
CP3002	MSC	HS6642	WASTE SLUDGE PUMP 2 START/STOP	WASTE SLUDGE PMP 2 STRT/STOP BAD	WASTE SLUDGE PMP 2 STRT/STOP BAD	WST SLG PMP1	5
CP3002	MSC	ESTLL	WASTE SLUDGE PUMP TRIP LIMITS	LOW ALARM	LOW TRIP	2.0	5
CP3002	MSC	ESTLL	WASTE SLUDGE PUMP TRIP LIMITS	HIGH ALARM	HIGH TRIP	2.200000048	5
CP3002	NES	AJCP3433SS	NES PUMP #3 START/STOP	STOPPED	RUNNING		5
CP3002	NES	AJCP3433SS	NES PUMP #3 START/STOP	STP_MISMATCH	RUN_MISMATCH		5
CP3002	NES	AJCP3434SS	PUMP #4 START/STOP	STOPPED	RUNNING		5

CP	COMPOUND	BLOCK	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
CP3002	NES	AJCP3434SS	PUMP #4 START/STOP	STP_MISMATCH	RUN_MISMATCH		5
CP3002	NES	AJRA3402	NES CL2 ANALYZER	HIGH ALARM	NES HIGH CL2	10.0	1
CP3002	NES	AJRA3402	NES CL2 ANALYZER	ALARM TYPE	NES LOW CL2	5.5	1
CP3002	NES	AJRA3402	NES CL2 ANALYZER	HIGH HIGH ALARM		100.0	5
CP3002	NES	AJRA3402	NES CL2 ANALYZER	BAD		BAD I/O	5
CP3002	NES	AJRA3402	NES CL2 ANALYZER	LOW LOW ALARM		0.0	5
CP3002	NES	AJTM3433	NES TURBIDITY METER	HIGH ALARM	HIGH TURBIDITY	2.0	2
CP3002	NES	AJTM3433	NES TURBIDITY METER	ALARM TYPE	LOW TURBIDITY	0.200000003	2
CP3002	NES	AJTM3433	NES TURBIDITY METER	HIGH HIGH ALARM		100.0	5
CP3002	NES	AJTM3433	NES TURBIDITY METER	BAD		BAD I/O	5
CP3002	NES	AJTM3433	NES TURBIDITY METER	LOW LOW ALARM		0.0	5
CP3002	NES	CL2_HI_DL	NES CL2 RESIDUAL HI ALM DELAYED	NES CL2 RESIDUAL NORMAL	NES CL2 RESIDUAL HI	NES CL2 RESIDUAL HI ALM DELAYED	1
CP3002	NES	CL2_LO_DL	NES CL2 RESID. LO ALM DELAYED	NES CL2 RESIDUAL LO NORMAL	NES CL2 RESIDUAL LO ALM	NES CL2 RESIDUAL LO ALM DELAYED	1
CP3002	NES	NES_FLOW	FILTER 9-24 EFF. FLOW	HIGH HIGH ALARM		100.0	5
CP3002	NES	NES_FLOW	FILTER 9-24 EFF. FLOW	BAD		BAD I/O	5
CP3002	NES	NES_FLOW	FILTER 9-24 EFF. FLOW	HIGH ALARM	FILTER 9-24 HIGH FLOW	35.0	5
CP3002	NES	NES_FLOW	FILTER 9-24 EFF. FLOW	ALARM TYPE	FILTER 9-24 LOW FLOW	0.0	5
CP3002	NES	NES_FLOW	FILTER 9-24 EFF. FLOW	LOW LOW ALARM		0.0	5
CP3002	NES	NTU_ACCUM_1		ALARM TYPE	RECLAIM NTU ABOVE 5 FOR 72 MINS	72.0	1
CP3002	NES	NTU_ALM_1	GWR NTU ALARM 1	HIGH ALARM	ABOVE 10	10.0	1
CP3002	NES	NTU_ALM_2	GWR NTU ALARM 2	HIGH ALARM		5.0	5
CP3002	NES	NTU_ALM_3	GWR NTU ALARM 3	HIGH ALARM	24 HR AVE ABOVE 2	2.0	1
CP3002	NES	TURB_HI_DL	NES TURBIDITY HI ALM DELAYED	NES TURBIDITY NORMAL	NES TURBIDITY HI	NES TURBIDITY HI ALM DELAYED	1
CP3002	NES	TURB_LO_DL	NES TURBIDITY LO ALM DELAYED	NES TURBIDITY NORMAL	NES TURBIDITY LO	NES TURBIDITY LO ALARM DELAYED	1
CP3002	OES	AJPH3401	OES PH	HIGH ALARM	OES PH HIGH	8.0	1
CP3002	OES	AJPH3401	OES PH	ALARM TYPE	OES PH LOW	6.5	1
CP3002	OES	AJTM3402	OES TURBIDITY METER	HIGH ALARM	HIGH TURBIDITY	2.0	1
CP3002	OES	AJTM3402	OES TURBIDITY METER	ALARM TYPE	LOW TURBIDITY	0.200000003	1
CP3002	OES	AJRA3401	OES CL2 ANALYZER	HIGH ALARM	OES HIGH CL2	9.0	1
CP3002	OES	AJRA3401	OES CL2 ANALYZER	ALARM TYPE	OES LOW CL2	4.0	1
CP3002	OES	OES_FLOW	FILTER 1-8 EFF. FLOW	HIGH ALARM	FILTER 1-8 HIGH EFF. FLOW	20.0	2
CP3002	OES	OES_FLOW	FILTER 1-8 EFF. FLOW	ALARM TYPE	FILTER 1-8 LOW EFF. FLOW	5.0	2
CP3002	OES	AJPH3401	OES PH	LOW LOW ALARM		0.0	5
CP3002	OES	AJTM3402	OES TURBIDITY METER	LOW LOW ALARM		0.0	5
CP3002	OES	AJRA3401	OES CL2 ANALYZER	LOW LOW ALARM		0.0	5
CP3002	OES	AJPH3401	OES PH	HIGH HIGH ALARM		100.0	5
CP3002	OES	OES_FLOW	FILTER 1-8 EFF. FLOW	LOW LOW ALARM		0.0	5
CP3002	OES	AJTM3402	OES TURBIDITY METER	HIGH HIGH ALARM		100.0	5
CP3002	OES	AJPH3401	OES PH	BAD		BAD I/O	5
CP3002	OES	AJRA3401	OES CL2 ANALYZER	HIGH HIGH ALARM		100.0	5
CP3002	OES	AJTM3402	OES TURBIDITY METER	BAD		BAD I/O	5
CP3002	OES	OES_FLOW	FILTER 1-8 EFF. FLOW	HIGH HIGH ALARM		100.0	5
CP3002	OES	AJRA3401	OES CL2 ANALYZER	BAD		BAD I/O	5
CP3002	OES	OES_FLOW	FILTER 1-8 EFF. FLOW	BAD		BAD I/O	5
CP3002	OES	TURB_HI_DL	OES TURBIDITIY DELAYED ALARM	OES TURBIDITY HI NORMAL	OES TURBIDITY HI ALM	OES TURBIDITY HI ALM DELAYED	1
CP3002	OES	CL_RECRC_ALM	CL2 RECIRC ALARMS	OK	P1 NO FLOW	CL2 RECIRC P1	1
CP3002	OES	CL_RECRC_ALM	CL2 RECIRC ALARMS	OK	PUMPS FAIL	CL2 RECIRC PUMPS	1

CP	COMPOUND	BLOCK	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
CP3002	OES	CL2_LO_DL	OES CL2 RESID. LO ALM DELAYED	OES CL2 RESIDUAL LO NORMAL	OES CL2 RESIDUAL LO ALM	OES CL2 RESIDUAL LO ALM DELAYED	1
CP3002	OES	CL2_HI_DL	OES CL2 HI DELAYED ALARM	OES CL2 RESIDUAL NORMAL	OES CL2 RESIDUAL HI	OES CL2 RESIDUAL HI ALM DELAYED	1
CP3002	OES	TURB_LO_DL	OES TURBIDITY LO ALARM DELAYED	OES TURBIDITY LO OK	OES TURBIDITY LO ALM	OES TURBIDITY LO ALM DELAYED	1
CP3002	OES	CL_RECRC_ALM	CL2 RECIRC ALARMS	OK	P2 NO FLOW	CL2 RECIRC P2	2
CP3002	OES	CL_RECRC_ALM	CL2 RECIRC ALARMS	OK	NO FLOW DETECTED	CL2 RECIRC FLOW	2
CP3002	OES	AJCP3432SS	OES PUMP #2 START/STOP	STOPPED	RUNNING		5
CP3002	OES	AJCP3431SS	OES PUMP #1 START/STOP	STP_MISMATCH	RUN_MISMATCH		5
CP3002	OES	AJCP3432SS	OES PUMP #2 START/STOP	STP_MISMATCH	RUN_MISMATCH		5
CP3002	OES	AJCP3431SS	OES PUMP #1 START/STOP	STOPPED	RUNNING		5
ABST01	OES_NES	NES_FLO_SP		HIGH ALARM		0.600000024	5
ABST01	OES_NES	NES_FLO_SP		LOW ALARM		0.300000012	5
ABST01	OES_NES	OES_FLO_SP		HIGH ALARM		0.600000024	5
ABST01	OES_NES	OES_FLO_SP		LOW ALARM		0.300000012	5
ABST01	OES_NES	ALARMS1	OES AND NES ALARMS	OES WATERCHAMP OK	OES WATERCHAMP FAILED	OES CHLORINE PUMP	5
ABST01	OES_NES	ALARMS1	OES AND NES ALARMS	NES SAMPLE PUMP OK	NES SAMPLE PUMP FAILED	NES SAMPLE PUMP	5
ABST01	OES_NES	ALARMS1	OES AND NES ALARMS	NES WATERCHAMP OK	NES WATERCHAMP FAILED	NES CHLORINE PUMP	5
CP6013	PANEL_ALARMS	ALARMS1		PHILLY LIFT OK	PHILLY LIFT TROUBLE	PHILLADELPHIA LIFT STATION	1
CP6013	PANEL_ALARMS	ALARMS1		UILITY WATER PRESS OK	UTILITY WATER PRESS LOW	UTILITY WATER	1
ABST12	PL_IN	3PUMPSRUNALM	3 PHILLY PUMPS RUNNING ALARM	PUMPS NORMAL	3 PUMPS RUNNING	PHILLY LIFT STATION	1
ABST12	PL_IN	ALARM1	PHILLY LIFT ALARMS	INST AIR OK	INST AIR LOW	PHILLY LIFT	1
ABST12	PL_IN	ALARM1	PHILLY LIFT ALARMS	BATT CHARGER OK	BATT CHARGER FAIL	PHILLY LIFT	1
ABST12	PL_IN	ALARM1	PHILLY LIFT ALARMS	H2S COMMON OK	H2S COMMON HIGH	PHILLY LIFT	1
ABST12	PL_IN	ALARM1	PHILLY LIFT ALARMS	BASEMENT FLOOD OK	BASEMENT FLOOD	PHILLY LIFT	1
ABST12	PL_IN	ALARM1	PHILLY LIFT ALARMS	GENERATOR OK	GENERATOR FAIL	PHILLY LIFT	1
ABST12	PL_IN	ALARM1	PHILLY LIFT ALARMS	GENERATOR OFF	GENERATOR RUN	PHILLY LIFT	1
ABST12	PL_IN	ALARM1	PHILLY LIFT ALARMS	UTILITY POWER OK	UTILITY POWER FAIL	PHILLY LIFT	1
ABST12	PL_IN	ALARM1	PHILLY LIFT ALARMS	WETWELL OK	WETWELL LOW	PHILLY LIFT	1
ABST12	PL_IN	ALARM2		VFD OK	PUMP 2 VFD FAIL	PHILLY LIFT	1
ABST12	PL_IN	ALARM2		VFD OK	PUMP 1 VFD FAIL	PHILLY LIFT	1
ABST12	PL_IN	ALARM2		OK	HI LEVEL PHILLY	FERRIC CHLORIDE	1
ABST12	PL_IN	ALARM2		WET WELL OK	WET WELL HIGH	PHILLY LIFT	1
ABST12	PL_IN	ALARM2		PMP 1 MOTOR OK	PMP 1 MOTOR FAIL	PHILLY LIFT	1
ABST12	PL_IN	ALARM2		PMP 2 MOTOR OK	PMP 2 MOTOR FAIL	PHILLY LIFT	1
ABST12	PL_IN	ALARM2		PMP 3 MOTOR OK	PMP 3 MOTOR FAIL	PHILLY LIFT	1
ABST12	PL_IN	ALARM2		FERRIC LEVEL OK	HIHI LEVEL PHILLY	PHILLY FERRIC	1
ABST12	PL_IN	ALARM3	ALARMS FOR PHILLY LIFT	H2S OK	H2S ALARM	PHILLY LIFT	1
ABST12	PL_IN	ALARM3	ALARMS FOR PHILLY LIFT	TRAILER PMP WW OK	TRAILER PMP WW HI	PHILLY WETWELL	1
ABST12	PL_IN	ALARM3	ALARMS FOR PHILLY LIFT	WW LEVEL OK	WW LEVEL CUTOFF	PHILLY WETWELL	1
ABST12	PL_IN	ALARM3	ALARMS FOR PHILLY LIFT	TRAILER PMP OK	TRAILER PMP FAIL	PHILLY TRAILER PUMP	1
ABST12	PL_IN	ALARM3	ALARMS FOR PHILLY LIFT	PUMP 4 OK	PUMP 4 FAIL	PHILLY LIFT	5
ABST12	PL_IN	PHILLY_COM		COMM OK	COM FAIL	PHILLY COMM	1
ABST12	PL_IN	TEMPORARYALM	TEMP/TRAILER PUMP PHILLADELPHIA	WW LEVEL OK	WW LEVEL HIHI	PHILLY TRAILER PUMP	1
ABST12	PL_IN	TEMPORARYALM	TEMP/TRAILER PUMP PHILLADELPHIA	PUMP OK	PUMP FAIL	PHILLY TRAILER PUMP	1
ABST12	PL_IN	WET_WELL	WET WELL LEVEL	HIGH ALARM	WW HIGH LEVEL	10.0	1
ABST12	PL_IN	WET_WELL	WET WELL LEVEL	ALARM TYPE	WW LOW LEVEL	0.0	1
ABST12	PL_IN	WET_WELL	WET WELL LEVEL	HIGH HIGH ALARM		100.0	5
ABST12	PL_IN	WET_WELL	WET WELL LEVEL	LOW LOW ALARM		0.0	5
ABST12	PL_IN	WET_WELL	WET WELL LEVEL	BAD		BAD I/O	5

CP	COMPOUND	BLOCK	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
ABST02	PP_D_IO	PP_ALARM1	PRADO PARK ALARMS	001 PERSONNEL OK	001 PERSONNEL FAILURE	PP VAULT	1
ABST02	PP_D_IO	PP_ALARM1	PRADO PARK ALARMS	ABS CONTROL LOOP OK	ABS CONTROL LOOP FAIL	PP PMP CONTR.	1
ABST02	PP_D_IO	PP_ALARM1	PRADO PARK ALARMS	001 ABS/CL2 NORMAL	001 ABS/CL2 HIGH	PP ABS/CL2	1
ABST02	PP_D_IO	PP_ALARM1	PRADO PARK ALARMS	001 ABS/CL2 WARNING NORMAL	001 ABS/CL2 WARNING	PP ABS/CL2	1
ABST02	PP_D_IO	PP_ALARM1	PRADO PARK ALARMS	001 CL2 NORMAL	001 CL2 LOW	PP RESIDUAL	1
ABST02	PP_D_IO	PP_ALARM1	PRADO PARK ALARMS	001 VAULT NORMAL	001 VAULT FLOOD	PP VAULT	1
ABST02	PP_D_IO	PP_ALARM1	PRADO PARK ALARMS	SAMPLE PUMP OK	SAMPLE PUMP FAIL	PP VAULT	1
ABST02	PP_D_IO	PP_ALARM1	PRADO PARK ALARMS	001 CL2 NORMAL	001 CL2 HIGH	PP RESIDUAL	2
ABST02	PP_D_IO	PP_ALARM2	PRADO PARK ALARMS	001 ABS LOW FLOW OK	001 ABS LOW FLOW	PP ABS FLOW	1
ABST02	PP_D_IO	PP_ALARM2	PRADO PARK ALARMS	001 ABS PMP 1 OK	001 ABS PMP 1 FAIL	PP ABS PUMP	1
ABST02	PP_D_IO	PP_ALARM2	PRADO PARK ALARMS	001 ABS PMP 2 OK	001 ABS PMP 2 FAIL	PP ABS PUMP	1
ABST02	PP_D_IO	PP_ALARM2	PRADO PARK ALARMS	001 ABS PMP 3 OK	001 ABS PMP 3 FAIL	PP ABS PUMP	1
ABST02	PP_D_IO	PP_ALARM2	PRADO PARK ALARMS	001 UTIL NORMAL	001 UTIL FAIL	PP UTIL.	1
ABST02	PP_D_IO	PP_ALARM2	PRADO PARK ALARMS	001 EG NORMAL	001 EG FAIL	PP GENERATOR	1
ABST02	PP_D_IO	PP_ALARM2	PRADO PARK ALARMS	001 INF. FLOW NORMAL	001 INF. FLOW HIGH	PP FLOW	1
ABST02	PP_D_IO	PP_ALARM2	PRADO PARK ALARMS	001 INF. FLOW NORMAL	OO1 INF. FLOW LOW	PP FLOW	1
ABST02	PP_D_IO	PP_ALARM3	PRADO PARK ALARMS	ABS PUMP 1 NORMAL	ABS PUMP 1 FORCE STARTED	PP ABS PUMP	1
ABST02	PP_D_IO	PP_ALARM3	PRADO PARK ALARMS	ABS PUMP 2 NORMAL	ABS PUMP 2 FORCE STARTED	PP ABS PUMP	1
ABST02	PP_D_IO	PP_ALARM3	PRADO PARK ALARMS	ABS PUMP 3 NORMAL	ABS PUMP 3 FORCE STARTED	PP ABS PUMP	1
ABST02	PP_D_IO	PP_ALARM3	PRADO PARK ALARMS	ABS WEST TANK LEVEL OK	ABS WEST TANK LEVEL LOW	PP ABS TANK	2
ABST02	PP_D_IO	PP_ALARM3	PRADO PARK ALARMS	ABS EAST TANK LEVEL OK	ABS EAST TANK LEVEL LOW	PP ABS TANK	2
ABST02	PP_D_IO	PP_ALARM3	PRADO PARK ALARMS	ABS EAST TANK LEVEL OK	ABS EAST TANK LEVEL HIGH	PP ABS TANK	5
ABST02	PP_D_IO	PP_ALARM3	PRADO PARK ALARMS	ABS WEST TANK LEVEL OK	ABS WEST TANK LEVEL HIGH	PP ABS TANK	5
ABST02	PP_D_IO	PP_ALARM4	PRADO PARK ALARMS GROUP 4	PRADO PLC003 OK	PRADO PLC003 FAILED	PRADO PARK	1
ABST02	PP_D_IO	PP_ALARM4	PRADO PARK ALARMS GROUP 4	001 Z-CHLOR CLEAN OK	001 Z-CHLOR CLEAN FAIL	001 Z-CHLOR	1
ABST02	PP_D_IO	PP_ALARM4	PRADO PARK ALARMS GROUP 4	VALVE OPEN	VALVE CLOSED	PRADO PRESSURE VALVE	1
ABST02	PP_D_IO	PP_ALARM4	PRADO PARK ALARMS GROUP 4	001 PH OK	001 PH HIGH	001 PH	1
ABST02	PP_D_IO	PP_ALARM4	PRADO PARK ALARMS GROUP 4	001 PH OK	001 PH LOW	001 PH	1
ABST02	PP_D_IO	PP_ALARM4	PRADO PARK ALARMS GROUP 4	Z_CHLOR BUILDING OK	Z-CHLOR BUILDING FLOOD	PRADO PARK	1
ABST02	PP_D_IO	PP_ALARM4	PRADO PARK ALARMS GROUP 4	CLEAN CYCLE COMPLETE	CLEAN CYCLE BEGIN	001 Z-CHLOR	5
ABST02	PP_A_IO	PP_PH	PRADO PARK PH	HIGH ALARM	HIGH	8.5	2
ABST02	PP_A_IO	PP_PH	PRADO PARK PH	ALARM TYPE	LOW	6.5	2
ABST02	PP_A_IO	PP_PH	PRADO PARK PH	BAD		BAD I/O	5
ABST02	PP_A_IO	PP_PH	PRADO PARK PH	LOW LOW ALARM		0.0	5
ABST02	PP_A_IO	PP_PH	PRADO PARK PH	HIGH HIGH ALARM		100.0	5
ABST02	PP_A_IO	PP_PRESS		LOW LOW ALARM	PRADO PRESSURE LOW LOW	60.0	1
ABST02	PP_A_IO	PP_PRESS		HIGH HIGH ALARM	PRADO PRESSURE HIGH HIGH	93.0	1
ABST02	PP_A_IO	PP_PRESS		HIGH ALARM	PRADO PRESSURE HIGH	85.0	2
ABST02	PP_A_IO	PP_PRESS		ALARM TYPE	PRADO PRESSURE LOW	65.0	2
ABST02	PP_A_IO	PP_PRESS		BAD		BAD I/O	5
ABST02	PP_D_IO	PP_STATUS1	PRADO PARK STATUS		ABS PUMP 2 IN HAND	PP PUMP 2	5
ABST02	PP_D_IO	PP_STATUS1	PRADO PARK STATUS		ABS PUMP 2 IN AUTO	PP PUMP 2	5
ABST02	PP_D_IO	PP_STATUS1	PRADO PARK STATUS		ABS PUMP 1 IN AUTO	PP PUMP 1	5
ABST02	PP_D_IO	PP_STATUS1	PRADO PARK STATUS		ABS PUMP 1 IN HAND	PP PUMP 1	5

CP	COMPOUND	BLOCK	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
ABST02	PP_D_IO	PP_STATUS1	PRADO PARK STATUS		ABS PUMP 3 IN HAND	PP PUMP 3	5
ABST02	PP_D_IO	PP_STATUS1	PRADO PARK STATUS		ABS PUMP 3 IN AUTO	PP PUMP 3	5
ABST02	PP_D_IO	PP_STATUS1	PRADO PARK STATUS	SAMPLE PUMP 2 IN LEAD	SAMPLE PUMP 3 IN LEAD	PP SAMP SEL.	5
ABST02	PP_D_IO	PP_STATUS1	PRADO PARK STATUS	001 ABS PMP 1 IN LEAD	001 ABS PMP 2 IN LEAD	PP ABS SELECT	5
ABST02	PP_D_IO	PP_STATUS2	PRADO PARK STATUS	ABS PMP 1 NORMAL	ABS PMP 1 FORCE ON SELECTED	PP ABS PMP 1	5
ABST02	PP_D_IO	PP_STATUS2	PRADO PARK STATUS	ABS PMP 2 NORMAL	ABS PMP 2 FORCE ON SELECTED	PP ABS PMP 2	5
ABST02	PP_D_IO	PP_STATUS2	PRADO PARK STATUS	ABS PMP 3 NORMAL	ABS PMP 3 FORCE ON SELECTED	PP ABS PMP 3	5
ABST02	PP_D_IO	PP_STATUS2	PRADO PARK STATUS	PUMP CONTROL IN REMOTE	PUMP CONTROL IN LOCAL	PP ABS PUMP	5
ABST02	PP_D_IO	PP_STATUS2	PRADO PARK STATUS	PUMP RATE CONTROL IN HAND	PUMP RATE CONTROL IN AUTO	PP ABS PUMP	5
ABST02	PP_D_IO	PP_STATUS2	PRADO PARK STATUS	PUMP 3 STOPPED	PUMP 3 RUNNING	PP ABS PMP 3	5
ABST02	PP_D_IO	PP_STATUS2	PRADO PARK STATUS	PUMP 1 STOPPED	PUMP 1 RUNNING	PP ABS PMP 1	5
ABST02	PP_D_IO	PP_STATUS2	PRADO PARK STATUS	PUMP 2 STOPPED	PUMP 2 RUNNING	PP ABS PMP 2	5
ABST02	PP_D_IO	PP_SYS_ALMS	PRADO PARK SYSTEM ALARMS	LOCAL NET DH-485 OK	LOCAL NET DH-485 LOSS	PP CNTRL SYS	1
ABST02	PP_D_IO	PP_SYS_ALMS	PRADO PARK SYSTEM ALARMS	PLC-2 COM OK	PLC-2 COM LOSS	PP CNTRL SYS	1
ABST02	PP_D_IO	PP_SYS_ALMS	PRADO PARK SYSTEM ALARMS	PP TELEMETRY OK	PP TELEMETRY LOSS	PP CNTRL SYS	1
ABST02	PP_D_IO	PP_SYS_ALMS	PRADO PARK SYSTEM ALARMS	CONTROL POWER OK	CONTROL POWER FAIL	PP CNTRL SYS	1
ABST02	PP_D_IO	PP_SYS_ALMS	PRADO PARK SYSTEM ALARMS	PLC-2 ON LINE	PLC-2 OFF LINE	PP CNTRL SYS	1
ABST02	PP_D_IO	PRADO_COMM		PRADO COMM OK	PRADO COMM FAIL	PRADO COMM	1
ABST01	REC_WATER	ALARMS_5	RECLAIM WATER PHILLY	PHILLY LAG PMP OK	PHILLY LAG PMP FAIL	RECLAIM WATER	1
ABST01	REC_WATER	ALARMS_5	RECLAIM WATER PHILLY	PHILLY LEAD PMP OK	PHILLY LEAD PMP FAIL	RECLAIM WATER	1
ABST01	REC_WATER	ALARMS_6	RECLAIM WATER PHILLY	PHILLY LOW WETWELL OK	PHILLY LOW WETWELL SHUTDOWN	RECLAIM WATER	1
ABST01	REC_WATER	ALARMS_5	RECLAIM WATER PHILLY	PHILLY PMP 1 MTR OK	PHILLY PMP 1 MTR FAIL	RECLAIM WATER	1
ABST01	REC_WATER	ALARMS_5	RECLAIM WATER PHILLY	PHILLY PMP 1 MTR TEMP OK	PHILLY PMP 1 MTR TEMP HI	RECLAIM WATER	1
ABST01	REC_WATER	ALARMS_5	RECLAIM WATER PHILLY	PHILLY PMP 1 START OK	PHILLY PMP 1 START FAIL	RECLAIM WATER	1
ABST01	REC_WATER	ALARMS_5	RECLAIM WATER PHILLY	PHILLY PMP 1 VFD OK	PHILLY PMP 1 VFD FAIL	RECLAIM WATER	1
ABST01	REC_WATER	ALARMS_6	RECLAIM WATER PHILLY	PHILLY PMP 2 MTR OK	PHILLY PMP 2 MTR FAIL	RECLAIM WATER	1
ABST01	REC_WATER	ALARMS_6	RECLAIM WATER PHILLY	PHILLY PMP 2 MTR TEMP OK	PHILLY PMP 2 MTR TEMP HI	RECLAIM WATER	1
ABST01	REC_WATER	ALARMS_5	RECLAIM WATER PHILLY	PHILLY PMP 2 START OK	PHILLY PMP 2 START FAIL	RECLAIM WATER	1
ABST01	REC_WATER	ALARMS_6	RECLAIM WATER PHILLY	PHILLY PMP 2 VFD OK	PHILLY PMP 2 VFD FAIL	RECLAIM WATER	1
ABST01	REC_WATER	ALARMS_6	RECLAIM WATER PHILLY	PHILLY PMP 3 MTR OK	PHILLY PMP 3 MTR FAIL	RECLAIM WATER	1
ABST01	REC_WATER	ALARMS_6	RECLAIM WATER PHILLY	PHILLY PMP 3 MTR TEMP OK	PHILLY PMP 3 MTR TEMP HI	RECLAIM WATER	1
ABST01	REC_WATER	ALARMS_6	RECLAIM WATER PHILLY	PHILLY PMP 3 START OK	PHILLY PMP 3 START FAIL	RECLAIM WATER	1
ABST01	REC_WATER	ALARMS_6	RECLAIM WATER PHILLY	PHILLY PMP 3 VFD OK	PHILLY PMP 3 VFD FAIL	RECLAIM WATER	1
ABST01	REC_WATER	ALARMS_5	RECLAIM WATER PHILLY	PHILLY PRESS DEV OK	PHILLY PRESS DEV ALARM	RECLAIM WATER	1
ABST01	REC_WATER	PLC_FAIL	RCLAIMED WATER PLC FAIL	PLC OK	PLC FAILED	RECLAIMED WATER	1
ABST01	REC_WATER	ALARMS_7	RECLAIM WATER	WETWELL LEVEL OK	WETWELL LEVEL LOW	RECLAIM WATER	1
ABST01	REC_WATER	ALARMS_7	RECLAIM WATER	WETWELL LEVEL OK	WETWELL LEVEL HIGH	RECLAIM WATER	1
ABST01	REC_WATER	ALARMS_1	RECLAIMED WATER ZONE 2B	ZONE 2B LAG LAG PUMP OK	ZONE 2B LAG LAG PUMP FAIL	RECLAIMED WATER	1
ABST01	REC_WATER	ALARMS_1	RECLAIMED WATER ZONE 2B	ZONE 2B LAG PUMP OK	ZONE 2B LAG PUMP FAIL	RECLAIMED WATER	1
ABST01	REC_WATER	ALARMS_1	RECLAIMED WATER ZONE 2B	ZONE 2B LEAD PUMP OK	ZONE 2B LEAD PUMP FAIL	RECLAIMED WATER	1
ABST01	REC_WATER	ALARMS_3	RECLAIMED WATER ZONE 2B	ZONE 2B LOW LEVEL SHUT DOWN OK	ZONE 2B LOW LEVEL SHUT DOWN	RECLAIMED WATER	1
ABST01	REC_WATER	ALARMS_1	RECLAIMED WATER ZONE 2B	ZONE 2B PRESSURE DEVIATION OK	ZONE 2B PRESSURE DEVIATION	RECLAIMED WATER	1
ABST01	REC_WATER	ALARMS_1	RECLAIMED WATER ZONE 2B	ZONE 2B PUMP 1 MOTOR OK	ZONE 2B PUMP 1 MOTOR FAIL	RECLAIMED WATER	1
ABST01	REC_WATER	ALARMS_1	RECLAIMED WATER ZONE 2B	ZONE 2B PUMP 1 MOTOR TEMP OK	ZONE 2B PUMP 1 MOTOR TEMP HIGH	RECLAIMED WATER	1

CP	COMPOUND	BLOCK	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
ABST01	REC_WATER	ALARMS_1	RECLAIMED WATER ZONE 2B	ZONE 2B PUMP 1 START OK	ZONE 2B PUMP 1 FAIL TO START	RECLAIMED WATER	1
ABST01	REC_WATER	ALARMS_1	RECLAIMED WATER ZONE 2B	ZONE 2B PUMP 1 VFD OK	ZONE 2B PUMP 1 VFD FAIL	RECLAIMED WATER	1
ABST01	REC_WATER	ALARMS_2	RECLAMED WATER ZONE 2B	ZONE 2B PUMP 2 FAIL TO START OK	ZONE 2B PUMP 2 FAIL TO START	RECLAIMED WATER	5
ABST01	REC_WATER	ALARMS_2	RECLAMED WATER ZONE 2B	ZONE 2B PUMP 2 HIGH MTR TEMP OK	ZONE 2B PUMP 2 HIGH MTR TEMP	RECLAIMED WATER	5
ABST01	REC_WATER	ALARMS_2	RECLAMED WATER ZONE 2B	ZONE 2B PUMP 2 MOTOR FAIL OK	ZONE 2B PUMP 2 MOTOR FAIL	RECLAIMED WATER	5
ABST01	REC_WATER	ALARMS_2	RECLAMED WATER ZONE 2B	ZONE 2B PUMP 2 VFD FAIL OK	ZONE 2B PUMP 2 VFD FAIL	RECLAIMED WATER	5
ABST01	REC_WATER	ALARMS_2	RECLAMED WATER ZONE 2B	ZONE 2B PUMP 3 MOTOR OK	ZONE 2B PUMP 3 MOTOR FAIL	RECLAIMED WATER	5
ABST01	REC_WATER	ALARMS_2	RECLAMED WATER ZONE 2B	ZONE 2B PUMP 3 MOTOR TEMP OK	ZONE 2B PUMP 3 MOTOR TEMP HIGH	RECLAIMED WATER	5
ABST01	REC_WATER	ALARMS_2	RECLAMED WATER ZONE 2B	ZONE 2B PUMP 3 START OK	ZONE 2B PUMP 3 FAIL TO START	RECLAIMED WATER	5
ABST01	REC_WATER	ALARMS_2	RECLAMED WATER ZONE 2B	ZONE 2B PUMP 3 VFD OK	ZONE 2B PUMP 3 VFD FAIL	RECLAIMED WATER	5
ABST01	REC_WATER	ALARMS_3	RECLAIMED WATER ZONE 2B	ZONE 2B PUMP 4 MOTOR OK	ZONE 2B PUMP 4 MOTOR FAIL	RECLAIMED WATER	1
ABST01	REC_WATER	ALARMS_3	RECLAIMED WATER ZONE 2B	ZONE 2B PUMP 4 MOTOR TEMP OK	ZONE 2B PUMP 4 MOTOR TEMP HIGH	RECLAIMED WATER	1
ABST01	REC_WATER	ALARMS_3	RECLAIMED WATER ZONE 2B	ZONE 2B PUMP 4 START OK	ZONE 2B PUMP 4 FAIL TO START	RECLAIMED WATER	1
ABST01	REC_WATER	ALARMS_3	RECLAIMED WATER ZONE 2B	ZONE 2B PUMP 4 VFD OK	ZONE 2B PUMP 4 VFD FAIL	RECLAIMED WATER	1
ABST02	REC_WATER_SO	COMM_FAIL		VIBRATION OK	VIBRATION HIGH	SOUTH ZONE 900	1
ABST02	REC_WATER_SO	PUMP_1_ALM		WETWELL OK	WETWELL LOW	SOUTH ZONE 900	1
ABST02	REC_WATER_SO	PUMP_1_ALM		WETWELL COMM OK	WETWELL COMM FAIL	SOUTH ZONE 900	1
ABST02	REC_WATER_SO	PUMP_1_ALM		VFD OK	VFD FAIL	SOUTH ZONE 900	1
ABST02	REC_WATER_SO	PUMP_1_ALM		LOW FLOW OK	LOW FLOW	SOUTH ZONE 900	1
ABST02	REC_WATER_SO	PUMP_1_ALM		FAIL TO START OK	FAIL TO START	SOUTH ZONE 900	1
ABST02	REC_WATER_SO	PUMP_1_ALM		WINDING TEMP OK	WINDING TEMP HIGH	SOUTH ZONE 900	1
ABST02	REC_WATER_SO	PUMP_2_ALM		VFD OK	VFD FAIL	SOUTH ZONE 900	1
ABST02	REC_WATER_SO	PUMP_2_ALM		LOW FLOW OK	LOW FLOW	SOUTH ZONE 900	1
ABST02	REC_WATER_SO	PUMP_2_ALM		FAIL TO START OK	FAIL TO START	SOUTH ZONE 900	1
ABST02	REC_WATER_SO	PUMP_2_ALM		VIBRATION OK	VIBRATION HIGH	SOUTH ZONE 900	1
ABST02	REC_WATER_SO	PUMP_2_ALM		PUMP 1 COMM OK	PUMP 1 COMM FAIL	SOUTH ZONE 900	1
ABST02	REC_WATER_SO	PUMP_2_ALM		VIBRATION OK	VIBRATION HIGH	SOUTH ZONE 900	1
ABST02	REC_WATER_SO	PUMP_3_ALM		AMBIENT TEMP HI HI OK	AMBIENT TEMP HI HI	SOUTH ZONE 900	1
ABST02	REC_WATER_SO	PUMP_3_ALM		PUMP 2 COMM OK	PUMP 2 COMM FAIL	SOUTH ZONE 900	1
ABST02	REC_WATER_SO	PUMP_3_ALM		VFD OK	VFD FAIL	SOUTH ZONE 900	1
ABST02	REC_WATER_SO	PUMP_3_ALM		FAIL TO START OK	FAIL TO START	SOUTH ZONE 900	1
ABST02	REC_WATER_SO	PUMP_3_ALM		PRV OK	PRV OPEN	SOUTH ZONE 900	1
ABST02	REC_WATER_SO	PUMP_3_ALM		WINDING TEMP OK	WINDING TEMP HIGH	SOUTH ZONE 900	1
ABST02	REC_WATER_SO	PUMP_4_ALM		PUMP 3 COMM OK	PUMP 3 COMM FAIL	SOUTH ZONE 900	1
ABST02	REC_WATER_SO	PUMP_4_ALM		VFD OK	VFD FAIL	SOUTH ZONE 900	1
ABST02	REC_WATER_SO	PUMP_4_ALM		AMBIENT TEMP OK	AMBIENT TEMP HIGH	SOUTH ZONE 900	1
ABST02	REC_WATER_SO	PUMP_4_ALM		FAIL TO START OK	FAIL TO START	SOUTH ZONE 900	1
ABST02	REC_WATER_SO	PUMP_4_ALM		LOW FLOW OK	LOW FLOW	SOUTH ZONE 900	1
ABST02	REC_WATER_SO	PUMP_4_ALM		WINDING TEMP OK	WINDING TEMP HIGH	SOUTH ZONE 900	1
ABST02	REC_WATER_SO	Z_900_ALM		PUMP 4 COMM OK	PUMP 4 COMM FAIL	SOUTH ZONE 900	1
ABST02	REC_WATER_SO	Z_900_ALM		VIBRATION OK	VIBRATION HIGH	SOUTH ZONE 900	1
ABST02	REC_WATER_SO	Z_900_ALM		WETWELL LO LO OK	WETWELL LOW LOW	SOUTH ZONE 900	1
ABST02	REC_WATER_SO	Z_900_ALM		WETWELL FLOAT OK	WETWELL FLOAT LOW	SOUTH ZONE 900	1
ABST02	REC_WATER_SO	Z_900_ALM		LOW FLOW OK	LOW FLOW	SOUTH ZONE 900	1
ABST02	REC_WATER_SO	Z_900_ALM		UPS OK	UPS FAIL	SOUTH ZONE 900	1
ABST02	REC_WATER_SO	Z_900_ALM		COMM OK	COMM FAIL	SOUTH ZONE RECLAIM	1
ABST02	REC_WATER_SO	Z_900_ALM		WINDING TEMP OK	WINDING TEMP HIGH	SOUTH ZONE 900	1
CP3001	RP4_OUTFALL	E_EDV_POS	EAST ENERGY DISPERTION VLV POS	LOW LOW ALARM		0.0	5
CP3001	RP4_OUTFALL	E_EDV_POS	EAST ENERGY DISPERTION VLV POS	BAD		BAD I/O	5

CP	COMPOUND	BLOCK	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
CP3001	RP4_OUTFALL	E_EDV_POS	EAST ENERGY DISPERTION VLV POS	ALARM TYPE		5.0	5
CP3001	RP4_OUTFALL	EAST_PRESS	RP-4 EAST PRESSURE TRANSMITTER	HIGH HIGH ALARM	PRESSURE HIHI	250.0	1
CP3001	RP4_OUTFALL	EAST_PRESS	RP-4 EAST PRESSURE TRANSMITTER	HIGH ALARM	PRESSURE HIGH	225.0	1
CP3001	RP4_OUTFALL	EAST_PRESS	RP-4 EAST PRESSURE TRANSMITTER	ALARM TYPE	PRESSURE LOW	120.0	1
CP3001	RP4_OUTFALL	EAST_PRESS	RP-4 EAST PRESSURE TRANSMITTER	LOW LOW ALARM		0.0	1
CP3001	RP4_OUTFALL	EAST_PRESS	RP-4 EAST PRESSURE TRANSMITTER	BAD		BAD I/O	5
CP3001	RP4_OUTFALL	W_EDV_POS	WEST ENERGY DISPERTION VLV POS	LOW LOW ALARM		0.0	5
CP3001	RP4_OUTFALL	W_EDV_POS	WEST ENERGY DISPERTION VLV POS	BAD		BAD I/O	5
CP3001	RP4_OUTFALL	W_EDV_POS	WEST ENERGY DISPERTION VLV POS	ALARM TYPE		5.0	5
CP3001	RP4_OUTFALL	WEST_PRESS	RP-4 WEST PRESSURE TRANSMITTER	HIGH HIGH ALARM	PRESSURE HIHI	250.0	1
CP3001	RP4_OUTFALL	WEST_PRESS	RP-4 WEST PRESSURE TRANSMITTER	HIGH ALARM	PRESSURE HIGH	225.0	1
CP3001	RP4_OUTFALL	WEST_PRESS	RP-4 WEST PRESSURE TRANSMITTER	ALARM TYPE	PRESSURE LOW	120.0	1
CP3001	RP4_OUTFALL	WEST_PRESS	RP-4 WEST PRESSURE TRANSMITTER	LOW LOW ALARM		0.0	1
CP3001	RP4_OUTFALL	WEST_PRESS	RP-4 WEST PRESSURE TRANSMITTER	BAD		BAD I/O	5
ABST01	TP1_FB1	FB1_LOAD_ALM	FB1 HI LOADING ALARM	HIGH HIGH ALARM	FB1 LOADING HIHI	5.0	1
ABST01	TP1_FB1	FB2_3LOADALM	FB 2 & 3 LOADING RATE ALARM	HIGH HIGH ALARM	FB 2&3 LOADING HIHI	5.0	1
ABST01	TP1_FB1	FB1_LOAD_ALM	FB1 HI LOADING ALARM	HIGH ALARM	FB1 LOADING HI	4.800000191	1
ABST01	TP1_FB1	FB2_3LOADALM	FB 2 & 3 LOADING RATE ALARM	HIGH ALARM	FB 2&3 LOADING HI	4.800000191	1
ABST01	TP1_FB1	F7_LEVEL	FILTER #7 LEVEL	HIGH ALARM	HIGH LEVEL	10.0	2
ABST01	TP1_FB1	F6_LEVEL	FILTER #6 LEVEL	HIGH ALARM	HIGH LEVEL	10.0	2
ABST01	TP1_FB1	F5_LEVEL	FILTER #5 LEVEL	HIGH ALARM	HIGH LEVEL	10.0	2
ABST01	TP1_FB1	F4_LEVEL	FILTER #4 LEVEL	HIGH ALARM	HIGH LEVEL	10.0	2
ABST01	TP1_FB1	F3_LEVEL	FILTER #3 LEVEL	HIGH ALARM	HIGH LEVEL	10.0	2
ABST01	TP1_FB1	F2_LEVEL	FILTER #2 LEVEL	HIGH ALARM	HIGH LEVEL	10.0	2
ABST01	TP1_FB1	F1_LEVEL	FILTER # 1 LEVEL	HIGH ALARM	HIGH LEVEL	10.0	2
ABST01	TP1_FB1	F8_LEVEL	FILTER #8 LEVEL	HIGH ALARM	HIGH LEVEL	10.0	2
ABST01	TP1_FB1	F3_LEVEL	FILTER #3 LEVEL	HIGH HIGH ALARM		100.0	5
ABST01	TP1_FB1	F4_LEVEL	FILTER #4 LEVEL	HIGH HIGH ALARM		100.0	5
ABST01	TP1_FB1	F2_LEVEL	FILTER #2 LEVEL	HIGH HIGH ALARM		100.0	5
ABST01	TP1_FB1	F1_LEVEL	FILTER # 1 LEVEL	HIGH HIGH ALARM		100.0	5
ABST01	TP1_FB1	F8_LEVEL	FILTER #8 LEVEL	HIGH HIGH ALARM		100.0	5
ABST01	TP1_FB1	F7_LEVEL	FILTER #7 LEVEL	HIGH HIGH ALARM		100.0	5
ABST01	TP1_FB1	F6_LEVEL	FILTER #6 LEVEL	HIGH HIGH ALARM		100.0	5
ABST01	TP1_FB1	F5_LEVEL	FILTER #5 LEVEL	HIGH HIGH ALARM		100.0	5
ABST01	TP1_FB2	F17_LEVEL		HIGH ALARM	HIGH LEVEL	10.0	2
ABST01	TP1_FB2	F16_LEVEL		HIGH ALARM	HIGH LEVEL	10.0	2
ABST01	TP1_FB2	F15_LEVEL		HIGH ALARM	HIGH LEVEL	10.0	2
ABST01	TP1_FB2	F14_LEVEL		HIGH ALARM	HIGH LEVEL	10.0	2
ABST01	TP1_FB2	F13_LEVEL		HIGH ALARM	HIGH LEVEL	10.0	2
ABST01	TP1_FB2	F12_LEVEL		HIGH ALARM	HIGH LEVEL	10.0	2
ABST01	TP1_FB2	F11_LEVEL		HIGH ALARM	HIGH LEVEL	10.0	2
ABST01	TP1_FB2	F10_LEVEL		HIGH ALARM	HIGH LEVEL	10.0	2
ABST01	TP1_FB2	F9_LEVEL		HIGH ALARM	HIGH LEVEL	10.0	2
ABST01	TP1_FB2	F17_LEVEL		HIGH HIGH ALARM		100.0	5
ABST01	TP1_FB2	F16_LEVEL		HIGH HIGH ALARM		100.0	5

CP	COMPOUND	BLOCK	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
ABST01	TP1_FB2	F15_LEVEL		HIGH HIGH ALARM		100.0	5
ABST01	TP1_FB2	F14_LEVEL		HIGH HIGH ALARM		100.0	5
ABST01	TP1_FB2	F13_LEVEL		HIGH HIGH ALARM		100.0	5
ABST01	TP1_FB2	F12_LEVEL		HIGH HIGH ALARM		100.0	5
ABST01	TP1_FB2	F11_LEVEL		HIGH HIGH ALARM		100.0	5
ABST01	TP1_FB2	F10_LEVEL		HIGH HIGH ALARM		100.0	5
ABST01	TP1_FB2	F9_LEVEL		HIGH HIGH ALARM		100.0	5
ABST01	TP1_FB3	F20_LEVEL		HIGH ALARM	HIGH LEVEL	10.0	2
ABST01	TP1_FB3	F19_LEVEL		HIGH ALARM	HIGH LEVEL	10.0	2
ABST01	TP1_FB3	F18_LEVEL	FILTER 18 LEVEL	HIGH ALARM	HIGH LEVEL	10.0	2
ABST01	TP1_FB3	F26_LEVEL		HIGH ALARM	HIGH LEVEL	10.0	2
ABST01	TP1_FB3	F25_LEVEL		HIGH ALARM	HIGH LEVEL	10.0	2
ABST01	TP1_FB3	F24_LEVEL		HIGH ALARM	HIGH LEVEL	10.0	2
ABST01	TP1_FB3	F23_LEVEL		HIGH ALARM	HIGH LEVEL	10.0	2
ABST01	TP1_FB3	F22_LEVEL		HIGH ALARM	HIGH LEVEL	10.0	2
ABST01	TP1_FB3	F21_LEVEL		HIGH ALARM	HIGH LEVEL	10.0	2
ABST01	TP1_FB3	F26_LEVEL		HIGH HIGH ALARM		100.0	5
ABST01	TP1_FB3	F25_LEVEL		HIGH HIGH ALARM		100.0	5
ABST01	TP1_FB3	F24_LEVEL		HIGH HIGH ALARM		100.0	5
ABST01	TP1_FB3	F23_LEVEL		HIGH HIGH ALARM		100.0	5
ABST01	TP1_FB3	F22_LEVEL		HIGH HIGH ALARM		100.0	5
ABST01	TP1_FB3	F21_LEVEL		HIGH HIGH ALARM		100.0	5
ABST01	TP1_FB3	F20_LEVEL		HIGH HIGH ALARM		100.0	5
ABST01	TP1_FB3	F19_LEVEL		HIGH HIGH ALARM		100.0	5
ABST01	TP1_FB3	F18_LEVEL	FILTER 18 LEVEL	HIGH HIGH ALARM		100.0	5
CP3001	TP1_INFL	LAG_3_ALM	TP-1, LAGOON #3 INTAKE LEVEL	LOW ALARM		0.0	1
CP3001	TP1_INFL	LAG_3_ALM	TP-1, LAGOON #3 INTAKE LEVEL	LOW DEVIATION		100.0	1
CP3001	TP1_INFL	LAG_3_ALM	TP-1, LAGOON #3 INTAKE LEVEL	HIGH DEVIATION	HIGH LEVEL WARNING	0.0	1
CP3001	TP1_INFL	LAG_3_ALM	TP-1, LAGOON #3 INTAKE LEVEL	HIGH ALARM	HIGH LEVEL, POTENTIAL OVERFLOW	809.0	1
CP3001	TP1_INFL	INTAKE_PMP_1	INTAKE PMP 1 START/STOP	OK	FAILED	INTAKE PMP 1	5
CP3001	TP1_INFL	INTAKE_PMP_1	INTAKE PMP 1 START/STOP			INTAKE PMP 1	5
CP3001	TP1_INFL	INTAKE_PMP_2	INTAKE PMP 2 START/STOP	OK	FAILED	INTAKE PMP 2	5
CP3001	TP1_INFL	INTAKE_PMP_2	INTAKE PMP 2 START/STOP			INTAKE PMP 2	5
CP3001	TP1_INFL	TM1_MOVLV	TM-1 VALVE OPERATOR	OK	FAILED	TM-1 VALVE	5
CP3001	TP1_INFL	TM1_MOVLV	TM-1 VALVE OPERATOR			TM-1 VALVE	5
CP3001	TP1_INFL	TM101_MOVLV	TM 101 VALVE OPERATOR			TM-101 VALVE	5
CP3001	TP1_INFL	TM101_MOVLV	TM 101 VALVE OPERATOR	OK	FAILED	TM-101 VALVE	5
CP3002	TP1_SHUTDOWN	TBV_42_VLV	TBV-42 VALVE OPERATOR	OK	FAILED	TBV-42 VALVE	5
CP3002	TP1_SHUTDOWN	TP_1_ALARMS	TP 1 ALARMS	OVER CURRENT OK	OVER CURRENT FAILURE	WATER CHAMP	5
CP3002	TP1_SHUTDOWN	CITY_WATER	CITY WATER VALVE				5
CP3002	TP1_SHUTDOWN	TBV_42_VLV	TBV-42 VALVE OPERATOR			TBV-42 VALVE	5
CP3002	TP1_SHUTDOWN	TP_1_ALARMS	TP 1 ALARMS	UNDER CURRENT OK	UNDER CURRENT FAILURE	WATER CHAMP	5
ABST12	UPLAND	BLN_ALMS	UPLAND PRIORITY ONE ALARMS	UPLAND TELEMETRY OK	UPLAND TELEMETRY FAIL		1
ABST12	UPLAND	BLN_ALMS	UPLAND PRIORITY ONE ALARMS	UPLAND PRIORITY ONE ALARMS OK	UPLAND PRIORITY ONE FAIL ALARM		1
ABST01	UTIL_WATER	UT_PSI		ALARM TYPE	LOW UTILITY WATER PRESS	75.0	1
ABST01	UTIL_WATER	UT_PSI		LOW LOW ALARM		0.0	5
ABST01	UTIL_WATER	UT_PSI		BAD		BAD I/O	5
ABST01	UTIL_WATER	ALARMS1		PLC OK	PLC FAIL	UTILITY WATER PUMPS	1
ABST01	UTIL_WATER	ALARMS1		PUMP #1 MOTOR OK	PUMP #1 MOTOR FAILED	UTILITY WATER PUMPS	1

CP	COMPOUND	BLOCK	DESCRP	ALARM TYPE	TEXT	SETPOINT	PRIORITY
ABST01	UTIL_WATER	ALARMS1		PUMP #1 START COUNTS OK	PUMP #1 START COUNTS EXCEEDED	UTILITY WATER PUMPS	2
ABST01	UTIL_WATER	ALARMS1		PUMP #2 MOTOR OK	PUMP #2 MOTOR FAILED	UTILITY WATER PUMPS	1
ABST01	UTIL_WATER	UW_HEARTBEAT		PUMP #2 START COUNTS OK	PUMP #2 START COUNTS EXCEEDED	UTILITY WATER PUMPS	2
ABST01	UTIL_WATER	ALARMS1		PUMP #3 MOTOR OK	PUMP #3 MOTOR FAILED	UTILITY WATER PUMPS	1
ABST01	UTIL_WATER	ALARMS1		PUMP #3 START COUNTS OK	PUMP #3 START COUNTS EXCEEDED	UTILITY WATER PUMPS	2
ABST01	UTIL_WATER	ALARMS2		PUMP #4 MOTOR OK	PUMP #4 MOTOR FAILED	UTILITY WATER PUMPS	5
ABST01	UTIL_WATER	ALARMS2		PUMP #4 START COUNTS OK	PUMP #4 START COUNTS EXCEEDED	UTILITY WATER PUMPS	5
ABST01	UTIL_WATER	ALARMS2		PUMP #5 MOTOR OK	PUMP #5 MOTOR FAILED	UTILITY WATER PUMPS	5
ABST01	UTIL_WATER	ALARMS2		PUMP #5 START COUNTS OK	PUMP #5 START COUNTS EXCEEDED	UTILITY WATER PUMPS	5
ABST01	UTIL_WATER	ALARMS1		PUMP #3 MOTOR TEMP OK	PUMP #3 MOTOR TEMP WARNING	UTILITY WATER PUMPS	1
ABST01	UTIL_WATER	ALARMS1		PUMP #3 VFD OK	PUMP #3 VFD FAILED	UTILITY WATER PUMPS	1
ABST01	UTIL_WATER	ALARMS2		PUMP #4 MOTOR TEMP OK	PUMP #4 MOTOR TEMP WARNING	UTILITY WATER PUMPS	5
ABST01	UTIL_WATER	ALARMS2		PUMP #4 VFD OK	PUMP #4 VFD FAILED	UTILITY WATER PUMPS	5
ABST01	UTIL_WATER	ALARMS2		PUMP #5 MOTOR TEMP OK	PUMP #5 MOTOR TEMP WARNING	UTILITY WATER PUMPS	5
CP3001	WWW_CONT	W_BASIN_HH	WEST BASIN ALARM	HIGH ALARM	WEST BASIN HI HI LEV	7.0	1
CP3001	WWW_CONT	E_BASIN_HH	EAST BASIN ALARM	HIGH ALARM	EAST BASIN HI HI LEV	7.5	1
CP3001	WWW_CONT	W_BASIN_HH	WEST BASIN ALARM	LOW ALARM		0.0	1
CP3001	WWW_CONT	E_BASIN_HH	EAST BASIN ALARM	LOW ALARM	EAST BASIN LO LO LEV	0.0	1
CP3001	WWW_CONT	PMP3_S_S	WWW PUMP 3 START/STOP CONTROL	OK	FAILED	WAST WASH WATER PUMP 3	1
CP3001	WWW_CONT	PMP1_S_S	WWW PUMP 1 START/STOP CONTROL	OK	FAILED	WASTE WASH WATER PUMP 1	1
CP3001	WWW_CONT	PMP2_S_S	WWW PUMP 2 START/STOP CONTROL	OK	FAILED	WAST WASH WATER PUMP 2	1
CP3001	WWW_CONT	PMP1_S_S	WWW PUMP 1 START/STOP CONTROL			WASTE WASH WATER PUMP 1	5
CP3001	WWW_CONT	PMP2_S_S	WWW PUMP 2 START/STOP CONTROL			WAST WASH WATER PUMP 2	5
CP3001	WWW_CONT	PMP3_S_S	WWW PUMP 3 START/STOP CONTROL			WAST WASH WATER PUMP 3	5

#	SECTION	LOCATION	PROCESS	EQUIPMENT	ALARM NEEDED
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

REASON

Inland Empire Utilities Agency

A MUNICIPAL WATER DISTRICT

Carbon Canyon Water Recycling Facility

Title 22 Engineering Report

DDB

ENGINEERING, INC.

April 2014

Inland Empire Utilities Agency

A MUNICIPAL WATER DISTRICT

Carbon Canyon Water Recycling Facility

Title 22 Engineering Report

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April 2014

Inland Empire Utilities Agency
Carbon Canyon Water Recycling Facility

Title 22 Engineering Report
April 2014

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1 INTRODUCTION

The purpose of this engineering report is to evaluate the design and reliability features of the Carbon Canyon Water Recycling Facility (CCWRF) operated by Inland Empire Utilities Agency (IEUA) and demonstrate its compliance with water recycling criteria set forth in Title 22 of the California Code of Regulations. This section describes the background of the facility and the objective of this document.

1.1 BACKGROUND

IEUA owns and operates the CCWRF, located at the southwest corner of the intersection of Chino Hills Parkway and Telephone Avenue in San Bernardino County. Located at 14950 Telephone Avenue in the City of Chino, the CCWRF serves the cities of Chino, Chino Hills, Montclair, and Upland. The CCWRF began operation in 1992. IEUA has constructed subsequent modifications to its wastewater collection system and treatment facilities to serve the needs of these communities. For example, wastewater flows from Montclair can be diverted to IEUA's Regional Plant No. 1 (RP-1) in Ontario if necessary. Similarly, a portion of wastewater flows from Upland, Chino, or Chino Hills can be diverted to IEUA's Regional Plant No. 5 (RP-5).

The CCWRF is operated under Regional Water Quality Control Board, Santa Ana Region (RWQCB) Order No. R8-2009-0021 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA8000409 (RWQCB, 2009). A copy of this permit is included in Appendix A. The CCWRF discharges treated effluent to Chino Creek and a portion of the effluent is reused. Solids are pumped to and treated at IEUA's Regional Plant No. 2 (RP-2). According to its permit, the CCWRF is designed to treat an annual average flow of 11.4 million gallons per day (mgd). The permit does not limit the annual average flow at CCWRF, but rather specifies an agency-wide allowable combined flow of 84.4 mgd from all IEUA plants (RP-1, RP-4, RP-5, and CCWRF).

1.2 OBJECTIVE

The objective of this report is to demonstrate CCWRF compliance with California Code of Regulations (CCR) Title 22, Division 4, Chapter 3, entitled Water Recycling Criteria (CCR, 2001). Section 60323, Article 7 of these Criteria requires submittal of an engineering report to the RWQCB and California Department of Public Health (CDPH).

IEUA submitted a Title 22 Engineering Report for CCWRF that was approved by CDPH in 2005 (CDPH, 2005). Since that time several modifications of the CCWRF facilities have been made.

The influent diversion structure was upgraded to provide enhanced flow controls by automatically diverting peak flows to RP-5 and enabling CCWRF to operate as a skimming plant. Demonstration testing of the continuous automatic backwash filters was approved by CDPH and the RWQCB to allow CCWRF to operate at a higher filtration rate (4.0 gallons per minute per square foot (gpm/sq ft)) than generally allowed by Title 22 for that type of tertiary filter (2 gpm/sq ft) (CDPH, 2010 and RWQCB, 2010). New recycled water pumps have been installed to increase the capacity of pumping to the regional recycled water distribution system. Other improvements have also been completed at CCWRF.

This engineering report documents how the CCWRF complies with Title 22 Water Recycling Criteria.

2 REGULATORY REQUIREMENTS

Wastewater treatment, disposal, and reuse are regulated by local, State, and Federal requirements primarily to protect public health, safety, and general welfare. In California, water recycling has received support from the U. S. Environmental Protection Agency (EPA), State Water Resources Control Board (SWRCB), and CDPH as a means of effluent reuse and disposal. This section describes the types of reuse and regulatory requirements that pertain to the CCWRF.

2.1 TYPES OF REUSE

IEUA discharges treated effluent from the CCWRF via Discharge Point 004 (DP-004) Outfall to Reach 2 of Chino Creek, which is a tributary of the Santa Ana River. A portion of the effluent is reclaimed for landscape irrigation, industrial uses, and in-plant utility water needs. Further description of recycled water uses is given in Section 8.

2.2 WATER RECYCLING CRITERIA

Water recycling criteria are specified in the California Code of Regulations, Title 22, Division 4, Chapter 3. Water recycling requirements are established by CDPH. Enforcement of these criteria is the role of the SWRCB and its nine Regional Water Quality Control Boards. The CCWRF is under the jurisdiction of Regional Board No. 8, the Santa Ana River Basin RWQCB.

Commonly referred to as Title 22 Criteria, the treatment and effluent quality requirements are dependent upon the proposed type of water reuse. In addition to these requirements, Title 22 specifies reliability criteria to ensure protection of public health.

Effluent from CCWRF must comply with the highest categories of reuse, spray irrigation and non-restricted recreational and landscape impoundments. Under Title 22, wastewater is required to be oxidized, coagulated (as needed for turbidity reduction – see Section 3), filtered, and disinfected, or treated by a sequence of unit processes assuring an equivalent degree of treatment and reliability. Title 22 specifies that recycled water for the highest level of reuse be disinfected tertiary effluent.

With regard to filtration, the Title 22 Water Recycling Criteria specify a maximum filtration rate and effluent turbidity requirements. For traveling bridge automatic backwash filters like those at CCWRF, Title 22 typically limits the maximum filtration rate to 2 gpm/sq ft of surface area; however, upon successful completion of documentation testing, IEUA received approval from CDPH and the RWQCB to operate the CCWRF traveling bridge automatic backwash filters up to

a maximum filtration rate of 4.0 gpm/sq ft (CDPH, 2010 and RWQCB, 2010). An automatic coagulant feed system must be activated when the filter influent turbidity exceed 5 Nephelometric Turbidity Units (NTU) for 15 minutes. The CCWRF coagulant feed pumps are automatically started whenever the filter influent turbidity exceeds 0.5 NTU and stopped when it falls below 0.2 NTU. Typically, a low dose of alum is used for coagulation at all times to enhance filter performance and recycled water production for cooling tower use. Under Title 22, the turbidity of the filtered wastewater (filter effluent) may not exceed any of the following:

(1) an average of 2 NTU within a 24-hour period;

(2) 5 NTU more than 5 percent of the time within a 24-hour period; and

(3) 10 NTU at any time.

RWQCB Order No. R8-2009-0021 specifies these same turbidity requirements for the CCWRF filtered wastewater.

Permissible coliform bacteria levels are used as an indicator of effluent quality. For water reuse for spray irrigation and non-restricted recreational and landscape impoundments, the median number of coliform organisms must not exceed a most probable number (MPN) of:

(1) 2.2 per 100 milliliter (mL) sample of effluent for the last seven days for which bacteriological analyses have been completed;

(2) 23 per 100 mL sample of effluent in more than one sample within any 30-day period; and

(3) 240 total coliform bacteria per 100 mL in any sample.

If a chlorination disinfection process is used, such as that at CCWRF, Title 22 specifies that a concentration time (CT) value of at least 450 milligram-minutes per liter be provided with a modal contact time of at least 90 minutes based on peak dry weather design flow.

In addition to treatment and effluent quality, Title 22 sets forth general reliability requirements. The facilities must be designed for flexibility so that a high degree of treatment can be achieved under varying conditions. Components of a flexible design include multiple or standby treatment units or pieces of equipment. In addition, alarms are required to alert plant operators of power supply failure or failure of any treatment plant unit processes. In the event of a power supply failure, Title 22 requires the plant to provide either a standby power source or automatically actuated short-term or long-term storage or disposal provisions.

In order to assure that water recycling facilities comply with the regulations, Title 22 requires that an engineering report describing the proposed recycling system and the means for the system complying with listed requirements be prepared and submitted to the RWQCB and CDPH for approval.

2.3 CREEK DISCHARGE REQUIREMENTS

Product water that is not delivered for reuse is discharged into Reach 2 of Chino Creek. The IEUA agency-wide NPDES permit requires that CCWRF discharges to the creek be disinfected tertiary effluent suitable for non-restricted recreational impoundments as required under Title 22, except when the creek provides at least 20:1 dilution. When at least 20:1 dilution of the wastewater effluent can be provided by the natural flow of the creek at the point of discharge, the discharge may be disinfected secondary effluent.

During the dry season when the natural flow in the creek provides less than 20:1 dilution, the CCWRF discharge to the creek must comply with the same criteria as those specified for recycled water production, except that the modal contact time requirement for chlorination does not apply to the creek discharge. Disinfected tertiary effluent that has received less than 90 minutes of modal contact time in the chlorine contact tank may be discharged to Chino Creek if the natural flow in the creek provides at least a 1:1 dilution. In other words, the creek discharge must be fully disinfected tertiary treated effluent for periods without sufficient dilution.

3 WASTEWATER FLOW AND QUALITY

This section describes wastewater flow and quality characteristics, as well as treated effluent quality limitations for the CCWRF.

3.1 WASTEWATER FLOW CHARACTERISTICS

Influent and effluent flows are monitored continuously at CCWRF. Table 3-1 summarizes the 2011-12 flow data.

Table 3-1. 2011-12 Average Influent and Effluent Flows[1]

Flow Stream	Minimum Month[2] (mgd)	Average Month (mgd)	Maximum Month[3] (mgd)
Raw Influent Flow	6.4	7.3	7.9
Effluent Flow	1.5	4.7	7.7

[1]Source: Monthly average flow data for 2011-12 (IEUA, 2011-12 and IEUA, 2014).
[2]Minimum monthly average raw influent flow occurred in June 2011. Minimum monthly average effluent flow occurred in September 2012.
[3]Maximum monthly average raw influent flow occurred in four months: November 2011, January 2012, April 2012, and May 2012. Maximum monthly average effluent flow occurred in March 2011.

3.2 INFLUENT QUALITY CHARACTERISTICS

The chemical composition of raw wastewater influent to the CCWRF based on 2012 data is summarized in Table 3-2.

3.3 SOURCE CONTROL

The purpose of the industrial pretreatment and source control program is to prevent waste discharges into the collection and treatment works that may create hazardous conditions, damage the treatment facilities, endanger workers, or adversely affect the ability of the treatment facilities to meet their discharge permit and recycled water requirements.

IEUA administers a pretreatment control program to satisfy the U.S. Environmental Protection Agency (EPA) pretreatment regulations. EPA delegated responsibility to oversee the pretreatment program to the California State Water Resources Control Board (SWRCB) and the nine RWQCBs. The NPDES permits issued by the RWQCBs contain specific pretreatment program monitoring and reporting requirements. The pretreatment program is implemented in accordance with the industrial pretreatment regulations in the Code of Federal Regulations,

Table 3-2. Typical Influent Wastewater Characteristics[1]

Constituent	Units	Minimum	Average	Maximum
Specific Conductance	µmhos/cm	903	1,048	1,184
pH	units	6.9	7.1	7.2
Total Organic Carbon (TOC)	mg/L	166	246	334
Biochemical Oxygen Demand (BOD)	mg/L	308	451	627
Total Suspended Solids (TSS)	mg/L	228	390	730
Total Dissolved Solids (TDS)	mg/L	509	538	559
Ammonia-Nitrogen (NH_3-N)	mg/L	29.2	34.1	45.8
Total Inorganic Nitrogen (TIN)	mg/L	29.7	31.7	33.1
Total Nitrogen (TN)	mg/L	46.0	53.3	59.6
Boron	mg/L	0.2	0.3	0.3
Chloride	mg/L	100	116	132
Fluoride	mg/L	0.2	0.2	0.3
Sulfate	mg/L	35	45	53
Total Hardness, as $CaCO_3$	mg/L	169	198	250
Arsenic, Total Recoverable	µg/L	<10	<10	<10
Cadmium, Total Recoverable	µg/L	<10	<10	<10
Chromium, Total Recoverable	µg/L	<10	<10	<10
Copper, Total Recoverable	µg/L	40	63	80
Lead, Total Recoverable	µg/L	<20	<20	<20
Mercury, Total Recoverable	µg/L	<0.5	<0.5	<0.5
Nickel, Total Recoverable	µg/L	<10	<10	<10
Selenium, Total Recoverable	µg/L	<20	<20	<20
Silver, Total Recoverable	µg/L	<10	<10	<10
Zinc, Total Recoverable	µg/L	120	195	280
Free Cyanide (Aquatic)	µg/L	<2	<3	4
Bis (2-ethylhexyl) phthalate	µg/L	12	12	13

[1] Source: IEUA, 2011-12, from 2012 data (IEUA, 2011-12 and IEUA, 2014).

Section 40, Part 403 (40 CFR 403) to effectively control the types of wastes discharged into the sewer system. IEUA and the contracting member agencies serve as the administrator for all permit activities, including categorical, significant standards and the permitting process for all industrial and other discharges into their regional sewer system. In that administrative role, IEUA and the contracting member agencies establish regulations and discharge limits, and

conduct flow monitoring and sampling programs and inspections of each industry's pretreatment and monitoring systems.IEUA operates a separate Non-Reclaimable Wastewater (NRW) System that provides a disposal point for industries that produce brine wastes that would otherwise adversely affect the treated effluent quality if discharged to the regional wastewater collection system. The NRW System collects these brackish wastes and conveys them to either the Los Angeles County Sanitation Districts or Orange County Sanitation District for treatment and disposal to the ocean. The NRW System is a key element in IEUA's pretreatment and salinity management programs. In this manner, the CCWRF effluent quality is protected from harmful constituents.

3.4 EFFLUENT QUALITY LIMITS

Effluent discharge limits are established for CCWRF in RWQCB Order No. R8-2009-0021, NPDES No. CA8000409, which was adopted on July 20, 2009. RWQCB Order No. R8-2009-0021 is an agency-wide permit regulating four IEUA water recycling plants:

- Regional Plant No. 1 (RP-1);
- Regional Plant No. 4 (RP-4);
- Regional Plant No. 5 (RP-5); and
- Carbon Canyon Water Recycling Facility (CCWRF).

The IEUA permit covers eight effluent discharge points (DP) and two stormwater discharge points for the above plants. Two of these discharge points are for CCWRF:

- DP-004 CCWRF tertiary effluent discharge to Reach 2 of Chino Creek, which is a tributary to Reach 3 of the Santa Ana River; and
- DP-008 CCWRF recycled water to use areas overlying the Chino North "Max Benefit" Groundwater Management Zone (GMZ) or Chino 1, 2, and 3 "Antidegradation" GMZs.

The RWQCB issues discharge limits based on the beneficial uses and water quality objectives established in the updated and amended "Santa Ana River Basin Water Quality Control Plan" (RWQCB, 2011), commonly referred to as the "Basin Plan", and recommendations from other regulatory agencies, such as CDPH. The CCWRF is a tertiary treatment plant that discharges effluent to Reach 2 of Chino Creek and produces recycled water for landscape irrigation, industrial use, and on-site utility uses. Reach 2 of Chino Creek is a tributary to Reach 3 of the Santa Ana River. Solids from CCWRF are pumped to and treated at IEUA's RP-2, which is operated as a regional solids treatment facility. Liquid recycle streams from RP-2 are returned to RP-5 for treatment. Consequently, CCWRF functions as a scalping plant in IEUA's regional wastewater system. Specific effluent quality requirements for the CCWRF are discussed below.

3.4.1 BIOCHEMICAL OXYGEN DEMAND AND SUSPENDED SOLIDS LIMITS

Table 3-3 lists biochemical oxygen demand (BOD) and total suspended solids (TSS) limits for CCWRF from the IEUA discharge permit. These values are achievable with tertiary treatment and are intended to ensure that only adequately oxidized wastewater is discharged. The permit also requires that the monthly average effluent BOD and TSS concentrations be no greater than 15 percent of the monthly average influent BOD and TSS concentrations.

Table 3-3. Effluent BOD and TSS Limitations for Discharges to Reach 2 of Chino Creek[1]

Constituent	Average Weekly Concentration (mg/L)	Average Monthly Concentration (mg/L)
For Discharges Without 20:1 Dilution		
BOD	30	20
TSS	30	20
For Discharges With 20:1 Dilution		
BOD	45	30
TSS	45	30

[1] Source: RWQCB, 2009.

3.4.2 AMMONIA-NITROGEN AND CHLORINE RESIDUAL LIMITS

Table 3-4 lists the ammonia-nitrogen and total chlorine residual concentration limits for protection of receiving waters. Compliance determinations for total chlorine residual are based on 99 percent compliance with the following conditions:

- The total time during which the total chlorine residual values are above 0.1 mg/L (instantaneous maximum value) shall not exceed 7 hours and 26 minutes in any calendar month;
- No individual excursion from 0.1 mg/L value shall exceed 5 minutes; and
- No individual excursion shall exceed 5.0 mg/L.

Table 3-4. Effluent Ammonia-Nitrogen and Chlorine Residual Limitations[1]

Constituent	Instantaneous Maximum (mg/L)	Average Monthly (mg/L)
Ammonia-Nitrogen	---	4.5
Total Chlorine Residual	0.1	---

[1] Source: RWQCB, 2009.

3.4.3 TOTAL DISSOLVED SOLIDS AND TOTAL INORGANIC NITROGEN LIMITS

Restrictions are imposed for effluent salinity and Total Inorganic Nitrogen (TIN). Total Dissolved Solids (TDS – a measure of salinity) and TIN limits are summarized in Table 3-5.

Table 3-5. Effluent TDS and TIN Limitations[1]

Constituent	12-Month Average[2] (mg/L)	12-Month Average Emission Rate[3] (lbs/day)
TDS	550[4]	366,960
TIN	8	5,338

[1] Source: RWQCB, 2009.

[2] If the TDS or TIN limits are exceeded at CCWRF, compliance may be achieved by removal of an equivalent amount of TDS or TIN under a TDS and nitrogen offset program from RP-1, RP-4, and/or RP-5. TDS and TIN limits are agency-wide and are applicable to all four IEUA plants collectively.

[3] Mass emission rate is based on 80 mgd.

[4] The 12-month average limit for TDS cannot exceed 550 mg/L or the 12-month average TDS in the water supply by more than 250 mg/L. Compliance is based on the lower of the two limits, either 550 mg/L or 250 mg/L above the average water supply TDS in the IEUA service area. For compliance with maximum benefit provisions, the TDS of the recycled water produced collectively at the four IEUA plants may not exceed 550 mg/L. If maximum benefit provisions are not met, then antidegradation provisions must be met, which for CCWRF, would limit recycled water TDS to no more than 280 mg/L for uses overlying Chino 1 GMZ, 250 mg/L for uses overlying Chino 2 GMZ, and 260 mg/L for uses overlying Chino 3 GMZ.

The permit recognizes that effluent TDS is based on the TDS of the water supply sources utilized in the IEUA service area, yet it encourages the use of lower salinity water supplies by establishing a maximum effluent TDS limit. Compliance with the TDS requirements is based on the lower of either 550 mg/L or the area-wide water supply TDS plus 250 mg/L as a reasonable use increment. The permit imposes an agency-wide maximum wasteload allocation for TDS based on 550 mg/L and a total average flow of 80 mgd (RWQCB, 2009). Compliance with the

TDS limit is based on a 12-month flow-weighted running average of RP-1, RP-4, RP-5, and CCWRF.

For compliance with the TDS wasteload allocations specified in the Basin Plan, the "maximum benefit" commitments, to which IEUA has agreed, allow recycled water produced by IEUA's plants to have a maximum TDS of 550 mg/L throughout the Chino North "Max Benefit" Groundwater Management Zone (GMZ). The permit specifies that if the maximum benefit commitments are not met, then the TDS of the recycled water must comply with the more restrictive "antidegradation" limits for the three "Antidegradation" GMZs where the recycled water is used: (1) 280 mg/L in Chino 1 GMZ, (2) 250 mg/L in Chino 2 GMZ, and (3) 260 mg/L in Chino 3 GMZ. One of the goals of the maximum benefit commitments is salinity management through implementation of region-wide strategies.

TIN is the sum of nitrate, nitrite, and ammonia, measured as nitrogen. The TIN limit is based on an agency-wide effluent TIN requirement of 8 mg/L (volume-weighted basis) set forth in the IEUA permit, which implemented the updated and amended RWQCB Basin Plan (RWQCB, 2011). The agency-wide permit allows IEUA to offset nitrogen discharges in excess of the TIN limits provided that an equivalent amount of nitrogen is removed at one of IEUA's other wastewater treatment plants. In other words, the permit specifies that if the TIN limit is exceeded at one plant, compliance can be achieved by removal of an equivalent amount of TIN such that the total TIN from all four plants complies with the TIN requirement of 8 mg/L. The mass emission limit is based on 8 mg/L and 80 mgd.

3.4.4 MINERAL/INORGANIC EFFLUENT LIMITATIONS

The RWQCB imposes restrictions on effluent inorganics to meet surface water quality objectives established to protect beneficial uses designated in the Basin Plan. Typically regulated constituents include boron, chloride, fluoride, sodium, sulfate, and total hardness. Based on its review of historic effluent data, the RWQCB determined that the IEUA discharges were unlikely to cause or contribute to violations of water quality objectives for these mineral constituents. Consequently, the permit contains no effluent limitations, although monitoring is still required for these mineral constituents.

3.4.5 TRACE CONSTITUENT EFFLUENT LIMITATIONS

The IEUA NPDES permit specifies maximum concentrations for trace constituents in the CCWRF effluent as summarized in Table 3-6. These trace constituent limitations are specifically for CCWRF.

Table 3-6. Effluent Trace Constituent Limitations[1]

Constituent	Maximum Daily Concentration (µg/L)	Average Monthly Concentration (µg/L)
Free Cyanide	8.5	4.3
Bis (2-ethylhexyl) phthalate	11.9	5.9

[1] Source: RWQCB, 2009.

3.4.6 OTHER EFFLUENT LIMITATIONS

Treatment requirements specified in CCWRF's NPDES permit are dependent upon the flow in the receiving waters and the amount of effluent dilution that will be provided.

If the flow in Chino Creek is less than that required for a 20:1 (ratio of receiving water flow to wastewater flow) dilution at the point of discharge, the discharge must be tertiary effluent that has been adequately oxidized, coagulated, filtered, and disinfected. The discharge is considered adequately filtered if the turbidity does not exceed:

(1) an average of 2 Nephlometric Turbidity Units (NTU) within a 24-hour period;

(2) 5 NTU more than 5 percent of the time during any 24-hour period; and

(3) 10 NTU at any time.

The discharge is considered adequately disinfected if the number of coliform organisms does not exceed a:

(1) median most probable number (MPN) of 2.2 per 100 mL over the last seven days;

(2) MPN of 23 per 100 mL in more than one sample within any 30-day period; and

(3) MPN of 240 per 100 mL in any sample.

In order to comply with Title 22 requirements for spray irrigation, non-restricted recreational landscape impoundments, and industrial uses, recycled water must be tertiary effluent that has been adequately disinfected, oxidized, coagulated (as needed for turbidity reduction), and filtered. Typically, a low dose of coagulant is used for coagulation at CCWRF at all times to enhance filter performance and recycled water production for cooling tower use. The same

turbidity and disinfection requirements apply for recycled water production as for surface water discharges with less than 20:1 dilution.

For recycled water and creek discharges with less than a 20:1 dilution, the maximum filtration rate for the CCWRF continuous backwash filters is set at 4.0 gpm/sq ft based on peak dry weather design flow (CDPH, 2010). (Peak dry weather design flow is defined in the permit as "the arithmetic mean of the maximum peak flow rates sustained over some period of time (for example three hours) during the maximum 24-hour dry weather period. Dry weather period is defined as a period of little or no rainfall.") Title 22 Water Recycling Criteria (CCR, 2001) limit the filter loading rate of traveling bridge automatic backwash filters to 2 gpm/sq ft; however, IEUA submitted test results demonstrating that the CCWRF filters were able to achieve effluent complying with Title 22 turbidity requirements at the higher filtration rate of 4.0 gpm/sq ft without the addition of coagulant. For CCWRF, CDPH approved and recommended to the RWQCB:

- Maximum filtration rate of 4.0 gpm/sq ft at all times; and
- Automatic coagulant addition when the filter influent turbidity exceeds 5 NTU for 15 minutes.

The permit also specifies the same CT (the product of total chlorine residual and modal contact time measured at the same point), and modal contact time requirements for recycled water use as for creek discharges. For these same conditions, the permit requires a minimum CT of 450 milligram-minutes per liter (mg-min/L) at all times with a modal contact time of at least 90 minutes, based on peak dry weather design flow.

If the flow in Chino Creek is more than that required for a 20:1 dilution at the point of discharge, the discharge must be at least secondary effluent that has been adequately oxidized and disinfected. The discharge is considered adequately disinfected if the median number of coliform organisms does not exceed an MPN of 23 per 100 mL over the last seven days.

The CCWRF NPDES permit includes other general effluent limitations that restrict toxicity, oil and grease, and pH for all discharges. Discharge of any substances in toxic concentrations is prohibited. Visible oil and grease in the effluent is not permissible, and the effluent pH must be within 6.5 and 8.5 units. Compliance determinations for pH require compliance with the following conditions:

- The total time during which the pH values are outside the required range of 6.5 to 8.5 units shall not exceed 7 hours and 26 minutes in any calendar month; and
- No individual excursion from the range of 6.5 to 8.5 pH units shall exceed 60 minutes.

3.5 EFFLUENT QUALITY CHARACTERISTICS

IEUA submits monitoring reports to the RWQCB in accordance with the NPDES permit. Table 3-7 summarizes 2012 recycled water quality data for some of the major regulated parameters. Complete monitoring and reporting records are available from IEUA or the RWQCB.

Table 3-7. Typical Effluent Quality[1]

Constituent	Units	Minimum	Average	Maximum
Specific Conductance	µmhos/cm	842	882	904
pH	units	7.0	7.1	7.2
Turbidity	NTU	0.3	0.6	0.8
Total Organic Carbon (TOC)	mg/L	4.1	4.7	5.3
Biochemical Oxygen Demand (BOD)	mg/L	<2	<2	<2
Total Suspended Solids (TSS)	mg/L	<2	<2	<2
Total Dissolved Solids (TDS)	mg/L	491	505	517
Ammonia-Nitrogen (NH_3-N)	mg/L	<0.1	<0.1	<0.2
Total Inorganic Nitrogen (TIN)	mg/L	3.9	4.7	6.3
Total Nitrogen (TN)	mg/L	4.1	5.6	7.3
Boron	mg/L	0.2	0.3	0.3
Calcium	mg/L	45	49	54
Chloride	mg/L	115	140	154
Fluoride	mg/L	0.1	0.2	0.4
Magnesium	mg/L	11	12	13
Sodium	mg/L	90	106	117
Sulfate	mg/L	51	64	73
Total Hardness, as $CaCO_3$	mg/L	159	173	189
Carbonate Alkalinity, as $CaCO_3$	mg/L	0	0	0
Bicarbonate Alkalinity, as $CaCO_3$	mg/L	117	136	152
Aluminum, Total Recoverable	µg/L	30	53	84
Antimony, Total Recoverable	µg/L	<1	<1	1
Arsenic, Total Recoverable	µg/L	<2	<2	<2
Barium, Total Recoverable	µg/L	10	15	23
Cadmium, Total Recoverable	µg/L	<0.25	<0.25	<0.25
Chromium, Total Recoverable	µg/L	0.8	1.0	1.3
Cobalt, Total Recoverable	µg/L	<1	<1	<1

Constituent	Units	Minimum	Average	Maximum
Copper, Total Recoverable	µg/L	4	6	9
Lead, Total Recoverable	µg/L	<0.5	<0.5	<0.5
Mercury, Total Recoverable	µg/L	<0.05	<0.05	<0.05
Nickel, Total Recoverable	µg/L	2	3	7
Selenium, Total Recoverable	µg/L	<2	<2	<2
Silver, Total Recoverable	µg/L	<0.25	<0.25	<0.25
Zinc, Total Recoverable	µg/L	35	43	68
Free Cyanide (Aquatic)	µg/L	<2	<2	3
Bis (2-ethylhexyl) phthalate	µg/L	<2	<2	2

[1] Source: IEUA, 2011-12 from 2012 data (IEUA, 2011-12 and IEUA 2014).

4 PLANT FACILITIES

IEUA's CCWRF provides wastewater treatment that conforms to the highest level of California water reclamation criteria. This section describes the facilities and presents the basis for compliance with the treatment, recycled water quality, and reliability requirements set forth in Title 22.

4.1 GENERAL DESCRIPTION OF FACILITIES

The CCWRF provides preliminary, primary, secondary, and tertiary treatment and solids pumping facilities. The plant is designed to treat an annual average flowrate of 11.4 mgd (RWQCB, 2009). Figure 4-1 presents the process flow schematic and Figure 4-2 shows the site plan for the CCWRF.

Raw wastewater enters an influent diversion structure that splits the flow, sending part of the flow to the CCWRF and diverting the remainder to RP-5. Preliminary treatment consists of flow measurement and removal of coarse solids and grit from the influent raw wastewater flow stream. Primary treatment is a physical process that involves sedimentation to remove settleable material and scum from the surface of wastewater.

Secondary treatment consists primarily of the nitrification/denitrification process including clarification. This biological treatment process uses both aerobic (oxic) and anoxic bacteria and other microorganisms to breakdown organic matter and to remove nitrogen found in the wastewater.

Tertiary treatment consists of coagulation (low dose or as-needed), filtration, and disinfection to produce high quality recycled water. Filtered effluent is disinfected using sodium hypochlorite. Recycled water is stored in an on-site reservoir and pumped to users. Disinfected effluent is also used for plant utility water. Effluent flows that exceed recycled water demands are dechlorinated prior to discharge to Chino Creek.

Solids are pumped from CCWRF to RP-2 for treatment. Solids treatment at RP-2 consists of gravity and dissolved air flotation (DAF) thickening, anaerobic digestion, digester gas utilization, and dewatering by belt presses and centrifuges. Dewatered sludge is hauled away for off-site disposal. Return liquids removed from the RP-2 processes are pumped to RP-5 for treatment. The RP-2 solids treatment facilities are regulated under the agency-wide waste discharge requirements for IEUA's wastewater treatment and water recycling facilities (RWQCB, 2009).

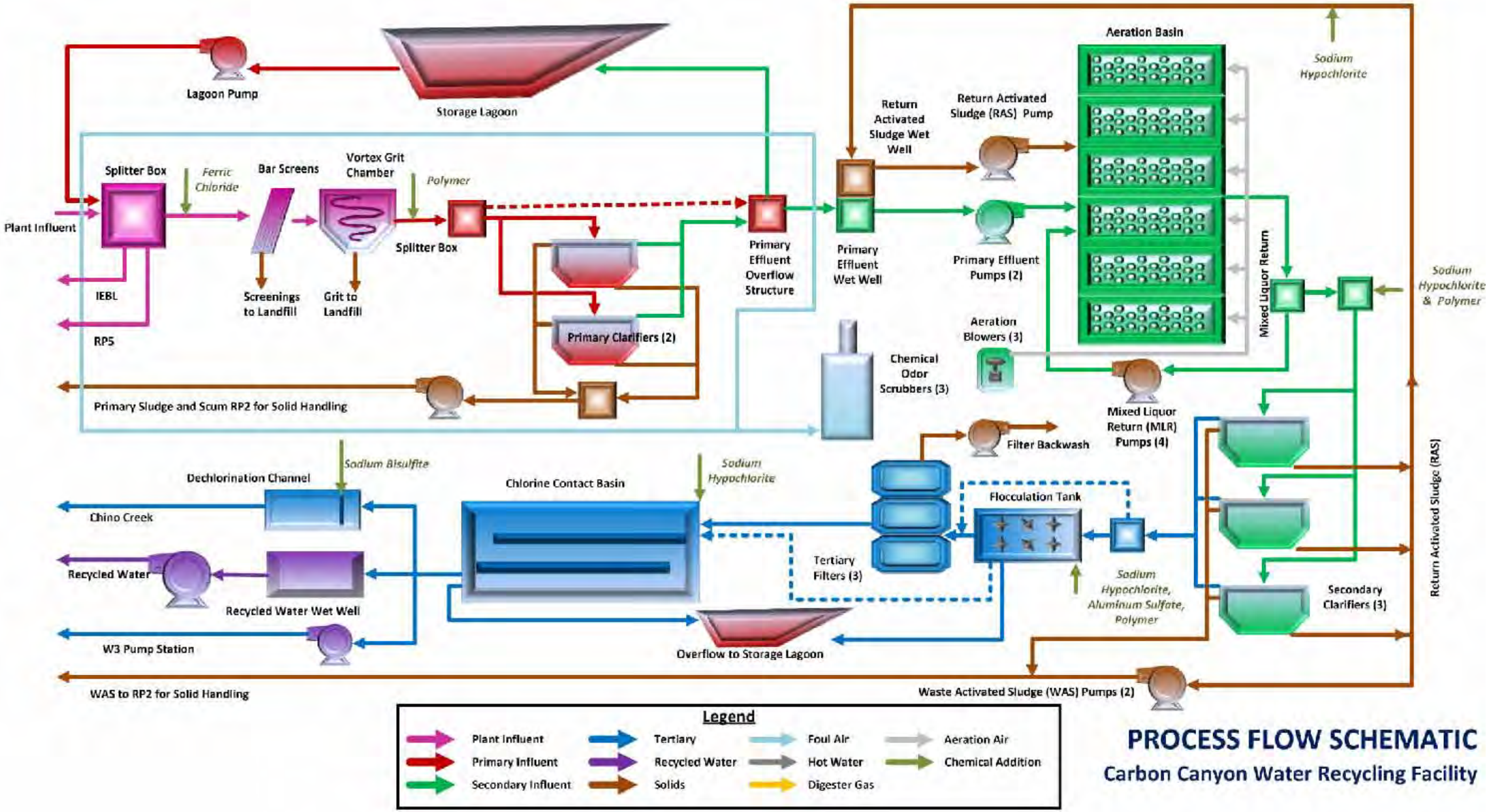

Figure 4-1. CCWRF Process Flow Schematic

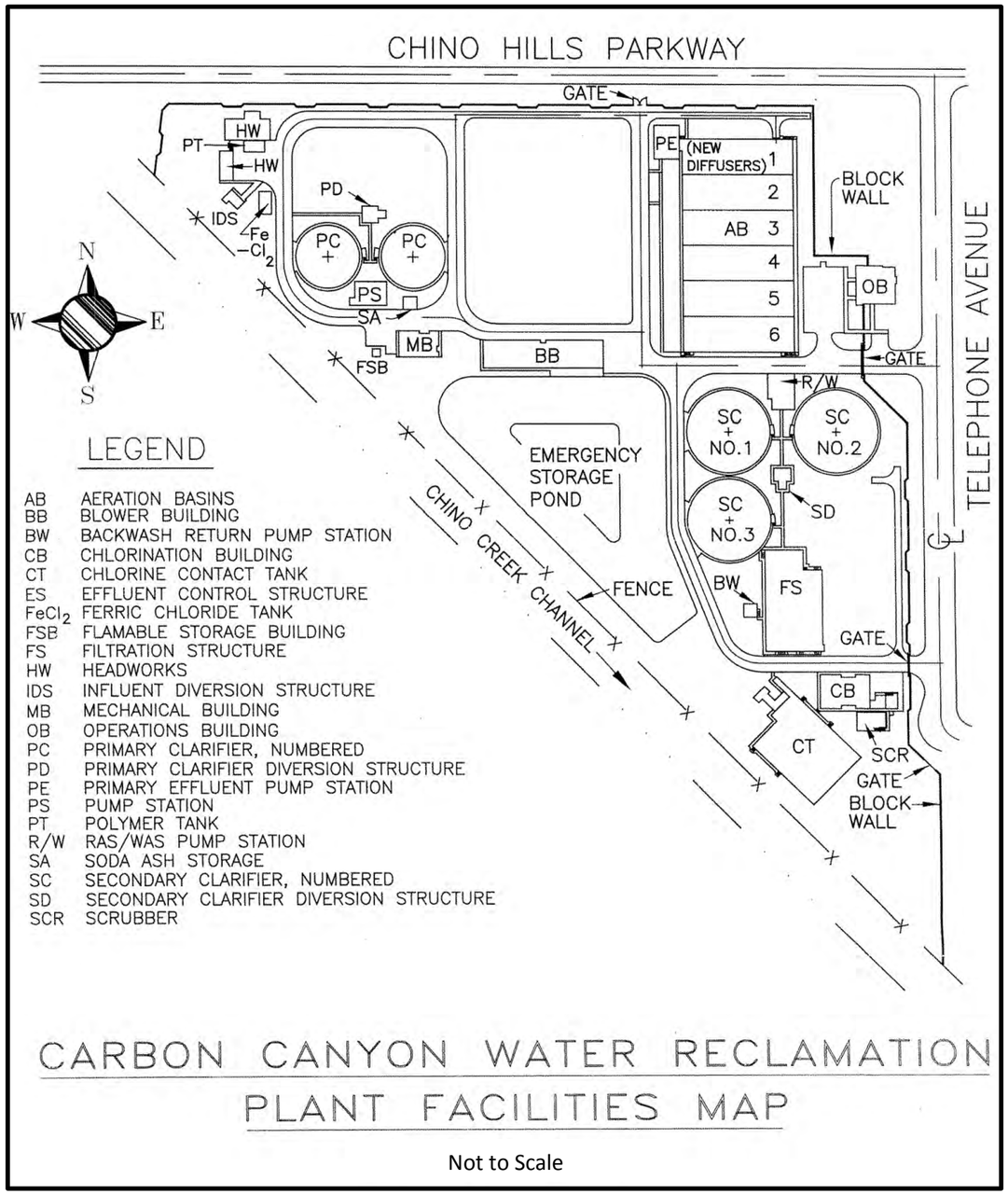

Figure 4-2. CCWRF Site Layout

The following sections describe the basis of design for each of the treatment processes in detail and demonstrate how Title 22 compliance is achieved. Capacities of each unit process are determined for operation as defined under the following conditions:

- Peak Capacity – total peak flow capacity with all units in service.
- Annual Average Capacity Without Redundancy – annual average capacity with all units in service.
- Title 22 Reliable Annual Average Capacity – annual average capacity conforming to the reliability requirements set forth in Title 22.

Reliability may be provided by redundant, standby, or alternative equipment or processes. Typically, the Title 22 Reliable Annual Average Capacity for each treatment process is determined with the largest unit out of service. In other cases, alternative means of reliability is provided by storage or another treatment process. The specific means of establishing reliability is described for each treatment process.

4.2 DESIGN FLOWRATES

The annual average rated design capacity of the CCWRF is 11.4 mgd according to its current discharge permit (RWQCB, 2009). Because it regulates all IEUA plants on an agency-wide basis, the permit does not limit the flow from any single facility. Instead, it specifies a total permitted flow of 84.4 mgd from all plants.

Two process flow streams are removed from the overall CCWRF treatment flow stream: solids and plant utility water. The total solids flow pumped from CCWRF to RP-2 for treatment is about 0.3 mgd and is comprised of primary sludge and waste activated sludge (WAS). Approximately 1 mgd of chlorinated effluent is typically withdrawn at the midpoint of the chlorine contact tank for use within the plant as utility water.

CCWRF operates as a scalping plant, typically handling a fairly constant flow rate with moderate diurnal peaks. Influent wastewater flows above an adjustable setpoint are diverted to RP-5. The influent diversion structure automatically divides the raw wastewater between the CCWRF and RP-5, maintaining a fairly steady flow to CCWRF and sending all flows above the setpoint to RP-5. Influent flow rates to CCWRF are restricted by the influent diversion structure weir positions, which are controlled by level sensors and flow meters. Thus, the hourly peak dry weather flow (PDWF) and hourly peak wet weather flow (PWWF) peaking factors for CCWRF are managed, with the adjustable weir setting at the diversion structure establishing the designated range of influent flow.

Based on monthly flow data collected at CCWRF from January 2011 through December 2012 (IEUA, 2011-12), the annual average raw influent flow (AAF) was 7.3 mgd. During the period between January 2011 and December 2012, the hourly PDWF was 13.92 mgd (November 28, 2011), and the hourly PWWF was 14.09 mgd (January 16, 2012). These flow rates yield a PDWF peaking factor of 1.9 (13.92/7.3) and a PWWF peaking factor of 1.9 (14.09/7.3).

Since the modal contact time test was completed on June 9, 2004, the influent diversion structure has been set so that flows are bypassed to RP-5 that would cause the CCWRF to exceed the Title 22 filter loading and chlorine contact time requirements. The modal contact time test established a maximum flow rate of 15.4 mgd, as described in more detail later in this section.

Based on these peaking factors, the design flows that can be expected for CCWRF are summarized in Table 4-1. At a design raw wastewater AAF of 11.4 mgd entering CCWRF, the hourly PDWF is 21.7 mgd (11.4 x 1.9), and the hourly PWWF is 21.7 mgd (11.4 x 1.9).

Because RP-2 return liquids are sent to RP-5, the CCWRF influent diversion structure can receive an annual average raw wastewater flowrate up to 11.4 mgd, in keeping with its designated design capacity. This same average flow and associated peak flows would continue through the preliminary, primary, and secondary processes. The flow to the tertiary filters and chlorine contact tanks would be reduced by the amount of primary and waste activated solids discharged to RP-2, approximately 0.3 mgd. The tertiary and disinfection processes would treat average flows of 11.1 mgd with the same peaking factors. About 1 mgd is withdrawn from the midpoint of the chlorine contact tank for in-plant uses. However, evaluation of the chlorination process should be based on the worst case assumption that the utility water is not withdrawn at all times.

Besides normal flow diversions to RP-5, wastewater can also be bypassed to the Inland Empire Brine Line (IEBL, aka “Brine Line”, and formerly called the Santa Ana River Interceptor [SARI]) in the event of an extreme emergency.

Table 4-1. Summary of CCWRF Design Flowrates and Existing Peak Flowrates for Title 22 Compliance

(CCWRF operating as a scalping plant with peak flows controlled by the influent diversion structure)[1]

Parameter	Flowrate (mgd)
Raw Influent Flow	
AAF [2]	11.4
PDWF [3]	21.7 [6]
PWWF [4]	21.7
Secondary Influent Flow	
AAF [2]	11.4
PDWF [3]	21.7 [6]
PWWF [4]	21.7
Tertiary Filtration and Chlorination Flow [5]	
AAF [2]	11.1
PDWF [3]	21.1 [6]
PWWF [4]	21.1

[1] Peak influent flows above the designated setpoint are diverted to RP-5 for treatment. RP-2 return flow is sent to RP-5 for treatment.
[2] AAF = Annual Average Flow
[3] PDWF = Hourly Peak Dry Weather Flow
[4] PWWF = Hourly Peak Wet Weather Flow
[5] Solids flows discharged from CCWRF to RP-2 are estimated at 0.3 mgd. These flows do not enter the filtration and chlorination processes.
[6] Design PDWF is shown. The influent diversion structure setting limits peak flows to 15.4 mgd for tertiary process compliance.

4.3 DESIGN WASTEWATER CHARACTERISTICS

The typical chemical composition of the raw influent wastewater to the CCWRF based on 2012 data is summarized in Table 4-2.

Table 4-2. Raw Wastewater Characteristics

Parameter	Units	Value	Reference
Annual Average Raw Influent Quality			
BOD-5 day	mg/L	451	IEUA, 2011-12
TSS	mg/L	390	IEUA, 2011-12
TOC	mg/L	246	IEUA, 2011-12
Ammonia-Nitrogen	mg/L	34.1	IEUA, 2011-12
TIN	mg/L	31.7	IEUA, 2011-12
Total Nitrogen	mg/L	53.3	IEUA, 2011-12
pH	units	7.1	IEUA, 2011-12
Winter temperature	degrees C	20	IEUA, 2011-12
Summer temperature	degrees C	25	IEUA, 2011-12
TDS	mg/L	538	IEUA, 2011-12
Annual Average Raw Influent Loadings			
BOD-5 day	lbs/day	42,879	calculated [1]
TSS	lbs/day	37,080	calculated [1]
Peak Month Average Raw Influent Quality			
BOD	mg/L	627	IEUA, 2011-12
TSS	mg/L	730	IEUA, 2011-12
TOC	mg/L	334	IEUA, 2011-12
Ammonia-Nitrogen	mg/L	45.8	IEUA, 2011-12
TIN	mg/L	33.1	IEUA, 2011-12
Total Nitrogen	mg/L	59.6	IEUA, 2011-12
pH	units	7.2	IEUA, 2011-12
TDS	mg/L	559	IEUA, 2011-12
Peak Month Average Raw Influent Loadings			
BOD-5 day	lbs/day	59,613	calculated [1]
TSS	lbs/day	69,405	calculated [1]

[1] For more information on calculated values, see Appendix B.

4.4 PRELIMINARY TREATMENT

The preliminary treatment process at the CCWRF consists of two mechanical bar screens, one manual bar screen, a vortex-type grit chamber, and a Parshall flume. Tables 4-3, 4-4, and 4-5 present design criteria for the preliminary treatment facilities.

Table 4-3. Screening Facilities Design Data

Parameter	Units	Value	Reference
Mechanical Bar Screens			
Number	units	2	CH2M-Hill, 1988
Channel width	feet	4.0	CH2M-Hill, 1988
Channel depth	feet	13.7	CH2M-Hill, 1988
Bar spacing	inches	0.5	CH2M-Hill, 1988
Peak flow capacity	mgd, each	20	CH2M-Hill, 1988
Total peak flow capacity	mgd	40	calculated [1]
Manual Bar Screen			
Number	units	1	CH2M-Hill, 1988
Channel width	feet	4.0	CH2M-Hill, 1988
Channel depth	feet	5.2	CH2M-Hill, 1988
Bar spacing	inches	1	CH2M-Hill, 1988
Peak flow capacity	mgd	40	CH2M-Hill, 1988

[1] For more information on calculated values, see Appendix B.

Table 4-4. Grit Removal Design Data

Parameter	Units	Value	Reference
Grit Chamber			
Number	units	1	CH2M-Hill, 1988
Type	type	vortex	CH2M-Hill, 1988
Diameter	feet	16	CH2M-Hill, 1988
Detention time at PWWF	minutes	0.5	Parsons, 2003
Rated design capacity	mgd	20.3	CH2M-Hill, 1987
Grit Pumps			
Number	units	2	CH2M-Hill, 1988
Type	type	Recessed impeller, centrifugal	CH2M-Hill, 1988
Capacity, each	gpm	220	CH2M-Hill, 1988
Grit Dewatering Equipment			
Number of cyclones	units	2	CH2M-Hill, 1988
Number of classifiers	units	2	CH2M-Hill, 1988

Table 4-5. Flow Measurement Design Data

Parameter	Units	Value	Reference
Influent Parshall Flume			
Number	units	1	CH2M-Hill, 1988
Throat size	inches	48	IEUA, 2014
Maximum capacity	mgd	43.9	calculated [1]
Ultrasonic level sensor	units	1	HDR, 2005
Motor-operated Weir Gates	units	2	HDR, 2005
Ultrasonic Level Indicators on the Influent Diversion Structure	units	2	HDR, 2005

[1] For more information on calculated values, see Appendix B.

Raw influent flow enters the plant through the influent diversion structure. The influent diversion structure was modified in 2007 to install motor operated flow control weir gates and ultrasonic level sensors to automatically restrict the raw wastewater entering the CCWRF to a setpoint range and divert flows above the setpoint maximum to RP-5. The flow split depends on the designated setpoint range. A Parshall flume with an ultrasonic level sensor provides flow data to automatically adjust the setting of the motor-operated flow control weir gates that split the flow between CCWRF and RP-5. This enables the CCWRF to operate as a partial skimming plant at a controlled flowrate range.

From the influent diversion structure, the flow enters the headworks where it splits into two screening channels. The maximum capacity of the mechanical bar screens is 40 mgd. A manual bar screen is available to provide standby capacity for the mechanical units. With one mechanical screen out of service and the manual screen in service, the peak flow capacity of the screening process is 60 mgd, which is equivalent to an annual average flow of about 31.6 mgd (60/1.9).

Following screening, flow is directed to the grit chamber. The design capacity of the grit basin is 20.3 mgd. At peak flows, the detention time in the grit chamber would be reduced and its performance would be somewhat impaired. It should be noted that optimum grit removal is not essential to the plant's overall treatment ability. Operating with the grit chamber out of service, grit would be removed in the primary clarifiers along with the primary solids. This flexibility allows the grit removal process to comply with Title 22 by relying on primary sedimentation as an alternative process.

After grit removal, the flow is metered by a Parshall flume designed for a maximum flow capacity of 43.9 mgd. This is equivalent to an annual average flow capacity of 23.1 mgd

(43.9/1.9). While higher flowrates will pass through the influent channel, the accuracy of the Parshall flume operating under submerged conditions would be impaired during extended wet weather periods. This operating condition would not, however, restrict the reliable treatment capacity of CCWRF under Title 22 regulations. From the Parshall flume, flow is then directed to primary treatment.

Based on these criteria, the capacity of each unit process, as defined in Section 4.1, is summarized in Table 4-6.

Table 4-6. Preliminary Treatment Capacity

Process	Peak Capacity (mgd)	Annual Average Capacity Without Redundancy (mgd)	Title 22 Reliable Annual Average Capacity (mgd)
Bar screens	80	42.1 [1]	21.0 [2]
Grit chamber	38.6 [3]	20.3	20.3 [4]
Parshall flume	43.9	23.1 [5]	23.1 [4,5]

[1] Peak Capacity/Peaking Factor = 80/1.9 = 42.1
[2] Peak Capacity with the manual screen out of service/Peaking Factor = (80-40)/1.9 = 21.0
[3] Peak Capacity = Annual Average Capacity * Peaking Factor = 20.3 * 1.9 = 38.6
[4] See discussion above regarding reliable capacity of these processes
[5] Peak Capacity/Peaking Factor = 43.9/1.9 = 23.1

In summary, the preliminary treatment facilities comply with Title 22 requirements by providing standby units and back-up treatment capacity. The preliminary treatment processes can effectively handle an annual average flow of 20.3 mgd.

4.5 PRIMARY TREATMENT

Primary treatment consists of two circular clarifiers. From the headworks, wastewater flows by gravity to a primary splitter box that regulates the flow to the clarifiers. Ferric chloride is added upstream of the headworks at the influent diversion structure to enhance settling performance in the primary clarifiers. Polymer feed facilities exist, but typically, they are not needed for effective treatment. Primary solids are pumped to RP-2 for treatment.

Table 4-7 presents design criteria for the existing primary treatment facilities. Annual average capacity of the clarifiers is determined based on the peak overflow rate and overall hydraulic peaking factor for the primary treatment process. Table 4-8 presents design criteria for the chemical storage and feed facilities serving primary treatment.

Table 4-7. Primary Treatment Design Data

Parameter	Units	Value	Reference
Primary Clarifiers			
Number	units	2	CH2M-Hill, 1988
Diameter	feet	95	CH2M-Hill, 1988
Side water depth	feet	12	CH2M-Hill, 1988
Total volume	cu ft	170,117	calculated [1]
Surface area per clarifier	sq ft	7,088	calculated [1]
Total surface area, all units in service	sq ft	14,176	calculated [1]
Peak overflow rate, all units in service	gpd/sq ft	1,760	CH2M-Hill, 1988
Peak capacity per clarifier	mgd	12.5	calculated [1]
Total peak flow capacity, all units in service	mgd	25.0	calculated [1]
Total annual average flow capacity, all units in service	mgd	13.2	calculated [1]
Total annual average flow capacity, one unit out of service	mgd	6.6 [2]	calculated [1]
Detention Time at annual average flow, all units in service	hours	2.7	calculated [1]
BOD Removal	percent	30	CH2M-Hill, 1987
TSS Removal	percent	60	CH2M-Hill, 1987

[1] For more information on calculated values, see Appendix B.

[2] See Table 4-10 and discussion below regarding reliable capacity.

Table 4-8. Chemical Facilities Serving Primary Treatment Design Data

Parameter	Units	Value	Reference
Ferric Chloride Storage and Feed Facilities			
Storage Tanks			
Number	units	1	IEUA, 2014
Total storage volume	gal	7,000	IEUA, 2014
Feed Pumps			
Number	units	2	IEUA, 2014
Ferric chloride dosage	mg/L	15	IEUA, 2014
Total ferric chloride use	lbs/day	1,426	calculated [1]
Polymer Storage and Feed Facilities (typically not used)			

[1] For more information on calculated values, see Appendix B.

From the clarifiers, primary effluent is pumped to secondary treatment along with Return Activated Sludge (RAS) from the secondary clarifiers. Table 4-9 presents design criteria for the primary effluent/RAS pumping station.

Table 4-9. Primary Effluent & RAS Pumping Design Data

Parameter	Units	Value	Reference
Primary Effluent Pumping			
Number of pumps	units	2	CH2M-Hill, 1988, Parsons Engineering Science, 1999, Brown and Caldwell, 1996
Type of pumps	type	Vertical turbine, solids handling	Parsons Engineering Science, 1999, Brown and Caldwell, 1996
Capacity per pump	mgd	17.6	CH2M-Hill, 1988
Return Activated Sludge (RAS) Pumping			
Number of pumps	units	1	CH2M-Hill, 1988, Parsons Engineering Science, 1999, Brown and Caldwell, 1996
Type of pumps	type	Vertical turbine, solids handling	Parsons Engineering Science, 1999, Brown and Caldwell, 1996
Capacity per pump	mgd	17.6	CH2M-Hill, 1988

Based on these criteria, the capacity of the primary treatment process, as defined in Section 4.1, is summarized in Table 4-10.

Table 4-10. Primary Treatment Capacity

Process	Peak Capacity (mgd)	Annual Average Capacity Without Redundancy (mgd)	Title 22 Reliable Annual Average Capacity (mgd)
Primary Clarifiers	25.0	13.2 [1]	13.2 [2]
Primary Effluent & RAS Pumping	35.2	35.2	17.6

[1] Peak Capacity/Peaking Factor = 25.0/1.9 = 13.2

[2] See discussion below regarding reliable capacity.

With both primary clarifiers in service, the annual average capacity of the primary treatment process is 13.2 mgd, based on a peak overflow rate of 1,760 gpd/sq ft and a peaking factor of 1.9. With one clarifier out of service, and based on this same design overflow rate, the annual average capacity would be reduced to 6.6 mgd. The overflow rate would increase to 3,344 gpd/sq ft, under the projected peak wet weather flow condition, if one clarifier was out of service. At this overflow rate, the performance of the primary treatment process would be diminished, and increased loads would be imposed on downstream processes. However, it is highly unlikely that a primary clarifier would be out of service for any significant length of time and maintenance would be done during the dry season. In addition, primary effluent could be stored in the short-term storage basin, if necessary, until the clarifiers were back on-line. Details of the short-term storage basin are discussed later in this section. Another option for the CCWRF would be to temporarily divert more flow to RP-5 if one of the primary clarifiers was out of service. Therefore, the rated reliable capacity of the CCWRF primary treatment process can be based on utilizing both of the clarifiers because of the reliability provided by short-term emergency storage and the aeration process as alternative processes or diversion of influent flow to RP-5 as alternative treatment facilities under Title 22.

4.6 SHORT-TERM EMERGENCY STORAGE

The CCWRF features an on-site, short-term storage basin and pumping facilities. Table 4-11 presents design criteria for the emergency storage basin and return pump station.

The on-site short-term storage basin can be used to store primary effluent during emergency conditions. Stored primary effluent is pumped back to the influent diversion structure to be treated during low flow conditions. The short-term storage basin can be used to provide standby capacity for other processes. For example, if one of the primary clarifiers is out of service during a wet weather event, primary effluent could be stored and then treated later. Similarly, if it is necessary to take an aeration basin or filter out of service in an emergency, then primary effluent could be stored and then retreated. At an annual average design flow of 11.4

mgd, the short-term storage basin provides up to 19 hours of emergency on-site holding capacity. During regularly scheduled (non-emergency) maintenance on the aeration basins and filters, raw wastewater can be temporarily diverted from CCWRF to RP-5 for treatment.

Table 4-11. Short-Term Emergency Storage & Pumping Design Criteria

Parameter	Units	Value	Reference
Emergency Storage			
Number of basins	units	1	CH2M-Hill, 1988
Volume	mil gal	9	CH2M-Hill 1987
Volume as a percent of annual average daily flow	percent	79	calculated[1]
Retention time at annual average flow	hours	19	calculated[1]
Emergency Storage Return Pumping			
Number of pumps	units	1	IEUA, 2014
Type of pumps	type	Submersible	IEUA, 2014
Capacity per pump	mgd	2.2	IEUA, 2014

[1] For more information on calculated values, see Appendix B.

4.7 SECONDARY TREATMENT

The secondary facilities consist of an activated sludge suspended growth system followed by secondary clarifiers with associated mixed liquor and biosolids pumping facilities. Tables 4-12 through 4-15 present operational parameters and design criteria for the secondary treatment facilities.

Table 4-12. Secondary Treatment Design Criteria

Parameter	Units	Value	Reference
Influent Annual Average Flow	mgd	11.4	CH2M-Hill, 1988
Average influent BOD	mg/L	316	calculated [2]
Average influent TSS	mg/L	156	calculated [2]
Average influent Total Nitrogen	mg/L	43	calculated[2,3]
Peak month influent BOD	mg/L	439	calculated [2]
Peak month influent TSS	mg/L	292	calculated [2]
Peak month influent TKN	mg/L	48	calculated[2,3]

Parameter	Units	Value	Reference
Aeration Basin No. 1 [1]			
Anoxic zone			
Number of basins	units	1	IEUA, 2014
Length, each	feet	55	IEUA, 2014
Width, each	feet	50	CH2M-Hill, 1988
Side water depth	feet	21	CH2M-Hill, 1988
Total volume	mil gal	0.43	calculated [2]
Oxic zone			
Number of basins	units	1	IEUA, 2014
Length, each	feet	135	IEUA, 2014
Width, each	feet	50	CH2M-Hill, 1988
Side water depth	feet	21	CH2M-Hill, 1988
Total volume	mil gal	1.06	calculated [2]
Average mixed liquor suspended solids	mg/L	3,800	IEUA, 2014
Aeration type	type	Flexible sheath	CBMWD, 1994
Aeration Basin Nos. 2 through 6			
Anoxic zone			
Number of basins	units	5	IEUA, 2014
Length, each	feet	77	IEUA, 2014
Width, each	feet	50	CH2M-Hill, 1988
Side water depth	feet	21	CH2M-Hill
Total volume	mil gal	3.02	calculated [2]
Number of anoxic mixers per basin	units	4	IEUA, 2014
Hydraulic retention time in anoxic zone at annual average flow	hours	6.4	calculated [2]
Oxic (aeration) zone			
Number of basins	units	5	IEUA, 2014
Length, each	feet	113	IEUA, 2014
Width, each	feet	50	CH2M-Hill, 1988
Side water depth	feet	21	CH2M-Hill, 1988
Total volume	mil gal	4.44	calculated [2]
Average mixed liquor suspended solids	mg/L	3,800	IEUA, 2014

Parameter	Units	Value	Reference
Dissolved oxygen level	mg/L	2.0	IEUA, 2014
Aeration type	type	Flexible sheath	CBMWD, 1994
Hydraulic retention time in oxic zone at annual average flow	hours	9.3	calculated [2]
Mixed Liquor Return Pumping			
Number of pumps	units	4	IEUA, 2014
Type	type	Low-head submersible, propeller	CH2M-Hill, 1987
Capacity, each	mgd	10.7	IEUA, 2014

[1] Aeration Basin No. 1 anoxic and oxic zone lengths are variable.
[2] For more information on calculated values, see Appendix B.
[3] Assume 20% total nitrogen removal by primary treatment.

Table 4-13. Secondary Clarifier Design Criteria

Parameter	Units	Value	Reference
Number	units	3	CH2M-Hill, 1988
Diameter, each	feet	120	CH2M-Hill, 1988
Side water depth	feet	15	CH2M-Hill, 1988
Surface area per clarifier	sq ft	11,310	calculated[1]
Total surface area	sq ft	33,929	calculated[1]
Volume per clarifier	gallons	1,269,100	calculated[1]
Total volume	gallons	3,807,400	calculated[1]
Average overflow rate, all units in service	gpd/sq ft	360	CH2M-Hill, 1988
Peak month overflow rate, all units in service	gpd/sq ft	460	CH2M-Hill, 1988
Detention time at Annual Average Flow, all units in service	hours	8.0	calculated[1]
Average solids loading rate	lbs/day/sq ft	11	CH2M-Hill, 1988
Peak month solids loading rate	lbs/day/sq ft	14	CH2M-Hill, 1988
Return Activated Sludge	mg/L	8,000	CH2M-Hill, 1987
Annual average flow capacity, all units in service, 2014 re-rated capacity	mgd	14	CH2M-Hill, 2014
Annual average flow capacity, one unit out of service, 2014 re-rated capacity	mgd	12	CH2M-Hill, 2014

Parameter	Units	Value	Reference
Average overflow rate, all units in service, 2014 re-rated capacity	gpd/sq ft	413	calculated[1]
Average overflow rate, one unit out of service, 2014 re-rerated capacity	gpd/sq ft	530	calculated[1]
Peak overflow rate, all units in service, 2014 re-rated capacity	gpd/sq ft	784	calculated[1]

[1] For more information on calculated values, see Appendix B.

Table 4-14. Secondary Treatment Aeration System

Parameter	Units	Value	Reference
Blowers for Diffused Aeration in Oxic Zones			
Number	units	4	IEUA, 2014
Type	type	Centrifugal	IEUA, 2014
Capacity, each	standard cu ft / minute (scfm)	3 @ 6,000 1 @ 6,400	IEUA, 2014

Table 4-15. Waste Activated Sludge & Secondary Scum Pumping Design Criteria

Parameter	Units	Value	Reference
Waste Activated Sludge (WAS) Pumps			
Number	units	2	CH2M-Hill, 1988
Type	type	Horizontal, centrifugal	CH2M-Hill, 1988
Capacity range per pump	gpm	0 – 350	CH2M-Hill, 1988
Secondary Scum Pumps			
Number	units	3	CH2M-Hill, 1988
Type	type	Submersible, centrifugal	CH2M-Hill, 1988
Capacity range per pump	gpm	0 - 450	CH2M-Hill, 1988

The suspended growth process features a two-stage, single-sludge, biological nutrient removal (BNR) configuration, consisting of an anoxic zone followed by an oxic (aerobic) zone to provide nitrification/denitrification for nitrogen removal. Primary effluent is pumped to the anoxic zone, which is mixed, but not aerated. In this denitrification zone, nitrates are biologically

converted to nitrogen and released as nitrogen gas using the influent carbon source as food. Flow then continues to the oxic zone, which is mixed and aerated. In this nitrification zone, ammonia is biologically converted to nitrates. A portion of the nitrified mixed liquor from the oxic zone is returned to the anoxic zone where the nitrates are destroyed and released to the atmosphere as nitrogen gas.

Aeration Basin No. 1 is slightly different from the other basins. The aerated zone is longer in Basin No. 1 and the anoxic zone is shorter. With no separation wall, its oxic/anoxic zones are more flexible, depending upon the extent of aeration. Waste filter backwash water can be treated by either Aeration Basin No. 1 or 2 based on the secondary process design.

Four large capacity blowers supply air to diffused aeration flexible sheaths (wyss tube diffusers) in the oxic zones. In 2012 IEUA replaced portions of the low pressure air supply pipelines and valves to reduce leakage and improve the efficiency of the CCWRF aeration process.

Mixed liquor from the anoxic/oxic basins is sent to three circular secondary clarifiers. Return activated sludge (RAS) is pumped to the aeration/RAS distribution channel that conveys it equally to all of the aeration basins. Waste activated sludge (WAS) is pumped to RP-2 for treatment. Clarified secondary effluent is sent to the tertiary treatment facilities for further turbidity reduction and disinfection.

Based on these criteria, the capacity for the CCWRF secondary treatment process, as defined in Section 4.1, is summarized in Table 4-16. The capacity of the secondary treatment process is dependent on the effluent requirements, and in particular TIN. The existing CCWRF was initially designed to comply with effluent limits with an average flowrate of 12.07 mgd, with an allowance for peak flows and TIN levels (CH2M-Hill, 1987). Under the original design, the TIN limit was 10 mg/L. The plant was designed to produce a maximum TIN of 10 mg/L at a peak week flowrate of 18.31 mgd (CH2M-Hill, 1987) to comply with the original permit.

The current permit sets a maximum TIN limit of 8 mg/L on a 12-month average, agency-wide basis. Since the original design, the wastewater characteristics have changed at CCWRF; water conservation has increased the BOD, TSS, and nitrogen concentrations in the raw influent wastewater. Recent evaluation of the secondary treatment process indicates that CCWRF should be able to reliably meet the 8 mg/L TIN limit under present wastewater loadings at a annual average capacity of is 12 mgd (CH2M-Hill, 2014). For purposes of this report, the existing facilities, wastewater characteristics, and current permit TIN limit of 8 mg/L will be the basis for establishing the capacity of the secondary treatment process for Title 22 compliance at the values shown in Table 4-16.

Table 4-16. Secondary Treatment Capacity

Process	Peak Capacity (mgd)	Annual Average Capacity Without Redundancy (mgd)	Title 22 Reliable Annual Average Capacity (mgd)
Anoxic/oxic basins & secondary clarifiers	23.0 [1]	14.0 [2,3]	12.0 [2,4]

[1] Peak Capacity = Annual Average Capacity * Peaking Factor = 12.0*1.9 = 23.0

[2] From CH2M-Hill, 2014.

[3] Annual average capacity with all units in service.

[4] Reliable annual average capacity with one secondary clarifier out of service. See also discussion below regarding reliable capacity.

Under emergency conditions, IEUA proposes to utilize the short-term storage basin, as discussed above, for primary effluent storage and Title 22 redundancy for the secondary treatment process. Primary effluent, secondary effluent, and/or tertiary effluent can be sent to the short-term storage basin. On-site storage would provide an alternative means of standby capacity or redundancy in compliance with Title 22's allowance for short-term retention provisions for biological treatment processes. If necessary, CCWRF could temporarily increase the raw wastewater sent to RP-5 from the influent diversion structure to provide flow relief until its secondary treatment process was back in full operation.

4.8 COAGULATION / FLOCCULATION

Secondary effluent from the final clarifiers flows via gravity to a coagulation/flocculation basin, immediately upstream of the filters. The hydraulic flocculation basin is baffled in a serpentine flow pattern and is preceded by a rapid mix tank. Secondary effluent normally passes through this basin with mixing, coagulation, or flocculation on its way to the tertiary filters. Typically, a low dose, approximately 1 mg/L, of alum is used. Polymer feed facilities exist, but typically are not used. IEUA has found that adding higher doses of filter-aid coagulants has not been necessary for compliance with CCWRF's discharge limits.

Table 4-17 summarizes design criteria for the coagulation/flocculation facilities.

Table 4-17. Coagulation / Flocculation Design Data

Parameter	Units	Value	Reference
Rapid Mix Chamber			
Number	units	1	CH2M-Hill, 1988
Length	feet	17.5	CH2M-Hill, 1988
Width	feet	9	CH2M-Hill, 1988

Parameter	Units	Value	Reference
Side water depth	feet	11.6	CH2M-Hill, 1988
Total volume	cu ft	1,833	calculated [1]
Detention Time at annual average flow	minutes	2	calculated [1]
Coagulation / Flocculation Basin			
Number	units	1	CH2M-Hill, 1988
Length	feet	49	CH2M-Hill, 1988
Width	feet	18	CH2M-Hill, 1988
Side water depth	feet	7.6	CH2M-Hill, 1988
Total volume	cu ft	6,686	calculated [1]
Detention Time at annual average flow	minutes	6	calculated [1]
Filter-Aid Coagulant System			
Type	---	Aluminum sulfate and/or polymer	IEUA, 2014
Use	---	Low dose as-needed	IEUA, 2014
Feedpoint	---	Rapid mix chamber to flocculation	IEUA, 2014
Alum pumps	units	2	IUEA, 2014
Alum storage tank	number	1	IEUA, 2014
Polymer pumps	units	2	IEUA, 2014
Polymer storage tanks	number	2	IEUA, 2014

[1] For more information on calculated values, see Appendix B.

4.9 FILTRATION

In 2010, the CCWRF continuous backwash filters were approved by CDPH at a maximum hydraulic loading rate of 4.0 gpm/sq ft (CDPH, 2010) based on IEUA's successful completion of demonstration testing at the higher filtration rate. Prior to 2010, IEUA operated the CCWRF filters in compliance with the Title 22 Water Recycling Criteria (CCR, 2001), which require that "filtered wastewater" be an oxidized wastewater that has passed through a bed of filter media at a rate that does not exceed 2 gpm/sq ft of surface area in continuous backwash filters. IEUA was able to successfully demonstrate equivalent performance at the higher filtration rate, achieving turbidity of the filtered wastewater not exceeding Title 22 standards: (a) an average of 2 NTU within a 24-hour period, (b) 5 NTU more than 5 percent of the time within a 24-hour period, and (c) 10 NTU at any time.

Table 4-18 presents design criteria for the CCWRF tertiary filtration facilities, which features direct filtration of secondary effluent using three continuous backwash (shallow bed, traveling bridge, automatic backwash) filters. Filter media is sand. Each filter provides 1,600 sq ft of surface area.

Table 4-18. Tertiary Filtration Design Criteria

Parameter	Units	Value	Reference
Total number of filters	units	3	CH2M-Hill, 1988
Type	type	Shallow bed, continuous backwash	CH2M-Hill, 1988
Media	type	sand	CH2M-Hill, 1988
Depth	inches	16	CH2M-Hill, 1988
Length per filter	feet	100	CH2M-Hill, 1988
Width per filter	feet	16	CH2M-Hill, 1988
Surface area per filter	sq ft	1,600	calculated[1]
Total surface area, all filters in service	sq ft	4,800	calculated[1]
Firm surface area, one filter out for maintenance	sq ft	3,200	calculated[1]
Maximum filtration rate	gpm/sq ft	4.0	CDPH, 2010; RWQCB, 2010
Maximum capacity at the maximum filtration rate, all filters in service [2]	mgd	27.6	calculated[1]
Filter backwash rate	gpm/sq ft	15	CH2M-Hill, 1988
Waste backwash pumping			
Number of pumps	units	3	CH2M-Hill, 1988
Type	type	Submersible, centrifugal	CH2M-Hill, 1988
Capacity per pump	gpm	950	CH2M-Hill, 1988
Total capacity	gpm	2,850	calculated[1]

[1] For more information on calculated values, see Appendix B.

[2] See discussion below regarding reliable capacity.

With all three filters in service, the filter loading rate is 1.65 gpm/sq ft at an average flow rate of 11.4 mgd. At a maximum filter loading rate of 4.0 gpm/sq ft, the PDWF limit would be 27.6 mgd based on all three filters in operation.

From a reliability standpoint, Title 22 requires the reliable filtration capacity to be based on one of five alternative reliability features: (1) the flow that can be treated with one filter out of service; (2) alarm and short-term storage or disposal provisions and standby equipment; (3) alarm and long-term storage or disposal provisions; (4) automatically actuated long-term storage or disposal provisions; or (5) standby filtration process. Among the latter alternatives is the ability to discharge flow to another facility, such as RP-5.

With all three filters on-line, the CCWRF can treat peak flows up to 27.6 mgd in compliance with the CDPH-approved filter loading limit of 4.0 gpm/sq ft. With only two filters in operation (one filter off-line), the reliable peak flow limit would be reduced to only 18.4 mgd (2/3 of 27.6 mgd) for Title 22 compliance without an alternative reliability feature. However, the CCWRF does have about 9 million gallons of on-site, short-term storage available for reliability. In addition, standby replacement equipment components for the filters are either stored in the warehouse or available from local suppliers. The ability to divert flow to short-term storage coupled with availability of replacement equipment provides an alternative reliability measure for compliance with Title 22. CCWRF operates as a partial skimming plant, controlling raw influent flow entering the plant and diverting flows above that setpoint to RP-5, which also has emergency storage facilities. Because the setpoint flow is adjustable, CCWRF influent flow could also be reduced and more could be diverted to RP-5 while the filter was being repaired.

For Title 22 compliance under this reliability alternative, the CCWRF has alarms and automatic controls to utilize the emergency storage volume based on the failure of one filter or on detection of tertiary flows exceeding the filtration rate. It is likely that the failure of a filter would occur over time, rather than instantaneously, giving the operators ample time to take that filter out of service temporarily for repairs. During that time, the CCWRF could utilize its emergency storage or the operators could divert more flow to RP-5 in order to maintain compliance with the Title 22 filtration rate for the other two filters. Besides the influent flowmeter, the CCWRF features another flowmeter that monitors flow rate through the tertiary processes (filtration and chlorination). If it senses that the flow rate is too high (above a setpoint), causing the maximum filtration rate to be exceeded (above 4.0 gpm/sq ft), then the flowmeter automatically closes the valve on the pipeline conveying recycled water to the storage reservoir. When this valve closes, all effluent is discharged to the emergency storage pond during dry weather or to Chino Creek during wet weather.

On the basis of the approved 4.0 gpm/sq ft filtration rate and having reliability features that include short-term, on-site emergency storage with standby equipment and the ability to control the influent flow and divert flow to RP-5, the reliable annual average capacity of the CCWRF filtration facility is 27.6 mgd for Title 22 compliance. Table 4-19 summarizes the capacity of the filtration process.

Table 4-19. Filtration Capacity

Process	Peak Capacity (mgd)	Annual Average Capacity Without Redundancy (mgd)	Title 22 Reliable Annual Average Capacity (mgd)
Filters	27.6	27.6[1]	27.6[1]

[1] See discussion above regarding reliable capacity. Filtration reliable capacity is based on the use of on-site short-term storage and diversion to RP-5 as necessary to not exceed a filtration rate of 4.0 gpm/sq ft.

4.10 CHLORINATION / DECHLORINATION

Tertiary effluent is disinfected using sodium hypochlorite. Sodium hypochlorite is added to either or both the filter influent and effluent. Table 4-20 summarizes the design criteria for the sodium hypochlorite system. Recent modifications to the sodium hypochlorite system included relocating the storage tanks from a temporary location to the existing chlorination building, improvements to that building, and installing enhanced monitoring, alarms, and controls to integrate the sodium hypochlorite system controls into the existing plant control system.

Table 4-20. Sodium Hypochlorite System Design Criteria

Parameter	Units	Value	Reference
Sodium hypochlorite concentration	percent	12.5	IEUA, 2014
Maximum dose @ average flow	mg/L	20	Parsons, 2003, IEUA, 2014
Days of storage	days	3	IEUA, 2014
Bulk Storage System			
Number of tanks	units	2	IEUA, 2014
Volume per tank	gallons	10,000	IEUA, 2014
Total volume	gallons	20,000	calculated[1]
Feed System			
Number of metering pumps	units	4	IEUA, 2014
Capacity per pump	gph	77	IEUA, 2014

(Continued)

Parameter	Units	Value	Reference
Capacity			
Peak capacity at 10 mg/L feedrate, all units in service	mgd	88.6	calculated[1]
Annual average capacity at 15 mg/L feedrate, all units in service	mgd	59.1	calculated[1]
Annual average capacity at 15 mg/L feedrate, one pump out of service	mgd	44.3	calculated[1]

[1] For more information on calculated values, see Appendix B.

The chlorine contact tank operates as a single tank with eight passes. An inlet chamber with 3,933 cubic feet of water volume downstream of the point of sodium hypochlorite addition provides contact time that is included in the total contact volume. The final 5,137 cubic feet of the last pass is used for dechlorination. Excess effluent that is not reused is dechlorinated near the end of the chlorine contact tank using sodium bisulfite and discharged to Reach 2 of Chino Creek at a point adjacent to the plant site. Table 4-21 summarizes the operating parameters for the chlorine contact tank.

Table 4-21. Chlorine Contact Tank Operating Parameters

Parameter	Units	Value	Reference
Number of tanks	units	1	CH2M-Hill, 1988
Length (per channel) (8 channels)	feet	115	CH2M-Hill, 1988, IEUA, 2014, CBMWD, 1998
Width per tank (8 channels)	feet	92.7	IEUA, 2014
Average side water depth	feet	13.25	IEUA, 2014
Total contact volume[1]	gallons	1,047,560	calculated[2]
Channel width	feet	11.6	IEUA, 2014
Effective length	feet	911.2	calculated[2]
Length : width	ratio	78 : 1	calculated[2]
Length : depth	ratio	69 : 1	calculated[2]
Required modal contact time	minutes	90	CCR, 2001
Required CT	mg-min/L	450	CCR, 2001
Peak capacity, at 89 minutes modal contact time, all units in service	mgd	15.61	SFE Global, 2004

Parameter	Units	Value	Reference
PDWF capacity, at 90 minutes modal contact time, all units in service	mgd	15.4 [3]	calculated[2]

[1] Total volume of tank plus inlet chamber, less dechlorination chamber.

[2] For more information on calculated values, see Appendix B.

[3] See discussion below regarding reliable capacity.

The Title 22 reliability requirements for the chlorine contact tank are similar to those for filtration and can be based on one of the following alternatives: (1) alarm and short-term storage or disposal provisions and standby replacement equipment; (2) alarm and long-term storage or disposal provisions; and (3) automatically actuated long-term storage or disposal provisions.

IEUA completed testing at the chlorine contact tank in June 2004 that demonstrated that the modal contact time was 89 minutes at 15.61 mgd (SFE Global, 2004). Prorating the test results to the required 90 minutes of modal contact time required by Title 22 yields a peak capacity for the chlorine contact tank of 15.4 mgd ((89/90)*15.61). Thus, for the same PDWF capacity, 15.4 mgd, the annual average capacity of the existing chlorine contact tank would be 8.1 mgd (15.4/1.9), without use of the short-term emergency storage basin. With the ability to automatically control the flow to the chlorine contact tank, limiting the flow to a maximum of 15.4 mgd, effectively increases the annual average capacity of the chlorine contact tank to be equal to the PDWF.

Filter effluent flow is metered by a Parshall flume immediately upstream of the chlorine contact tank. The level sensors at this tertiary Parshall flume control the flow entering the chlorine contact tank, restricting the maximum flow to 15.4 mgd. If the flowrate exceeds the 15.4 mgd set point, the Parshall flume level sensors signals the automatic gate at the influent side of the filters to close. Closing the filter influent gate automatically diverts flow into the emergency storage lagoon. In this way, the reliable annual average flow rating is increased to the PDWF capacity rating of the chlorine contact tank.

Flows can be diverted to the on-site emergency storage pond and then later returned to the secondary treatment process. Temporary storage in this manner would increase the annual average capacity of the chlorine contact tank up to 15.4 mgd.

Under these PDWF conditions, to reach the minimum CT of 450 mg-min/L, the required chlorine residual would be 5 mg/L (90 minutes modal contact time times 5 mg/L chlorine residual = 450 mg-min/L). The existing sodium hypochlorite system has sufficient feed capacity, standby equipment, and alarms, as described above, to maintain this chlorine residual and comply with the CT requirement. The modal contact time requirement is applicable only to

production of recycled water and not to discharges to the creek. Disinfected tertiary effluent may be discharged to the creek provided that the natural creek flow provides at least a 1:1 dilution of the effluent.

In addition, the influent diversion structure restricts flows above the setpoint designated by the IEUA operations staff, which is lower than 15.4 mgd, from entering the plant. An alarm signals the operator if this flow rate is exceeded. As a partial skimming plant, the flowrate through the plant is maintained at or below a designated setpoint. Although annual average flows could be higher, the peak flow capacity of the chlorine contact basin would still be 15.4 mgd.

With regard to reliability for the chlorine contact tank, it is highly unlikely that the tank would ever be out of service because it has no mechanical equipment to malfunction. Thus, it is reasonable to use the capacity of the single chlorine contact tank as the reliable capacity for Title 22 compliance.

In 2010, IEUA conducted bench-scale demonstration tests to seek regulatory approval to operate at a chlorine contact basin at a disinfection CT of 300 min-mg/L and a modal contact time of 45 minutes. Upon review of the test results, CDPH concluded that insufficient data were available to allow CCWRF to operate at the reduced disinfection parameters (CDPH, 2010). CDPH advised IEUA to develop a more robust disinfection test protocol in the future if modifying the chlorine contact basins operating criteria remained a goal. As of the date of this report, IEUA has not pursued further chlorine contact demonstration testing.

Utility water is supplied to in-plant uses via an existing W3 pump station that draws chlorinated filter effluent that flows over a weir located at the side of the chlorine contact tank about mid-way through its serpentine flow pattern. Approximately 1 mgd of plant utility water is used. Thus, plant utility water is chlorinated, but does not receive the full 90-minute modal contact time when the W3 pump station withdraws water from mid-way through the contact tank. This is acceptable under Title 22 for in-plant effluent use, provided that the utility water coliform level does not exceed 240 MPN per 100 mL for two consecutive days, and that the 7-day median does not exceed 23 MPN per 100 mL for two days. As an option, utility water can also be supplied from the recycled water storage reservoir, in which case it would receive the full 90-minute modal contact time. The W3 plant utility water pump station characteristics are summarized in Table 4-22.

Table 4-22. Plant Utility Water (W3) Pump Station Design Criteria

Parameter	Units	Value	Reference
Number of large pumps	units	2	IEUA, 2014
Capacity of large pumps, each	gpm	780	IEUA, 2014
Number of small pumps	units	2	IEUA, 2014
Capacity of small pumps, each	gpm	270	IEUA, 2014

Near the end of the chlorine contact tank, recycled water is diverted to a storage reservoir before being pumped to the distribution system. Excess effluent is dechlorinated using sodium bisulfite and discharged to Chino Creek. Table 4-23 presents design criteria for the dechlorination facilities. Five sodium bisulfite feed pumps with varying capacities maintain the capacity to dechlorinate a wide range of flow to the creek without causing any negative impacts of toxicity of low pH.

Table 4-23. Dechlorination Design Criteria

Parameter	Units	Value	Reference
Average Sodium Bisulfite Dose	mg/L	7	Parsons, 2003
Average Sodium Bisulfite Feed Rate	lbs/day	648	calculated[1]
Average Sodium Bisulfite Use	gpd	155	calculated[1]
Maximum Sodium Bisulfite Dose	mg/L	20	IEUA, 2014
Maximum Sodium Bisulfite Feed Rate	lbs/day	1,851	calculated[1]
Maximum Sodium Bisulfite Use	gpd	443	calculated[1]
Sodium Bisulfite Storage			
Number of tanks	units	2	Lee & Ro, 2004
Volume per tank	gallons	5,500	IEUA, 2014
Total volume	gallons	11,000	IEUA, 2014
Sodium Bisulfite Feed Pumps			
Type	---	Diaphragm metering	Stantec, 2012
Total number of pumps	units	5	Stantec, 2012
Number of skid pumps	units	2	Stantec, 2012
Capacity per skid pump	gph	5.2	IEUA, 2014
Number of stand-alone pumps	units	2	Stantec, 2012
Capacity per stand-alone pump	gph	20.2	Stantec, 2012
Number of large pumps	units	1	Stantec, 2012
Capacity per large pump	gph	52	IEUA, 2014

Parameter	Units	Value	Reference
Capacity			
Feed rate	gpd	2,467	calculated[1]
Peak capacity at 20 mg/L feedrate, all units in service	mgd	62.1	calculated[1]
Annual average capacity, all units in service	mgd	32.7	calculated[1]
Annual average capacity, largest pump out of service	mgd	16.2	calculated[1]

[1] For more information on calculated values, see Appendix B.

Table 4-24 summarizes the capacity of the chlorination/dechlorination facilities.

Table 4-24. Chlorination/Dechlorination Capacity

Process	Peak Capacity (mgd)	Annual Average Capacity Without Redundancy (mgd)	Title 22 Reliable Annual Average Capacity (mgd)
Sodium Hypochlorite	88.6	59.1	44.3
Chlorine Contact Tank	15.4	15.4 [1]	15.4 [1]
Dechlorination	62.1	32.7	16.2

[1] Redundancy provided by on-site short-term storage. Automatic diversion of flows greater than 15.4 mgd to on-site short-term storage allows the annual average capacity to be equal to the peak capacity.

4.11 RECYCLED WATER STORAGE RESERVOIR & PUMP STATION

Recycled water flows from the far end of the chlorine contact tank to an on-site, below grade storage reservoir with a usable volume of about 0.75 million gallons before being pumped to Zone 930 of IEUA's distribution system. Recycled water use is described in Section 8. If needed, a potable water connection via an air gap can be used as a supplemental supply. The recycled water pump station has five existing pumps. Table 4-25 summarizes design criteria for the recycled water reservoir and pumping station.

Table 4-25. Recycled Water Storage & Pumping Design Criteria

Parameter	Units	Value	Reference
Recycled Water Storage Reservoir			
Usable Volume	gallons	750,000	IEUA, 2014
Recycled Water Pumps			
Number	units	5	Stantec, 2012
Type	---	Vertical turbine	Stantec, 2012
Capacity per pump	gpm	2,585	Stantec, 2012
Horsepower per pump	Hp	300	Stantec, 2012

4.12 SOLIDS HANDLING

The CCWRF does not have any on-site solids treatment facilities. All primary sludge and scum and secondary waste activated sludge (WAS) are pumped from the CCWRF to the nearby RP-2 regional solids treatment facility. RP-2 also treats primary solids and WAS from RP-5. RP-2 features gravity thickeners, dissolved air flotation thickeners, anaerobic digestion, digester gas utilization, and belt press and centrifuge dewatering. Dewatered sludge is hauled to off-site composting and disposal. Liquid return flows are sent to RP-5 for treatment.

4.13 POWER SUPPLY

The primary source of power to CCWRF is from Southern California Edison.

CCWRF also has a solar power system with a capacity of 625 kW-AC, which consists of 3,047 Sunpower Type T-10 panels on 1.3 acres. About 15% of the annual energy consumed at CCWRF is generated from solar power.

The emergency source of power to CCWRF is from a 1,500 kW diesel-fueled standby engine generator. This unit is fully automated and sized to provide ample power for full plant operation during a utility power failure.

Because the diesel engine generator is sized for full plant operation, the CCWRF fully complies with the power supply reliability requirements of Title 22.

4.14 MONITORING AND ALARMS

Title 22 also requires that alarm devices be provided for (1) loss of power from the normal supply, (2) failure of the biological treatment process, (3) failure of the disinfection process, (4) failure of the coagulation process, and (5) failure of the filtration process. Operation of these systems is constantly monitored and alarms are provided. The CCWRF has a state-of-the-art distributive control system (DCS) that monitors all vital functions of the plant and assists operations staff. The control system records data on process operation and for permit compliance and provides information on the status of equipment and plant operation. The CCWRF control system also provides a communication link to other IEUA treatment facilities.

The CCWRF alarm devices monitor the following functions:

- Loss of normal power;
- Failure of the biological treatment process;
- Failure of the coagulation process (as needed);
- Failure of the filtration process;
- Failure of the disinfection process; and
- Peak flow.

Plant alarms are automatically powered by the diesel-fueled, emergency (standby) generator if the primary utility power supply is interrupted. While it is not staffed continuously, the CCWRF operation is monitored remotely by an assigned operator via a cell phone pager through the DCS. Alarms that occur during any unmanned periods are annunciated through the DCS. A paging system is used to notify the lead operator of any alarms, if the plant operation is not being actively monitored. A summary of key alarms is presented in Table 4-26. A detailed list of the CCWRF alarms is included in Appendix C.

Table 4-26. Summary of Principal Alarms

System Component	Parameter/Equipment	Alarm Conditions
Power	Primary electrical service	Failure
	Standby generator	On, off, and failure
Influent Flow	Weir gate	High level
	Weir gates	Motor failure
	Parshall flume	High flow
Primary Effluent Pumps	Pumps	On, off, and failure
Biological	Dissolved oxygen level	High and low
	Blowers	On, off, and failure
RAS Pumps	Pumps	On, off, and failure

System Component	Parameter/Equipment	Alarm Conditions
Coagulation (as needed)	Chemical feed pumps	On, off, and failure
	Turbidity	High
Filtration	Valves	Open, closed, and failure
	Effluent turbidity	High
	Water level	High
Tertiary Flow	Parshall flume	High flow
Chlorination	Chemical feed pumps	On, off, and failure
Dechlorination	Chemical feed pumps	On, off, and failure
	Chlorine residual	High

Power supply reliability is discussed in the preceding section. The CCWRF has three electrical power sources: Southern California Edison, a solar power system, and a diesel-fueled standby generator. Solar power supplies about 15% of the energy demands at the plant. The standby generator is automatically started by a utility power failure and provides full plant operation and alarms.

Alarms at the influent diversion structure signal peak flow conditions exceeding the designated setpoint. The weir gates controlling flow have alarms indicating high water levels (and high flows) over the gates. The weir gates are motor-operated and have alarms to indicate failure of the motors. Downstream of the weir gates and headworks/barscreens, the Parshall flume monitors flow to the CCWRF and has a high level alarm.

Alarms for biological treatment breakdown exist on all electrical/mechanical equipment serving the treatment process. Alarms signal low oxygen levels in the aeration (oxic) basins, or the failure of any blower. Failure of the RAS pumps or high torque on the clarifier scraper arms are also signaled by alarms. These alarms provide assurance that a biological system failure is not equipment related, and ensure the reliability of the anoxic/oxic treatment process.

As described earlier, flow to the filtration and chlorination processes is metered and if too high (above a setpoint), the valve on the recycled water pipeline to the storage reservoir is automatically closed and flow is diverted to the short-term emergency storage basin (in dry weather) or to Chino Creek when the natural flow in the creek provides at least a 1:1 dilution of the effluent (in wet weather). This ensures that the filtration rate and modal contact time requirements are met for production of high quality recycled water. In addition, if the water level is high in any of the tertiary filters, an alarm is activated to alert the operators.

In general, poor effluent quality can also signal alarms. For example, high effluent turbidity alerts the operators to a problem at the filters. Secondary clarifier effluent turbidity is monitored, and if it becomes too high, the polymer feed system can be actuated and controlled

based on the turbidity reading to provide coagulation upstream of the filters in compliance with Title 22.

Multiple alarms and backup equipment ensure the reliability and safety of the disinfection system. Multiple bulk storage tanks and metering pumps provide duplicate equipment for the sodium hypochlorite system. The standby metering pump is started automatically if the duty pump fails.

Chlorine residual of the recycled water is closely monitored and can activate an alarm if it is too high or too low. Chlorine residual is also monitored for discharges to Chino Creek. The effluent gate to the creek is automatically closed by the DCS and an alarm is actuated if the chlorine residual is too high, indicating a failure of the dechlorination system.

4.15 EMERGENCY STORAGE AND EFFLUENT DISPOSAL

The CCWRF has a short-term storage basin for emergency conditions. As described in Section 4.6, this on-site basin has a volume of approximately 9 million gallons. Improvements have been completed that enable it to provide emergency storage and standby capacity for the primary and secondary treatment processes, plus the filtration and disinfection processes.

In the event of an extended power outage or mechanical problem, primary effluent will flow by gravity into the storage basin. Under conditions that would exceed Title 22 filtration and disinfection criteria, the valve to the recycled water storage reservoir will be automatically closed, the outfall gate to the creek will automatically shut, and the primary effluent pumps will automatically shut off. This will cause primary effluent flow to be diverted to the on-site emergency storage basin.

In addition, filter influent (secondary effluent) can be bypassed to the emergency storage basin in the event of an upset of the secondary treatment process or if the flow rate to the chlorine contact tank exceeds its rated set point.

Tertiary effluent can be bypassed and stored in the emergency storage basin if necessary. As an additional emergency relief measure, influent wastewater can be diverted from the CCWRF to RP-5.

5 MONITORING PROGRAM

This section demonstrates how the CCWRF monitoring program complies with Title 22 Water Recycling Criteria.

The following monitoring program summaries are included in this section:

- Influent Monitoring;
- Tertiary Effluent Monitoring to Surface Water;
- Secondary Effluent Monitoring to Surface Water with 20:1 Dilution; and
- Reclamation Monitoring.

5.1 SAMPLING AND ANALYSIS

Water quality monitoring is required under Title 22 Water Recycling Criteria and IEUA's Regional Water Recycling Facilities Permit, which includes CCWRF's discharge permit. The permit requires that effluent samples be taken at least daily for total suspended solids and coliform bacteria. Continuous turbidity monitoring and recording is required.

Specific guidelines and parameters are established in RWQCB Order No. R8-2009-0021 (NPDES CA8000409) for sampling and analysis of the influent and effluent streams. Depending on the constituent, sampling is required to be a continuous, 24-hour composite, or grab specimen taken on regularly scheduled intervals (daily, weekly, monthly, quarterly, or annually).

5.2 MONITORING PROGRAM

The performance of each of the treatment processes is closely monitored at the CCWRF. Influent and effluent flow is measured continuously. Similarly, recycled water turbidity is monitored continuously by a recording turbidimeter. Chlorine residual is another parameter that is measured on a continuous basis. Other constituents that are monitored and the frequency of the sampling and analyses are listed in Tables 5-1, 5-2, 5-3 and 5-4. In conformance with the permit, IEUA prepares an annual water quality report summarizing all monitoring data and relating any operational incidents.

Table 5-1. Influent Monitoring Program Summary[1]

Constituent	Type of Sample	Minimum Frequency of Sampling & Analysis
Flow	Recorder/totalizer	Continuous
pH	Recorder	Continuous
Specific conductance	Recorder	Continuous
TOC	24-hr composite	Weekly
BOD_5[2]	24-hr composite	Weekly
TSS	24-hr composite	Weekly
TDS	24-hr composite	Weekly
Ammonia-Nitrogen	Grab	Weekly
Total Nitrogen	24-hr composite	Weekly
TIN	24-hr composite	Weekly
Cyanide (Free)	Grab	Monthly
Total Hardness	24-hr composite	Quarterly
Boron	24-hr composite	Quarterly
Chloride	24-hr composite	Quarterly
Fluoride	24-hr composite	Quarterly
Sodium	24-hr composite	Quarterly
Sulfate	24-hr composite	Quarterly
Arsenic	24-hr composite	Quarterly
Cadmium	24-hr composite	Quarterly
Chromium VI or Total Chromium	24-hr composite	Quarterly
Total Recoverable Copper	24-hr composite	Quarterly
Total Recoverable Lead	24-hr composite	Quarterly
Total Recoverable Mercury	24-hr composite	Quarterly
Total Recoverable Nickel	24-hr composite	Quarterly
Selenium	24-hr composite	Quarterly
Total Recoverable Silver	24-hr composite	Quarterly
Total Recoverable Zinc	24-hr composite	Quarterly
Bis (2-ethylhexyl) phthalate	Grab	Quarterly
2,3,7,8-TCDD (Dioxin)	24-hr composite	Semi-Annually
Volatile organic portion of remaining EPA Priority Pollutants[2]	Grab	Annually
Remaining EPA Priority Pollutants[2]	24-hr composite	Annually

[1] Source: RWQCB, 2009.
[2] See waste discharge permit (Order No. R8-2009-0021) (RWQCB, 2009) for complete list or description.

Table 5-2. Effluent Monitoring Program Summary for Recycled Water [1] (Tertiary Treated Wastewater Without 20:1 Dilution)

Constituent	Type of Sample	Minimum Frequency of Sampling & Analysis
Flow	Recorder/totalizer	Continuous
Specific conductance	Recorder	Continuous
pH	Recorder	Continuous
Turbidity[2]	Recorder	Continuous
Total Chlorine Residual	Recorder	Continuous
Coliform Organisms	Grab	Daily
CT[2]	Recorder	Continuous
TOC	24-hr composite	Daily
BOD_5[2]	24-hr composite	Daily
TSS	24-hr composite	Daily
Ammonia-Nitrogen	Grab	Weekly
Temperature	Grab	Weekly
TDS	24-hr composite	Monthly
TIN	24-hr composite	Monthly
Total Nitrogen	24-hr composite	Monthly
Cyanide (free)	Grab	Monthly
Total Recoverable Copper	24-hr composite	Monthly
Toxicity[2]	24-hr composite	Monthly
Total Hardness	24-hr composite	Monthly
Bicarbonate	24-hr composite	Monthly
Boron	24-hr composite	Monthly
Calcium	24-hr composite	Monthly
Carbonate	24-hr composite	Monthly
Chloride	24-hr composite	Monthly
Fluoride	24-hr composite	Monthly
Magnesium	24-hr composite	Monthly
Sodium	24-hr composite	Monthly
Sulfate	24-hr composite	Monthly
Total Recoverable Cadmium	24-hr composite	Monthly
Chromium (VI) or Total Chromium	24-hr composite	Monthly
Total Recoverable Lead	24-hr composite	Monthly
Total Recoverable Mercury	24-hr composite	Monthly
Total Recoverable Selenium	24-hr composite	Monthly
Total Recoverable Silver	24-hr composite	Monthly

Constituent	Type of Sample	Minimum Frequency of Sampling & Analysis
Total Recoverable Zinc	24-hr composite	Monthly
Bis-(2-ethylhexyl) phthalate	Grab	Monthly
Aluminum	24-hr composite	Quarterly
Antimony	24-hr composite	Quarterly
Arsenic	24-hr composite	Quarterly
Barium	24-hr composite	Quarterly
Cobalt	24-hr composite	Quarterly
Total Recoverable Nickel	24-hr composite	Quarterly
Volatile organic portion of remaining EPA Priority Pollutants[2]	Grab	Annually
Remaining EPA Priority Pollutants[2]	24-hr composite	Annually

[1] Source: RWQCB, 2009.
[2] See waste discharge permit (Order No. R8-2009-0021) (RWQCB, 2009) for complete list or description.

Table 5-3. Effluent Monitoring Program Summary for Diluted Discharges[1] (Disinfected Secondary Treated Wastewater With 20:1 Dilution in the Receiving Water)

Constituent	Type of Sample	Minimum Frequency of Sampling & Analysis
Flow	Grab	Daily (when discharging)
pH	Recorder	Continuous
Total Chlorine Residual	Recorder	Continuous
BOD_5	Grab	Daily (when discharging)
TDS	Grab	When discharging
Coliform Organisms	Grab	Daily (when discharging)
Suspended Solids	Grab	Daily (when discharging)
Total Hardness	Grab	When discharging
EPA Priority Pollutants[2]	Grab	Annually

[1] Source: RWQCB, 2009.
[2] See waste discharge permit (Order No. R8-2009-0021) (RWQCB, 2009) for complete list or description.

Table 5-4 Reclamation Monitoring Program Summary[1]

Constituent	Type of Sample	Minimum Frequency of Sampling & Analysis
Flow	Recorder/Totalizer	Continuous
pH	Recorder/Totalizer	Continuous
Turbidity	Recorder	Continuous
CT[2]	Recorder	Continuous
Coliform Organisms	Grab	Daily
BOD_5	24-hr composite	Daily
TSS	24-hr composite	Daily
TDS	24-hr composite	Monthly

[1] Source: RWQCB, 2009.
[2] See waste discharge permit (Order No. R8-2009-0021) (RWQCB, 2009) for description.

6 CONTINGENCY PLAN

IEUA's contingency plan to maintain continuous, high-level treatment at the CCWRF is described in this section.

6.1 CONTINGENCY PLAN

The basis for the CCWRF contingency plan relies on the use of multiple treatment units and standby equipment, storage, and the ability to divert flow to RP-5. As described for each process in Sections 4 and 9 of this report, the CCWRF has capacity to treat flows averaging up to 12 mgd, as limited by the secondary treatment process. Reliability is provided by one of the following:

- standby treatment units and equipment;
- reliance on downstream treatment processes;
- standby engine generator for emergency power;
- on-site, short-term emergency storage;
- diversion of flow to RP-5; and
- diversion of flow to the IEBL.

For pumping stations and similar mechanical facilities, standby units are available in the event that duty units are out of service. For major processes, such as primary sedimentation or biological treatment, short-term storage is available for that portion of the primary or secondary process that is taken out of service. Besides solar power, a diesel-fueled standby engine generator is capable of supplying ample power for full plant operation during a utility power outage.

The existing influent diversion structure allows the CCWRF to divert raw wastewater to RP-5 or to the IEBL. The influent diversion structure enables the CCWRF to operate as a scalping plant, and provide more operational control and enhance the performance of the treatment processes. The operators establish a setpoint for influent flow to the CCWRF and motor-operated weir gates controlled by flow meters automatically divert flows above that level to RP-5. This allows the CCWRF to operate at a fairly constant flowrate with limited peaks. In the event of an emergency, manual gates at the influent diversion structure can send flow to the IEBL.

Another important part of the CCWRF contingency plan involves IEUA's preventive maintenance program. Described in Section 7, this program ensures that all mechanical

equipment is kept in reliable working order. The CCWRF has an excellent operating and monitoring record which also helps to avert problems before they become serious concerns.

7 OPERATION AND MAINTENANCE PLAN

Operation and maintenance of the CCWRF are described in this section. IEUA's plans for staffing the facility and performing preventive maintenance are discussed.

7.1 STAFFING

The CCWRF is fully staffed with operation and maintenance personnel. Operators are physically working at the plant or specifically assigned to be on-call 24 hours per day, 7 days per week. Certified operators at the plant are listed in Table 7-1. In addition to these personnel, IEUA has a Manager of Operations for the CCWRF, RP-2 and R-5, who is a Grade V wastewater operator. IEUA has an Executive Manager of Operations, who is a Grade V operator and is in charge of wastewater administration for the entire IEUA service area.

Table 7-1. Operations Staff

Operator Grade[1]	Position	Number of Persons[2]
V	Deputy Manager	1
V	Operations Supervisor	1
V	Senior Operator	1
III	Senior Operator	1
IV	Operator	2
III	Operator	3
II	Operator	2
V	Operations Assistant	1[3]
III	Operations Assistant	1[3]

[1] State Wastewater Certification

[2] Source: IEUA, 2014

[3] Operations assistant is shared by CCWRF, RP-2, RP-5 and Chino Desalter.

Mechanical, electrical, and instrumentation maintenance personnel are also on duty as required. Table 7-2 lists the maintenance staff available at the CCWRF, RP-2, RP-5 and related IEUA facilities.

Table 7-2. Plant Maintenance Staff

Certification[1]	Position	Number of Persons[2]
III	Deputy Manager of Maintenance	1
II	Electrical/Instrumentation Maintenance Supervisor	1
I	Senior Electrical Technician	1
II	Senior Instrumentation Technician	1
II	Electrical Technician II	2
II	Instrumentation Technician II	2
I	Senior Mechanic	1
III	Senior Plant Maintenance Technician	1
---	Mechanic II	2
I	Plant Maintenance Technician II	3

[1] California Water Environment Association Certification

[2] Source: IEUA, 2014

7.2 PREVENTIVE MAINTENANCE PROGRAM

Under IEUA's preventive maintenance program, inspections, lubrications, and operational rotation and repair of all mechanical, electrical, and support equipment are regularly scheduled. In addition to retaining manufacturers' maintenance manuals, files are kept for all major equipment. Routine or regularly scheduled maintenance activities are carried out with the aid of detailed checklists to ensure that important checks and servicing are not overlooked and that complete records are kept for all major equipment components. An organized system based on work orders and priority determined on a "need" basis coordinates the operation and maintenance personnel at the plant. The maintenance department normally keeps lists of replacement parts necessary for specific equipment, and in many cases, stocks the replacement parts at the plant site.

8 RECYCLED WATER USE

This section of the report describes the recycled water users, demands, distribution system, and on-site user facilities.

8.1 USERS AND DEMANDS

Over 9,000 acre-feet per year (afy) of recycled water from the CCWRF is currently served to irrigation, manufacturing, and construction customers. The Cities of Chino and Chino Hills act as recycled water purveyors for these users. Recycled water use in these two cities from September 2012 to September 2013 is summarized in Table 8-1. Current recycled water users and their individual demands are listed in Appendix D.

Water reclamation has been practiced at the CCWRF for some time and is specified in the plant's waste discharge permit, which notes that treated effluent is recycled for landscape irrigation, dust control, and industrial uses. Besides these uses, treated effluent is used as utility water for in-plant needs.

Table 8-1 Summary of Recycled Water Usage by Purveyor[1]

Purveyor	Annual Demand (afy)[1]
City of Chino	7,547
City of Chino Hills	1,643
2012-13 CCWRF TOTAL	**9,190**

[1] September 2012 – September 2013 (rounded). Source: IEUA, 2013.

8.2 DISTRIBUTION SYSTEM

Recycled water is pumped from the CCWRF to distribution systems serving the Cities of Chino and Chino Hills. As purveyors, these two cities are responsible for storage and conveyance of recycled water to customers within their jurisdictional areas. Figure 8-1 shows a map of IEUA's entire recycled water system. The CCWRF serves customers in the southwest area of the IEUA's service area.

A reservoir project for recycled water storage is under construction and scheduled for completion in 2014. The 930 Reservoir has a (1) design capacity of 5 million gallons (MG), (2) diameter of 170 feet, (3) maximum water surface elevation of 30 feet, (4) 30-inch bi-directional flow meter, and (5) level transmitter. The reservoir is located north of Galloping Hills Road in

the City of Chino Hills. Approximately 18,000 linear feet of 30-inch diameter pipeline connects the CCWRF System Pipeline to the new 930 Reservoir.

8.3 RECYCLED WATER USER FACILITIES

IEUA Ordinance No. 69 (IEUA, 2000), adopted by the IEUA Board of Directors in May, 2000, establishes rules, requirements, and responsibilities, under which, recycled water service is provided to customers. Applicants for recycled water service agree to comply with the terms of their Recycled Water Use Permit, as well as applicable Federal, State and Local statutes, to protect public health. The on-site operational controls must be appropriate for the beneficial use approved in the Recycled Water Use Permit for the safe and reliable delivery of recycled water. Specific identification, signage, and cross-connection prevention requirements include the following measures:

- All recycled water valves, outlets, quick couplers, and sprinkler heads shall be of a type, or secured in a manner that only permits operation by personnel authorized by the customer.

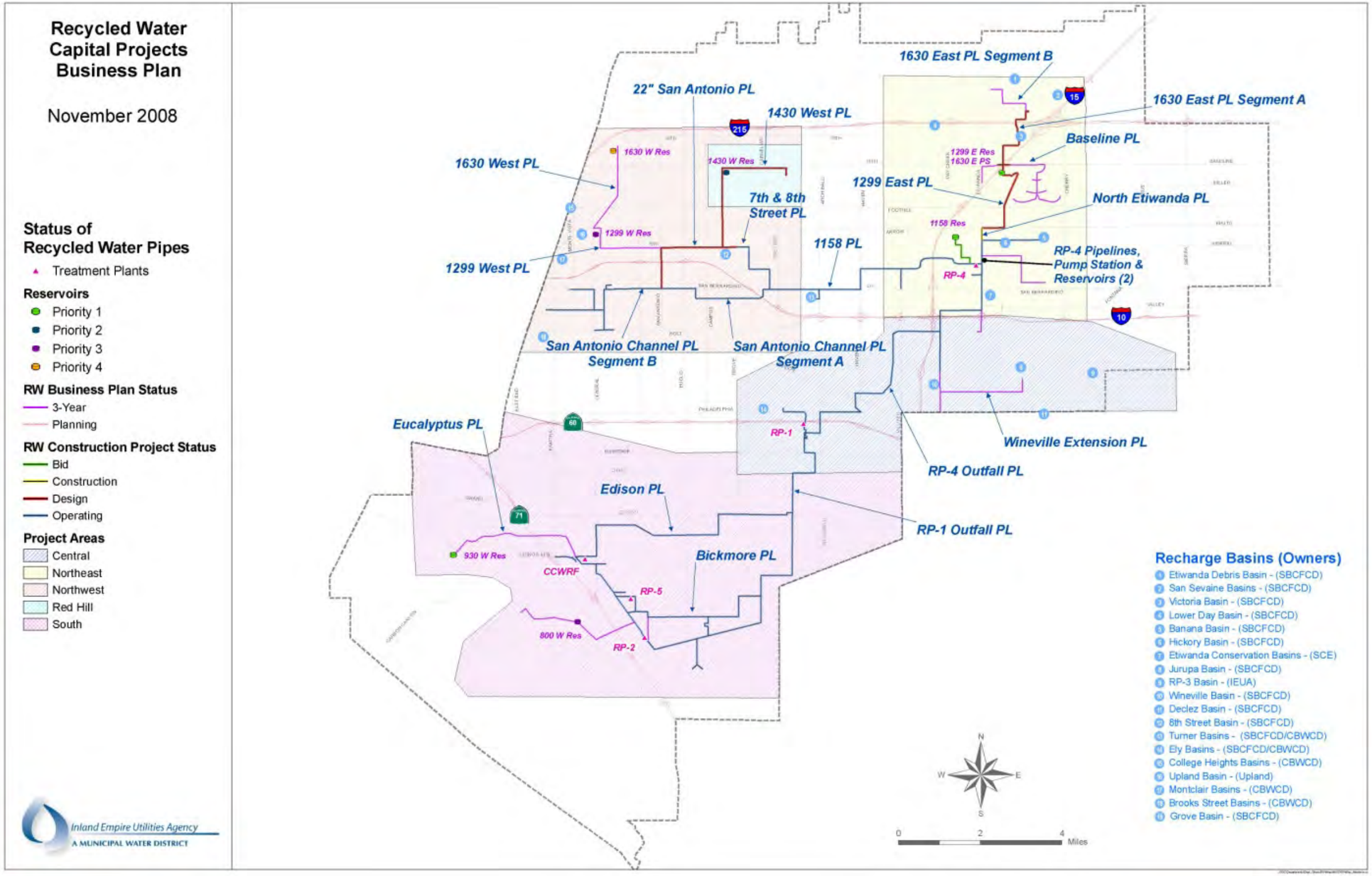

Figure 8-1. IEUA Recycled Water System Map

Source: IEUA, 2008.

- All recycled water valves and outlets shall be appropriately tagged to warn the public and employees that the water is not intended nor allowed for drinking.
- All piping, valves and outlets shall be color-coded (purple) or otherwise marked to differentiate recycled water from non-recycled water facilities.
- Hose bibs shall not be used in the recycled water system; quick couplers or comparable connection devices shall be used instead.
- Adequate means of notification shall be provided to inform the public, employees and others that recycled water is being used. Such notification shall include the posting of conspicuous recycled water information signage with proper wording in both English and Spanish of sufficient size to be clearly read, which shall be posted at adequate intervals around the use area. Signage shall be in conformance with CDPH Title 22 regulations.
- Cross-connection prevention measures, such as backflow preventers or reduced pressure principle devices, shall be installed and maintained to comply with requirements of CDPH and local potable water purveyors.

Recycled water customers are served by the City of Chino and City of Chino Hills. These purveyors have recycled water use regulations that require recycled water users to complete Title 22 Engineering Reports and obtain use permits from the cities.

IEUA encourages the maximum use of recycled water for beneficial purposes. As part of this effort, IEUA maintains guidance to educate and support local member agencies and recycled water customers in the proper design, installation, operation, and maintenance of their on-site recycled water systems.

IEUA maintains an employee training program that covers procedures used when working with recycled water, rules and regulations associated with recycled water use, hazards of working with recycled water, and basic cross-connection and backflow principles and procedures.

9 CONCLUSIONS AND RECOMMENDATIONS

This chapter summarizes the findings of the evaluation of the CCWRF for compliance with Title 22 Water Recycling Criteria. Conclusions and recommendations are presented.

9.1 CONCLUSIONS

This Title 22 Engineering Report demonstrates how IEUA's CCWRF provides reliable treatment capacity in compliance with Title 22 Water Recycling Criteria. The maximum Title 22 capacity of each treatment process is summarized in Table 9-1. Described in detail in Section 4, capacity is based on the following criteria:

- Design criteria and actual operating parameters;
- Provision for redundant, standby, or alternative equipment or treatment processes; and
- Flow diversion to RP-5.

With the installation of motorized weir gates and flow meters at the influent diversion structure in 2007, the CCWRF operates as a scalping plant, automatically diverting wastewater flows in excess of a designated setpoint to the RP-5. Operating as a partial skimming plant allows improved flow control and prevents process overloads.

The reliable annual average design capacity of the secondary treatment process is 12 mgd based on an effluent TIN limit of 8 mg/L in accordance with the current permit (RWQCB, 2009).

In 2010, the maximum rated capacity of the tertiary filters was increased to 27.6 mgd based on CDPH's approval of the maximum hydraulic loading rate of 4.0 gpm/sq ft. The maximum Title 22 capacity of the chlorination process is 15.4 mgd in order to comply with the 90-minute modal contact time requirement, according to the test performed in June 2004.

Overall, the existing CCWRF complies with Title 22 Water Recycling Criteria at an annual average capacity up to 12 mgd.

9.2 RECOMMENDATIONS

As concluded above, the CCWRF currently complies with Title 22 Water Recycling Criteria at an annual average capacity up to 12 mgd.

Completion of the modifications to the influent diversion structure in 2007 has allowed automatic control of the influent flow entering the CCWRF, restricting peak flows to less than a

Table 9-1 CCWRF Process Capacity Summary

Process	Peak Capacity[1] (mgd)		Annual Average Capacity Without Reliability[2] (mgd)		Title 22 Reliable Annual Average Capacity[3] (mgd)	
	Existing		Existing		Existing	
	By Unit Process	Overall	By Unit Process	Overall	By Unit Process	Overall
Preliminary Treatment						
Barscreens	80.0		42.1		21.0	
Grit Chamber	38.6	38.6	20.3	20.3	20.3	20.3
Parshall Flume	43.9		23.1		23.1	
Primary Treatment						
Clarifiers [4]	25.0	25.0	13.2	13.2	13.2	13.2
Primary Effluent & RAS Pumping	35.2		35.2		17.6	
Secondary Treatment						
Secondary Treatment	23.0	23.0	14.0	14.0	12.0	12.0
Tertiary Treatment						
Filtration [5]	27.6	27.6	27.6	27.6	27.6	27.6
Disinfection						
Sodium Hypochlorite	88.6		59.1		44.3	
Contact Tank [6]	15.4	15.4	15.4	15.4	15.4	15.4
Dechlorination						
Dechlorination	62.1	62.1	32.7	32.7	16.2	16.2

[1] Peak Capacity = total peak flow capacity with all units in service.

[2] Annual Average Capacity = annual average flow capacity with all units in service.

[3] Title 22 Reliable Annual Capacity = annual average flow capacity conforming to the reliability requirements set forth in Title 22. Reliability may be provided by redundant, standby, or alternative equipment or processes. Alternatively, reliability may be provided by diverting flow to RP-5. The specific means of establishing reliability is described in Section 4 for each treatment process.

[4] Primary treatment reliable capacity based on use of on-site short-term storage, increased secondary treatment process load, and influent diversion to RP-5.

[5] Filtration reliable capacity based on use of on-site short-term storage and diversion to RP-5 as necessary to not exceed a filtration rate of 4.0 gpm/sq ft.

[6] Chlorine contact tank peak flow capacity is 15.4 mgd based on the modal contact time test conducted on June 9, 2004. Automatic diversion of flows greater than 15.4 mgd to on-site short-term storage with subsequent return to the secondary treatment facilities allows the annual average capacity to equal the peak capacity of 15.4 mgd.

designated adjustable setpoint. This enhances the performance of all downstream treatment processes by delivering a controlled flowrate within the designated range.

IEUA successfully demonstrated the performance of the continuous backwash filters at a filtration rate up to 4.0 gpm/sq ft. CDPH approved this higher filter loading rate, which increased the rated capacity of the tertiary filters without having to construct new facilities.

IEUA also tested the performance of the CCWRF chlorination process at a reduced CT and modal contact time. CDPH found that the test results were inconclusive and suggested that IEUA develop a more robust disinfection test protocol if rerating the chlorine contact basin's capacity remains an objective in the future. It is recommended that IEUA investigate further demonstration testing of the chlorine contact basins.

When construction is complete, improvements will provide the ability to automatically divert primary effluent, secondary effluent/filter influent, or tertiary effluent to on-site emergency storage, thereby enhancing CCWRF's overall reliability.

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Stantec, 2012. "IEUA, Carbon Canyon Water Recycling Facility, Recycled Water Pump Station Expansion", January 2012.

Appendix A

Waste Discharge and Producer/User Reclamation Requirements for the Inland Empire Utilities Agency's Regional Water Recycling Facilities, Surface Discharges and Recycled Water Use

RWQCB Order No. R8-2009-0021 and NPDES Permit No. CA8000409

California Regional Water Quality Control Board
Santa Ana Region

July 20, 2009

ITEM: ***7**

SUBJECT: Issuance of Waste Discharge and Producer/User Reclamation Requirements for the Inland Empire Utilities Agency's Regional Water Recycling Facilities, Surface Water Discharges and Recycled Water Use, Order No. R8-2009-0021, NPDES No. CA8000409, San Bernardino County

DISCUSSION:

See attached Fact Sheet

RECOMMENDATIONS:

Adopt Order No. R8-2009-0021, NPDES No. CA8000409 as presented.

COMMENT SOLICITATION:

Comments were solicited from the discharger and the following agencies:

U.S. Environmental Protection Agency, Permits Issuance Section (WTR-5) – Doug Eberhardt
U.S. Army District, Los Angeles, Corps of Engineers - Regulatory Branch
U.S. Fish and Wildlife Service, Carlsbad – Christine Medak
State Water Resources Control Board, Office of the Chief Counsel – David Rice
State Department of Fish and Game, Los Alamitos - Ms. Latonio
California Department of Public Health, San Bernardino – Sean McCarthy
California Department of Public Health, Carpenteria - Jeff Stone
State Department of Water Resources, Glendale – Charles Keene
Santa Ana Watershed Project Authority – Celeste Cantu
Santa Ana River Dischargers Association – Ed Filadelfia
Orange County Water District - Nira Yamachika
San Bernardino County Transportation/Flood Control District – Naresh Varma
San Bernardino County Environmental Health Services – Daniel Avera
City of Chino, Public Works Department – Jose Alire
City of Chino Hills - Public Works Department
City of Fontana – Chuck Hays, chays@fontana.org
City of Montclair - Nicole Greene
City of Ontario – Mohamed El-Amamy
City of Upland – Maria Linzay
Cucamonga Valley Water District -
Inland Empire Waterkeeper – Autumn DeWoody
Orange County Coastkeeper - Garry Brown
Lawyers for Clean Water C/c San Francisco Baykeeper
Natural Resources Defense Council – David Beckman
Inland Empire Utilities Agency - Patrick Sheilds

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

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ORDER NO. R8-2009- 0021
NPDES NO. CA8000409

WASTE DISCHARGE AND PRODUCER/USER RECLAMATION REQUIREMENTS FOR INLAND EMPIRE UTILITIES AGENCY REGIONAL WATER RECYCLING FACILITIES SURFACE WATER DISCHARGES AND RECYCLED WATER USE

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 1. Discharger Information

Discharger/ Operator	Inland Empire Utilities Agency			
Name of Facility	Regional Water Recycling Plant No. 1 (RP-1)	Regional Water Recycling Plant No. 4 (RP-4)	Regional Water Recycling Plant No. 5 (RP-5)	Carbon Canyon Water Reclamation Facility (CCWRF)
Facility Address	2450 East Philadelphia Street	12811 Sixth Street	6068 Kimball Ave, Building "C".	14950 Telephone Avenue
	Ontario, CA 91761	Rancho Cucamonga, CA 91729	Chino, CA 91708	Chino, CA 91710
	San Bernardino County			
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a major discharge.				

The discharge by Inland Empire Utilities Agency (IEUA) from the discharge points identified below is subject to waste discharge requirements as set forth in this Order:

Table 2. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Tertiary treated effluent from RP-1	N33°56'39"	W117°38'34"	Prado Park Lake, overflow from the lake to an unnamed creek, then to Reach 1A of Chino Creek, a tributary to Reach 3 of Santa Ana River in Prado Basin
002	Tertiary treated effluent from RP-1&RP-4	N34°01'31"	W117°33'56"	Reach 1 of Cucamonga Creek, then to Mill Creek, then to Reach 1A of Chino Creek, a tributary to Reach 3 of Santa Ana River in Prado Basin
003	Tertiary treated effluent from RP-5	N33°57'44"	W117°40'41"	Reach 1B of Chino Creek, a tributary to Reach 3 of Santa Ana River
004	Tertiary treated effluent from CCWRF	N33°58'56	W117°41'48"	Reach 2 of Chino Creek, a tributary to Reach 3 of Santa Ana River
005	Recycled water from RP-1	N34°01'29"	W117°35'57"	Use area overlying Chino North "Max Benefit" GMZ (or Chino 1, 2, and 3 "Antidegradation" GMZs – see Fact Sheet)
006	Recycled water from RP-4	N34°04'59"	W117°31'35"	
007	Recycled water from RP-5	N33°57'51"	W117°40'24"	
008	Recycled water from CCWRF	N33°58'47"	W117°41'37"	
S-001	Stormwater from RP-1	N34°01'36"	W117°35'59"	Stormwater runoff to Reach 1 of Cucamonga Creek
S-002	Stormwater from RP-1	N34°01'28"	W117°35'58"	Stormwater runoff to Reach 1 of Cucamonga Creek

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	July 20, 2009
This Order shall become effective on:	July 20, 2009
This Order shall expire on:	July 1, 2014
The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:	January 2, 2014

I, Gerard J. Thibeault, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Santa Ana Region, on July 20, 2009.

Gerard J. Thibeault, Executive Officer

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List of Attachments

I. FACILITY INFORMATION

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 4. Facility Information

Discharger/Operator	Inland Empire Utilities Agency			
Name of Facility (RWRF)	RP-1	RP-4	RP-5	CCWRF
Address	2450 East Philadelphia Street	12811 Sixth Street	6068 Kimball Avenue Building "C"	14950 Telephone Avenue
	Ontario, CA 91761	Rancho Cucamonga, CA 91729	Chino, CA 91708	Chino, CA 91710
	San Bernardino County			
Facility Contact, Title and Phone	Patrick O. Sheilds, Executive Manager of Operations, (909) 993-1806			
Authorized Person to Sign and Submit Reports	Patrick O. Sheilds, Executive Manager of Operations, (909) 993-1806			
Address	6075 Kimball Avenue, Chino, CA 91708			
Mailing/Billing Address	P.O. Box 9020, Chino Hills, CA 91709			
Type of Facility	POTW			
Facilities Permitted Flow	84.4 million gallons per day (mgd)			
Facility Design Flow	44 mgd	14 mgd	15 mgd (and 1.3 mgd RP-2 sludge treatment system wastewater flows)	11.4 mgd

II. FINDINGS

The California Regional Water Quality Control Board, Santa Ana Region (hereinafter Regional Water Board), finds:

A. Background. The Inland Empire Utilities Agency (hereinafter Discharger, or IEUA) owns and operates a regional wastewater collection system and four regional water recycling facilities (hereinafter, Facilities), including Regional Water Recycling Plants Nos. 1, 4, and 5 and the Carbon Canyon Water Reclamation Facility (CCWRF). The Discharger is currently discharging from these Facilities pursuant to the following waste discharge and producer/user water reclamation requirements:

1. Order No. R8-2006-0010, National Pollutant Discharge Elimination System (NPDES) Permit No. CA0105279, as amended by Orders No. R8-2007-0045 and No. R8-2007-0078, for treated wastewater discharges from Regional Water Recycling Plant No. 1 (RP-1) and Regional Water Recycling Plant No. 4 (RP-4);

2. Order No. R8-2008-0028, NPDES No. CA8000402 for treated wastewater discharges from Regional Water Recycling Plant No. 5 (RP-5); and

3. Order No. R8-2004-0020, NPDES No. CA8000073, as amended by Orders No. R8-2006-0038 and No. R8-2007-0078, for treated wastewater discharges from Carbon Canyon Water Reclamation Facility (CCWRF).

The Discharger submitted a Report of Waste Discharge (ROWD), dated January 27, 2009, and applied for a NPDES permit to consolidate the three waste discharge and producer/user water reclamation requirements identified above into one permit to regulate a total discharge of up to 84.4 million gallons per day (mgd) of tertiary treated wastewater from RP-1, RP-4, RP-5, and CCWRF.

For the purposes of this Order, references to the “discharger” or “permittee” in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

B. Facility Description. IEUA owns and operates a regional wastewater collection system and four water recycling plants. Wastewater can be diverted to different plants via available routing options built into the regional system (see Figure 1 of Attachment C for further detail). After treatment, effluent/recycled water can be discharged to nearby outfall(s) or it can be recycled for industrial uses, irrigation and groundwater recharge. The wastewater treatment systems consist of primary, secondary, and tertiary treatment. Treated wastewater is discharged from various discharge points either to Prado Park Lake, Reach 1 of Cucamonga Creek, or Chino Creek. The lake and the creeks are tributaries to Reach 3 of the Santa Ana River within the Prado Basin Management Zone. Recycled water is used in areas overlying the Chino North “Maximum Benefit” Groundwater Management Zone (GMZ) (or Chino 1, 2, and 3 “Antidegradation” GMZs). Groundwater recharge of recycled water is regulated under separate waste discharge requirements. Attachment B provides maps of the area

around these Facilities. Attachment C provides flow schematics at each Facility, the IEUA System-Wide influent flow interrelationship diagram, and a schematic of the IEUA System-Wide Water Recycling Distribution System.

C. Legal Authorities. This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this Facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, Division 7 of the Water Code (commencing with section 13260).

D. Background and Rationale for Requirements. The Regional Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through E and G through K are also incorporated into this Order.

E. California Environmental Quality Act (CEQA). Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code section 21000 et seq. (*County of Los Angeles v. California State Water Resources Control Board* (2006) 143 Cal.App.4th 985, mod. (Nov. 6, 2006, B184034) 50 Cal.Rptr.3d 619, 632-636). This action also involves the re-issuance of waste discharge requirements for an existing facility that discharges treated wastewater to land and as such, is exempt from the provisions of California Environmental Quality Act (commencing with Section 21100) in that the activity is exempt pursuant to Title 14 of the California Code of Regulations Section 15301.

F. Technology-based Effluent Limitations. Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations[1], require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at Part 133 and/or Best Professional Judgment (BPJ) in accordance with Part 125, section 125.3. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).

[1] *All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.*

G. Water Quality-Based Effluent Limitations. Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. This Order contains requirements, expressed as a technology equivalence requirement, more stringent than secondary treatment requirements. These requirements are necessary to meet applicable water quality standards.

The rationale for these requirements, which consist of tertiary or equivalent treatment requirements and other provisions, is discussed in the Fact Sheet.

Section 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

H. Water Quality Control Plans. The Regional Water Board adopted a revised Water Quality Control Plan for the Santa Ana Region (hereinafter Basin Plan) that became effective on January 24, 1995. The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters in the Santa Ana Region addressed through the plan. More recently, the Basin Plan was amended significantly to incorporate revised boundaries for groundwater subbasins, now termed "management zones", new nitrate-nitrogen and TDS objectives for the new management zones, and new nitrogen and TDS management strategies applicable to both surface and ground waters.

This Basin Plan Amendment was adopted by the Regional Water Board on January 22, 2004. The State Water Resources Control Board (State Water Board) and Office of Administrative Law (OAL) approved the Amendment on September 30, 2004 and December 23, 2004, respectively. EPA approved the surface water standards components of the N/TDS Amendment on June 20, 2007.

In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which established State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Based on the criteria specified in the State Water Board Resolution, the Basin Plan specifies that Reaches 1A, 1B, and 2 of Chino Creek, Reach 1 of Cucamonga Creek and Reach 5 of the Santa Ana River, beginning at the intersection of Orange Avenue in the City of Redlands, and downstream reaches are excepted from the municipal and domestic supply beneficial use.

As discussed in detail in the Fact Sheet (Attachment F), beneficial uses applicable to the Prado Basin Management Zone, Reach 1 of Cucamonga Creek, Reaches 1A, 1B, and 2 of Chino Creek, and Reach 3 of the Santa Ana River are as follows:

Table 5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
001	Prado Park Lake overflow from the lake to an unnamed creek, then to Reach 1A of Chino Creek	Present or Potential: Water contact recreation (REC-1), non-contact water recreation (REC-2), warm freshwater habitat, wildlife habitat (WILD), and rare, threatened and endangered species. Recreational use at Prado Park Lake is restricted to fishing and boating. Excepted from Municipal and Domestic Supply.
002	Reach 1 of Cucamonga Creek, then to Mill Creek, thence to Reach 1A of Chino Creek	Present or Potential: Groundwater Recharge, Water contact recreation (REC-1), non-contact water recreation (REC-2), Limited warm freshwater habitat, and wildlife habitat (WILD). Excepted from Municipal and Domestic Supply.
003	Reach 1B of Chino Creek	Present or Potential: Water contact recreation (REC-1), non-contact water recreation (REC-2), warm freshwater habitat, wildlife habitat (WILD), and rare, threatened and endangered species. Excepted from Municipal and Domestic Supply.
004	Reach 2 of Chino Creek	Present or Potential: Groundwater Recharge, Water contact recreation (REC-1), non-contact water recreation (REC-2), Cold freshwater habitat, and wildlife habitat (WILD). Excepted from Municipal and Domestic Supply.
001, 002, 003, 004, S-001, & S-002	Reach 3 of Santa Ana River within Prado Basin Area	Present or Potential: Agricultural supply, groundwater recharge, water contact recreation, non-contact water recreation, warm freshwater habitat, wildlife habitat, and rare, threatened or endangered species. Excepted from Municipal and Domestic Supply.
001, 002, 003, 004, 005, 006, 007, 008, S-001, & S-002	Chino North “Max Benefit” GMZ/Chino 1, 2 and 3 “antidegradation” GMZs	Present or Potential: Municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.
	Orange GMZ (affected GMZ downstream of discharge points)	Present or Potential: Municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.

Requirements of this Order implement the Basin Plan.

I. National Toxics Rule (NTR) and California Toxics Rule (CTR). USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.

J. Compliance Schedules and Interim Requirements – Not Applicable

K. State Implementation Policy. On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

L. Alaska Rule. On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes. (40 C.F.R. section 131.21; 65 Fed. Reg. 24641 (April 27, 2000).) Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000 may be used for CWA purposes, whether or not approved by USEPA.

M. Stringency of Requirements for Individual Pollutants. This Order contains both technology-based and water quality based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD_5 and Suspended Solids. Restrictions on the same pollutants are discussed in Section IV.B.2. of Attachment F. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, this Order contains effluent limitations more stringent than the minimum, federal technology-based requirements that are necessary to meet water quality standards. These limitations are not more stringent than required by the CWA.

Water quality-based effluent limitations have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to section 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations for priority pollutants are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. With the exception of certain surface water standards changes adopted as part of the Nitrogen/TDS Basin Plan Amendment (see Section H, above), all beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to section 131.21(c)(1). The surface water standards changes adopted as part of the Nitrogen/TDS Basin Plan Amendment were approved by USEPA on June 20, 2007.

N. Antidegradation Policy. Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. As discussed in the Fact Sheet, discharges in accordance with the terms and conditions of this Order will not result in a lowering of water quality. Therefore, the permitted discharges are consistent with the antidegradation provisions of section 131.12 and State Water Board Resolution No. 68-16.

O. Anti-Backsliding Requirements. Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit. With the exception of the average monthly limitation for free cyanide, all effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Orders and are consistent with the anti-backsliding requirements of the CWA and federal regulations.

P. Endangered Species Act. This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

Q. Monitoring and Reporting. Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment E.

R. Pretreatment: The Discharger has established an approved regional pretreatment program. The approved pretreatment program and its components, such as Ordinance No.97-OR5, local limits (adopted by the Discharger in 2000), and control mechanisms, among others, are hereby made an enforceable condition of this Order.

S. Biosolids Requirements. On February 19, 1993, the USEPA issued a final rule for the use and disposal of sewage sludge, 40 CFR, Part 503. This rule requires that producers of sewage sludge meet certain reporting, handling, and disposal requirements. The State of California has not been delegated the authority to implement this program, therefore, the U.S. Environmental Protection Agency is the implementing agency. However, this Order includes Regional Water Board biosolids requirements.

T. State General Waste Discharge Requirements for Sanitary Sewer Systems. The State Water Board issued General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003 on May 2, 2006, requiring public agencies that own sanitary sewer systems comprised of more than one mile of pipes or sewer lines, to enroll for coverage under the General Order. The General Order requires agencies to develop sanitary sewer management plans (SSMPs) and report all sanitary sewer overflows (SSOs).

This Order requires the Discharger and other governmental agencies[2] to obtain enrollment for regulation under the General Water Quality Order No. 2006-0003. The Discharger has already enrolled.

[2] *Member agencies and sewering agencies discharging wastewater into the Facility.*

U. Standard and Special Provisions. Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. The rationale for the special provisions contained in this Order is provided in the attached Fact Sheet.

V. Provisions and Requirements Implementing State Law. The provisions/requirements in subsections IV.B, IV.C, V.B, and VI.C. of this Order are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

W. Notification of Interested Parties. The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet of this Order.

X. Consideration of Public Comment. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet of this Order.

IT IS HEREBY ORDERED, that this Order supersedes Order No. R8-2006-0010 as amended by Orders No. R8-2007-0045 and No. R8-2007-0078; Order No. R8-2008-0028, and Order No. R8-2004-0020 as amended by Order Nos. R8-2006-0038, and R8-2007-0078, except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

III. DISCHARGE PROHIBITIONS

A. The direct discharge of secondary treated wastewater to Chino Creek and Reach 1 of Cucamonga Creek other than when the flow[3] in the creeks results in a dilution of 20:1 or more at the point of discharge is prohibited.

B. Discharge of wastewater at a location or in a manner different from those described in this Order is prohibited.

C. The bypass or overflow of untreated wastewater or wastes to surface waters or surface water drainage courses is prohibited, except as allowed in Standard Provision I.G. of Attachment D, Federal Standard Provisions.

D. The discharge of any substances in concentrations toxic to animal or plant life is prohibited.

E. The discharge of any radiological, chemical, or biological warfare agent or high level radiological waste is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations –Discharge Points (DP) 001, 002, 003, and 004

Unless otherwise specifically specified hereinafter, compliance with the following effluent limitations is measured at monitoring locations M-001, M-002, M-003 and M-004 as described in the attached MRP (Attachment E).

1. Final Effluent Limitations for discharges under conditions <u>without</u> 20:1 dilution in the receiving water – DPs 001, 002, 003 and 004

a. The Discharge shall maintain compliance with the following effluent limitations at:

(1) DPs 001, 002, 003 and 004 with compliance measured at Monitoring Locations M-001A & B, M-002A & B, M-003 and M-004, respectively, as described in the attached MRP:

Table 6. Effluent Limitations at DP 001 through DP 004

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	20	30	--	--	--
Total Suspended Solids	mg/L	20	30	--	--	--
Ammonia-Nitrogen	mg/L	4.5	--	--	--	--
Total Chlorine Residual[3]	mg/L					0.1

(2) DPs 001 and 002 with compliance measured at Monitoring Locations M-001B and M-002A, respectively, as described in the attached MRP:

[3] *See Section VII.M. – Compliance Determination.*

Table 7. Effluent Limitations Applicable at DP 001 and DP 002 only

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
Free Cyanide	µg/L	4.2	--	8.5
Bis(2-ethylhexyl) Phthalate	µg/L	5.9		11.9
Selenium	µg/L	4.1		8.2

(3) DP 003 with compliance measured at Monitoring Location M-003, as described in the attached MRP:

Table 8. Effluent Limitations Applicable at DP 003 only

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
Free Cyanide	µg/L	4.6	--	7.3
Bromodichloromethane	µg/L	46	--	92

(4) DP 004 with compliance measured at Monitoring Location M-004, as described in the attached MRP:

Table 9. Effluent Limitations Applicable at DP 004 only

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
Free Cyanide	µg/L	4.3	--	8.5
Bis(2-ethylhexyl) Phthalate	µg/L	5.9	--	11.9

b. **Percent Removal:** The average monthly percent removal of BOD 5-day 20°C and total suspended solids shall not be less than 85 percent. (See Compliance Determination Section VII.N.)

c. **TDS Limitations** - The lower of the two total dissolved solids (TDS) limits specified in (1) or (2), below, is the limit.

(1) The 12-month flow weighted running average TDS constituent concentration and mass emission rates shall not exceed 550 mg/L and 366,960 lbs/day[4], respectively. This limitation may be met on an agency-wide basis using flow weighted averages of the discharges from the Discharger's RP-1, RP-4, RP-5 and CCWRF, or

(2) The 12-month flow weighted running average TDS concentration shall not exceed the 12-month flow weighted running average TDS concentration in the water supply by more than 250 mg/L[5]. This limitation may be met on an agency-wide basis using flow weighted averages of the water supplied to the Discharger's RP-1, RP-4, RP-5 and CCWRF service areas.

d. The 12-month flow weighted running average Total Inorganic Nitrogen (TIN) concentration and mass emission rates shall not exceed 8 mg/L and 5,338 lbs/day[6], respectively. This limitation may be met on an agency-wide basis using flow weighted averages of the discharges from the Discharger's RP-1, RP-4, RP-5 and CCWRF.

e. The discharge shall at all times be adequately oxidized, filtered, and disinfected treated wastewater and shall meet the following limitations.

(1) The turbidity of the filtered wastewater shall not exceed any of the following:

(a) Average of 2 Nephelometric Turbidity Unit (NTU) within any 24-hour period;

(b) 5 NTU more than 5 percent of the time in any 24-hour period; and

(c) 10 NTU at any time.

(2) The disinfected effluent shall meet the following:

(a) When chlorine disinfection process is utilized following filtration, a CT (the product of total chlorine residual and modal contact time measured at the same point) value of not less than 450 milligram-minutes per liter at all times with a modal contact time of at least 90 minutes[7], based on peak dry weather design flow[8;] shall be provided[9].

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4 *Based on wasteload allocation volume of 80 mgd and concentration of 550 mg/L.*

5 *See Section VII.L. - Compliance Determination.*

6 *Based on wasteload allocation volume of 80 mgd and concentration of 8 mg/L.*

7 *The modal contact time requirement is applicable only to the use of recycled water and not to surface water discharges, provided the receiving water provides a 1:1 dilution. The receiving water considered here shall exclude upstream POTW effluent flow.*

8 *"Peak Dry Weather Flow" means the arithmetic mean of the maximum peak flow rates sustained over some period of time (for example three hours) during the maximum 24-hour dry weather period. Dry weather period is defined as period of little or no rainfall.*

(b) When a disinfection process combined with the filtration process is utilized, the combined process shall demonstrate[10] inactivation and/or removal of 99.999 percent of the plaque-forming units of F-specific bacteriophage MS-2[11], or polio virus in the wastewater. A virus that is at least as resistant to disinfection as polio virus may be used for purposes of the demonstration.

(c) The weekly average concentration of total coliform bacteria shall not exceed a Most Probable Number (MPN) of 2.2 total coliform bacteria per 100 milliliters (ml). (see Compliance Determination VII.J.1., below)

(d) The number of total coliform bacteria shall not exceed an MPN of 23 total coliform bacteria per 100 ml in more than one sample in any 30-day period.

(e) No total coliform bacteria sample shall exceed an MPN of 240 total coliform bacteria per 100 ml.

f. There shall be no visible oil and grease in the discharge.

g. The pH of the discharge shall be within 6.5 to 8.5 pH[12].

h. Wastewater discharged at DP 001 shall be limited to treated and disinfected effluent that meets the conditions in Section IV.A.1.

i. Wastewater discharged at DP 002 through DP 004 shall be limited to treated and disinfected effluent that meets the conditions in Section IV.A.1., except for discharges of treated wastewater that meets the conditions specified in Section IV.A.4., when the flow[13] in Reaches 1B or 2 of Chino Creek or Reach 1 of Cucamonga Creek results in a dilution of 20:1 or more at the point of discharge.

2. Interim Effluent Limitations – Not Applicable

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9 *Modal contact time and CT shall be calculated based on the minimum one-hour average value in a 24-hr period.*

10 *Meeting the discharge limits in A.1.e.(2).(c),(d), and (e) shall constitute the demonstration required by this sub-paragraph.*

11 *F-Specific bacteriophage MS-2 means a strain of a specific type of virus that infects coliform bacteria that is traceable to the American Type Culture Collection (ATCC) 15597B1) and is grown on lawns of E. coli (ATCC 15597).*

12 *See Section VII.K. Compliance Determination.*

13 *Exclusive of discharges to surface waters from upstream publicly owned treatment works.*

3. Toxicity Requirements/Discharge Specifications

a. There shall be no acute or chronic toxicity in the plant effluent nor shall the plant effluent cause any acute or chronic toxicity in the receiving water. All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in human, plant, animal, or indigenous aquatic life. This Order contains no numeric limitation for toxicity. However, the Discharger shall conduct chronic toxicity monitoring.

b. The Discharger shall implement the accelerated monitoring as specified in Attachment E when the result of any single chronic toxicity test of the effluent exceeds 1.0 TUc.

4. Effluent Limitations at DPs 002, 003, and 004, Under Conditions <u>with</u> 20:1 or More Dilution

The discharge of treated and disinfected effluent when the creek flow[14] at monitoring locations R-002U, R-003U, and/or R-004U results in a dilution of 20:1 (receiving water flow : wastewater flow) or more shall maintain compliance with the following effluent limitations at DPs 002, 003, and/or 004 with compliance measured at Monitoring Locations M002, M003 and M-004, respectively, as described in the attached MRP.

a. Numeric Effluent Limitations

Table 10. Effluent Limitations Under 20:1 Dilution

Parameter	Units	Effluent Limitations			
		Average Monthly	Average Weekly	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	30	45	- -	- -
Total Suspended Solids	mg/L	30	45	- -	- -
Total Residual Chlorine	mg/L	-	-	-	2.1

b. Treated wastewater shall at all times be adequately oxidized and disinfected wastewater and shall meet the following limitations:

(1) The weekly average number of coliform bacteria does not exceed a median of 23 per 100 milliliters as determined from the daily coliform bacteria values for the last seven (7) days. (see also Compliance Determination VII.J.2., below)

[14] *Exclusive of discharges to surface waters from upstream publicly owned treatment works.*

(2) The discharge shall be considered adequately oxidized if the 5-day @ 20°C Biochemical Oxygen Demand and Total Suspended Solids constituent concentrations of the discharge are less than or equal to the limitations shown in IV.A.4.a., above.

c. The monthly average biochemical oxygen demand and suspended solids concentrations of the discharge shall not be greater than fifteen percent (15%) of the monthly average influent concentration.

d. The pH of the discharge shall be within 6.5 to 8.5 pH[15].

B. Land Discharge Specifications – Not Applicable

C. Reclamation Specifications – DP 005 through DP 008

1. Upon the effective date of this Order, the use of recycled water for parks, landscape irrigation, and/or other similar uses shall maintain compliance with the following effluent limitations at DP 005 through DP 008 with compliance measured at monitoring locations REC-001 through REC-004, respectively, and where representative samples of recycled water can be obtained for laboratory testing and analysis as described in the attached Monitoring and Reporting Program (Attachment E). The Discharger shall submit for approval by the Executive Officer a list of other monitoring location(s) not specified herein where representative samples of recycled water could be obtained for laboratory testing and analysis.

   a. Physical/Biological Limitations:

Table 11. Recycled Water Effluent Limitations

Parameter	Units	Effluent Limitations	
		Average Monthly	Average Weekly
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	20	30
Total Suspended Solids	mg/L	20	30

   b. TDS Limitations: The following TDS limitations apply to recycled water uses, except groundwater recharge, that would affect underlying local Groundwater Management Zone(s). These limitations may be met on an agency-wide basis using flow-weighted averages of the discharges from the Discharger's RP-1, RP-4, RP-5 and CCWRF.

[15] *See Section VII.K. Compliance Determination*

(1) If maximum benefit is demonstrated (see Provisions VI.C.6.), the 12-month flow weighted running average total dissolved solids concentration shall not exceed 550 mg/L.

(2) If maximum benefit is not demonstrated (see Provisions VI.C.6.), the 12-month flow weighted running average total dissolved solids concentration shall not exceed the following:

Table 12. Recycled Water Effluent TDS Limitations

Groundwater Management Zone	TDS limit, mg/L
Chino 1	280
Chino 2	250
Chino 3	260

c. Recycled water described in Section 60307(a) of Division 4, Chapter 3, Title 22, California Code of Regulations and for irrigation of food crops, parks and playground, school yards, residential landscaping and other irrigation uses not specified in Section 60304(a) of Division 4, Chapter 3, Title 22, California Code of Regulations or not prohibited in other Sections of the California Code of Regulations shall at all times be adequately oxidized, filtered, and disinfected tertiary treated wastewater and shall meet the following limitations:

(1) The turbidity of the filter effluent when filtration is through natural undisturbed soils or a bed of filter media shall not exceed any of the following:

(a) Average of 2 Nephelometric Turbidity Units (NTU) within any 24-hour period;
(b) 5 NTU more than 5 percent of the time in any 24-hour period; and
(c) 10 NTU at any time.

(2) The disinfected effluent shall meet the following:

(a) The weekly average total coliform bacteria[16] shall not exceed a Most Probable Number (MPN) of 2.2 total coliform bacteria per 100 milliliters (ml).
(b) The number of total coliform organism shall not exceed an MPN of 23 total coliform bacteria per 100 ml in more than one sample in any 30-day period.
(c) No total coliform sample shall exceed an MPN of 240 total coliform bacteria per 100 ml.

[16] *See Compliance Determination Section VII.J.1.*

(d) A chlorine disinfection process following filtration that provides a CT (the product of total chlorine residual and modal contact time[17] measured at the same point) value of not less than 450 milligram-minutes per liter at all times with a modal contact time of at least 90 minutes, based on peak dry weather design flow.

d. Recycled water used for irrigation of food crops where the edible portion is produced above ground and not contacted by the recycled water shall at all times be adequately oxidized and disinfected so that average weekly total coliform bacteria in the disinfected effluent does not exceed a most probable number (MPN) of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed, and the number of total coliform bacteria does not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30-day period.

e. Recycled water used for the uses listed below shall be an oxidized and disinfected water so that the average weekly total coliform bacteria[18] in the disinfected effluent does not exceed a most probable number (MPN) of 23 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed, and the number of total coliform bacteria does not exceed an MPN of 240 per 100 milliliters in more than one sample in any 30 day period.

(1) Industrial boiler feed, nonstructural fire fighting, backfill consolidation around nonpotable piping, soil compaction, mixing concrete, dust control on roads and streets, cleaning roads, sidewalks and outdoor work areas and industrial process water that will not come into contact with workers.
(2) Irrigation of cemeteries, freeway landscaping, restricted access golf courses, ornamental nursery stock and sod farms where access by the general public is not restricted, pasture for animals producing milk for human consumption, and any nonedible vegetation where access is controlled so that irrigated area cannot be used as if it were part of a park, playground or school yard.

f. For recycled water uses specified in Sections 60304 and 60307 of Title 22 where filtration is provided pursuant Section 60301.320(a) and coagulation is not used as part of the treatment process, the Discharger shall comply with the following:

(1) The turbidity of the influent to the filters is continuously measured and the influent turbidity does not exceed 5 NTU for more than 15 minutes and never exceeds 10 NTU;
(2) The filtered wastewater turbidity shall not exceed 2 NTU within any 24-hour period; and;

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[17] *Modal contact time and CT shall be calculated daily based on the minimum one-hour average value in a 24-hour period.*

[18] *See Compliance Determination Section VII.J.2.*

(3) Should the filter influent turbidity exceed 5 NTU for more than 15 minutes, chemical addition shall be automatically activated if available, if not, the wastewater shall be diverted.

2. For new reuse sites, the use of recycled water shall only commence after the California Department of Public Health (CDPH) grants final approval for such use. The Discharger shall provide the Regional Water Board with a copy of the CDPH approval letter within 30 days of the approval notice.

3. The Discharger shall be responsible for assuring that recycled water is delivered and utilized in conformance with this Order, the recycling criteria contained in Title 22, Division 4, Chapter 3, Sections 60301 through 60355, California Code of Regulations. The Discharger shall conduct periodic inspections of the facilities of the recycled water users to monitor compliance by the users with this Order.

4. The Discharger shall establish and enforce Rules and Regulations for Recycled Water users, governing the design and construction of recycled water use facilities and the use of recycled water in accordance with the uniform statewide recycling criteria established pursuant to the California Water Code Section 13521.

   a. Use of recycled water by the Discharger shall be consistent with its Rules and Regulations for Recycled Water Use.

   b. Any revisions made to the Rules and Regulations shall be subject to the review of the Regional Water Board, the California Department of Public Health, and the County Environmental Health Department. The revised Rules and Regulations or a letter certifying that the Discharger's Rules and Regulations contain the updated provisions in this Order, shall be submitted to the Regional Water Board within 60 days of adoption of this Order by the Regional Water Board.

5. The Discharger shall, within 60 days of the adoption of this Order, review and update as necessary its program to conduct compliance inspections of recycled water reuse sites. Inspections shall determine the status of compliance with the Discharger's Rules and Regulations for Recycled Water Use.

6. The storage, delivery, or use of recycled water shall not individually or collectively, directly or indirectly, result in a pollution or nuisance, or adversely affect water quality, as defined in the California Water Code.

7. Prior to delivering recycled water to any new user, the Discharger shall submit to the California Department of Public Health and the County Environmental Health Department a report containing the following information for review and approval:

   a. The average number of persons estimated to be served at each use site area on a daily basis.

b. The specific boundaries of the proposed use site area including a map showing the location of each facility, drinking water fountain, and impoundment to be used.

c. The person or persons responsible for operation of the recycled water system at each use area.

d. The specific use to be made of the recycled water at each use area.

e. The methods to be used to assure that the installation and operation of the recycled system will not result in cross connections between the recycled water and potable water piping systems. This shall include a description of the pressure, dye or other test methods to be used to test the system.

f. Plans and specifications which include following:
(1) Proposed piping system to be used.
(2) Pipe locations of both the recycled and potable systems.
(3) Type and location of the outlets and plumbing fixtures that will be accessible to the public.
(4) The methods and devices to be used to prevent backflow of recycled water into the potable water system.
(5) Plan notes relating to specific installation and use requirements.

8. The Discharger shall require the user(s) to designate an on-site supervisor responsible for the operation of the recycled water distribution system within the recycled water use area. The supervisor shall be responsible for enforcing this Order, prevention of potential hazards, the installation, operation and maintenance of the distribution system, maintenance of the distribution and irrigation system plans in "as-built" form, and for the distribution of the recycled wastewater in accordance with this Order.

9. Recycled water shall at all times be maintained within the property lines of any user. There shall be no direct or indirect discharge of recycled water into drainage systems that could affect surface water quality standards.

D. Stormwater Discharge Specifications – S-001 and S-002

1. Storm water[19] discharges shall maintain compliance with the following effluent limitations at S-001 and S-002 with compliance measured at monitoring locations STORM-001 and STORM-002 and shall not:

a. Cause or contribute to a violation of any applicable water quality standards contained in the Basin Plan or in the State or Federal regulations.

b. Cause or threaten to cause pollution, contamination, or nuisance.

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19 *Storm water means storm water runoff and surface runoff and drainage.*

c. Contain a hazardous substance equal to or in excess of a reportable quantity listed in 40 CFR Part 117 and/or 40 CFR Part 302.

d. Adversely impact human health or the environment.

e. Result in noncompliance with the lawful requirements of municipalities, counties, drainage districts, and other local agencies on storm water discharges into storm drain systems or other courses under their jurisdiction.

2. Stormwater discharges from this Facility shall comply with the Stormwater Requirements in Attachment J and K.

3. The Discharger must update and implement the Storm Water Pollution Prevention Plan for the Facility in accordance with Attachment J of this Order.

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

1. Receiving water limitations are based upon water quality objectives contained in the Basin Plan. As such, they are a required part of this Order. The discharge shall not cause the following in Prado Park Lake, Reach 1 of Cucamonga Creek, Reaches 1A, 1B and 2 of Chino Creek or Reach 3 of the Santa Ana River and downstream reaches:

   a. Coloration of the receiving waters, which causes a nuisance or adversely affects beneficial uses.

   b. Deposition of oil, grease, wax or other materials in the receiving waters in concentrations which result in a visible film or in coating objects in the water, or which cause a nuisance or affect beneficial uses.

   c. An increase in the amounts of suspended or settleable solids in the receiving waters, which will cause a nuisance or adversely affect beneficial uses as a result of controllable water quality factors.

   d. Taste or odor-producing substances in the receiving waters at concentrations, which cause a nuisance or adversely affect beneficial uses.

   e. The presence of radioactive materials in the receiving waters in concentrations, which are deleterious to human, plant or animal life.

   f. The depletion of the dissolved oxygen concentration below 5.0 mg/L.

   g. The temperature of the receiving waters to be raised above 90°F (32°C) during the period of June through October, or above 78°F (26°C) during the rest of the year.

h. The concentration of pollutants in the water column, sediments, or biota to adversely affect the beneficial uses of the receiving water. The discharge shall not result in the degradation of inland surface water communities and populations, including vertebrate, invertebrate, and plant species.

2. The discharge of wastes shall not cause a violation of any applicable water quality standards for receiving waters adopted by the Regional Water Board or State Water Board, as required by the Clean Water Act and regulations adopted thereunder.

3. Pollutants not specifically mentioned and limited in this Order shall not be discharged at levels that will bioaccumulate in aquatic resources to levels, which are harmful to human health or animal life.

4. The discharge shall not contain constituent concentrations of mercury that will result in the bioaccumulation of methylmercury in fish flesh tissue greater than 0.3 milligram methylmercury/kilogram. (See also Section VI.C.1.e. and VI.C.2.a., below).

B. Groundwater Limitations

The use of recycled water shall not cause the underlying groundwater to be degraded, to exceed water quality objectives, unreasonably affect beneficial uses, or cause a condition of pollution or nuisance.

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.

2. The Discharger shall comply with the following provisions:

   a. Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from this Facility, may subject the Discharger to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Discharger to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.

b. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, discharge limitations (e.g., maximum daily effluent limitation), or receiving water limitation of this Order, the Discharger shall notify the Regional Water Board by telephone (951) 782-4130 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Regional Water Board waives confirmation. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures being taken to remedy the current noncompliance and, prevent recurrence including, where applicable, a schedule of implementation. Other noncompliance requires written notification as above at the time of the normal monitoring report.

c. Neither the treatment nor the discharge of pollutants shall create a pollution, contamination, or nuisance as defined by Section 13050 of the CWC.

d. The Discharger shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this Order, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the noncomplying discharge.

e. This Order may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:

(1) Violation of any terms or conditions of this Order;
(2) Obtaining this Order by misrepresentation or failure to disclose fully all relevant facts, or;
(3) In addition to any other grounds specified herein, this Order may be modified or revoked at any time if, on the basis of any data, the Regional Water Board determines that continued discharges may cause unreasonable degradation of the aquatic environment.

f. If an effluent standard or discharge prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307 (a) of the Clean Water Act for a toxic pollutant which is present in the discharge, and such standard or prohibition is more stringent than any limitation for that pollutant in this Order, this Order may be modified or revoked and reissued to conform to the effluent standard or discharge prohibition.

g. The Discharger shall file with the Regional Water Board a Report of Waste Discharge at least 180 days before making any material change in the character, location, or volume of the discharge. A material change includes, but is not limited to, the following:

(1) Adding a major industrial waste discharge to a discharge of essentially domestic sewage, or adding a new process or product by an industrial facility resulting in a change in the character of the waste.
(2) Significantly changing the disposal method or location, such as changing the disposal to another drainage area or water body.
(3) Significantly changing the method of treatment.
(4) Increasing the treatment plant design capacity beyond that specified in this Order.

h. The provisions of this Order are severable, and if any provision of this Order, or the application of any provision of this Order to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Order, shall not be affected thereby.

i. The Discharger shall maintain a copy of this Order at the site so that it is available to site operating personnel at all times. Key operating personnel shall be familiar with its content.

j. The Discharger shall optimize chemical additions needed in the treatment process to meet waste discharge requirements so as to minimize total dissolved solid increases in the treated wastewater.

k. Collected screenings, sludge, and other solids removed from liquid wastes shall be disposed of in a manner approved by the Regional Water Board's Executive Officer.

l. The Discharger has demonstrated a correlation between the biological oxygen demand (BOD_5) and total organic carbon (TOC) concentrations in the effluent to the satisfaction of the Executive Officer. Therefore, compliance with the BOD_5 limits and monitoring requirements contained in this Order may be determined based on analyses of the TOC of the effluent.

m. In the event of any change in control or ownership of land or waste discharge facility presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be forwarded to the Regional Water Board.

n. The treatment facilities shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.

B. Monitoring and Reporting Program (MRP) Requirements

The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E of this Order. This monitoring and reporting program may be modified by the Executive Officer at any time during the term of this Order, and may include an increase in the number of parameters to be monitored, the frequency of the monitoring or the number and size of samples to be collected. Any increase in the number of parameters to be monitored, the frequency of the monitoring or the number and size of samples to be collected may be reduced back to the levels specified in the original monitoring and reporting program at the discretion of the Executive Officer.

C. Special Provisions

1. Reopener Provisions

a. This Order will be reopened to address any changes in State or federal plans, policies or regulations that would affect the quality requirements for the discharges.

b. This Order may be reopened to include effluent limitations for pollutants determined to be present in the discharge in concentrations that pose a reasonable potential to cause or contribute to violations of water quality standards.

c. This Order may be reopened and modified in accordance with the requirements set forth at 40 CFR 122 and 124, to include the appropriate conditions or limits to address demonstrated effluent toxicity based on newly available information, or to implement any EPA-approved new State water quality standards applicable to effluent toxicity.

d. This Order may be reopened for modification, or revocation and reissuance, as a result of the detection of a reportable priority pollutant generated by special conditions included in this Order. These special conditions may be, but are not limited to, fish tissue sampling, whole effluent toxicity, monitoring requirements on internal waste stream(s), and monitoring for surrogate parameters. Additional requirements may be included in this Order as a result of the special condition monitoring data.

e. This Order may be reopened to include an appropriate bioaccumulation based effluent limit for mercury if test results (as required in Attachment E of this Order) show that the concentration levels of methylmercury in the fish tissue are at or above 0.3 milligrams per kilogram.

f. This Order may be reopened to incorporate appropriate biosolids requirements if the State Water Resources Control Board and the Regional Water Quality Control Board are given the authority to implement regulations contained in 40 CFR 503.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. By September 1, 2009, the Discharger shall notify the Executive Officer of its continuous involvement with the comprehensive mercury investigation program currently being conducted by a group of Santa Ana River system dischargers. If the Discharger discontinues its involvement with this comprehensive program, the Discharger shall, within 60 days of that date, submit for the approval of the Executive Officer its plan for the annual testing of mercury levels in fish flesh samples collected from the Santa Ana River, upstream of, at, and downstream of the point of the discharge point. Upon approval, the Discharger shall implement the plan.

b. Toxicity Reduction Requirements.

(1) The Discharger shall develop an Initial Investigation Toxicity Reduction Evaluation (IITRE) work plan that describes the steps the Discharger intends to follow if required by Toxicity Requirements b.(2), below. The work plan shall include at a minimum:

(a) A description of the investigation and evaluation techniques that will be used to identify potential causes/sources of the exceedance, effluent variability, and/or efficiency of the treatment system in removing toxic substances. This shall include a description of an accelerated chronic toxicity testing program.

(b) A description of the methods to be used for investigating and maximizing in-house treatment efficiency and good housekeeping practices.

(c) A description of the evaluation process to be used to determine if implementation of a more detailed TRE\TIE is necessary.

(2) The Discharger shall implement the IITRE work plan whenever the results of chronic toxicity tests of the effluent exceed:

(a) A two month median value of 1.0 TUc for survival or reproduction endpoint or,
(b) Any single test value of 1.7 TUc for survival endpoint.

(3) The Discharger shall develop a detailed Toxicity Reduction Evaluation and Toxicity Identification Evaluation (TRE/TIE) work plan that shall describe the steps the Discharger intends to follow if the implemented IITRE fails to identify the cause of, or to rectify, the toxicity.

(4) The Discharger shall use as guidance, at a minimum, EPA manuals EPA/600/2-88/070 (industrial), EPA/600/4-89-001A (municipal), EPA/600/6-91/005F (Phase I), EPA/600/R-92/080 (Phase II), and EPA-600/R-92/081 (Phase III) to identify the cause(s) of toxicity. If during the life of this Order the aforementioned EPA manuals are revised or updated, the revised/updated manuals may also be used as guidance. The detailed TRE/TIE work plan shall include:

(a) Further actions to investigate and identify the cause of toxicity;
(b) Actions the Discharger will take to mitigate the impact of the discharge and to prevent the recurrence of toxicity; and
(c) A schedule for these actions.

(5) The Discharger shall implement the TRE/TIE workplan if the IITRE fails to identify the cause of, or rectify, the toxicity, or if in the opinion of the Executive Officer the IITRE does not adequately address an identified toxicity problem.

(6) The Discharger shall assure that adequate resources are available to implement the required TRE/TIE.

3. Best Management Practices and Pollution Prevention

a. Pollutant Minimization Program

(1) The Discharger shall develop and conduct a Pollutant Minimization Program (PMP) as further described below when there is evidence (e.g., sample results reported as DNQ when the effluent limitation is less than the MDL, sample results from analytical methods more sensitive than those methods required by this Order, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling) that a priority pollutant is present in the effluent above an effluent limitation and either:

(a) A sample result is reported as DNQ and the effluent limitation is less than the RL; or
(b) A sample result is reported as ND and the effluent limitation is less than the MDL.

(2) The PMP shall include, but not be limited to, the following actions and submittals acceptable to the Regional Water Board:

(a) An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling;

(b) Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system;

(c) Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant(s) in the effluent at or below the effluent limitation;

(d) Implementation of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy; and

(e) An annual status report that shall be sent to the Regional Water Board including:

i. All PMP monitoring results for the previous year;
ii. A list of potential sources of the reportable priority pollutant(s);
iii. A summary of all actions undertaken pursuant to the control strategy; and
iv. A description of actions to be taken in the following year.

4. Construction, Operation and Maintenance Specifications

a. The Discharger's wastewater treatment plants shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to Title 23, Division 3, Chapter 14, California Code of Regulations.

b. The Discharger shall provide safeguards to assure that should there be reduction, loss, or failure of electric power, the Discharger will comply with the requirements of this Order.

c. The Discharger shall update as necessary, the "Operation and Maintenance Manual(s) (O&M Manual)" which it has developed for the treatment facilities to conform to latest plant changes and requirements. The O&M Manual(s) shall be readily available to operating personnel onsite. The O&M Manual(s) shall include the following:

(1) Description of the treatment plant table of organization showing the number of employees, duties and qualifications and plant attendance schedules (daily, weekends and holidays, part-time, etc). The description should include documentation that the personnel are knowledgeable and qualified to operate the treatment facility so as to achieve the required level of treatment at all times.
(2) Detailed description of safe and effective operation and maintenance of treatment processes, process control instrumentation and equipment.
(3) Description of laboratory and quality assurance procedures.
(4) Process and equipment inspection and maintenance schedules.
(5) Description of safeguards to assure that, should there be reduction, loss, or failure of electric power, the Discharger will be able to comply with requirements of this Order.
(6) Description of preventive (fail-safe) and contingency (response and cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. These plans shall identify the possible sources (such as loading and storage areas, power outage, waste treatment unit failure, process equipment failure, tank and piping failure) of accidental discharges, untreated or partially treated waste bypass, and polluted drainage.

5. Special Provisions for Municipal Facilities (POTWs Only)

a. Sewer Collection System Requirements: The Discharger's collection system is part of the system that is subject to this Order. As such, the Discharger must properly operate and maintain its collection system (40 C.F.R. § 122.41(e)). The Discharger must report any non-compliance (40 C.F.R. § 122.41(l)(6) and (7)) and mitigate any discharge from the collection system in violation of this Order (40 C.F.R. § 122.41(d)). See the Order at Standard Provision VI.A.2.b. and Attachment D, subsections I.D, V.E, V.H, and I.C.

Furthermore, the General Waste Discharge Requirements for Collection System Agencies (Order No. 2006-0003 DWQ) contains requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows. While the Discharger must comply with both Order No. 2006-0003 DWQ and this Order, the General Collection System WDR more clearly and specifically stipulates requirements for operation and maintenance and for reporting and mitigating sanitary sewer overflows. The Discharger and other governmental agencies that are discharging wastewater into the facility are required to obtain enrollment for regulation under Order No. 2006-0003-DWQ.

b. Sludge Disposal Requirements

(1) Collected screenings, sludge, and other solids removed from liquid wastes shall be disposed of in a manner that is consistent with State Water Board and Integrated Waste Management Board's joint regulations (Title 27) of the California Code of Regulations and approved by the Regional Water Board's Executive Officer.
(2) The use and disposal of biosolids shall comply with existing Federal and State laws and regulations, including permitting requirements and technical standards included in 40 CFR 503.
(3) Any proposed change in biosolids use or disposal practice from a previously approved practice should be reported to the Executive Officer and EPA Regional Administrator at least 90 days in advance of the change.
(4) The Discharger shall take all reasonable steps to minimize or prevent any discharge or biosolids use or disposal that has the potential of adversely affecting human health or the environment.

c. Pretreatment Program

(1) The Discharger shall update as necessary and implement an acceptable pretreatment program.

(2) The Discharger shall update as necessary the appropriate contractual agreements with all governmental agencies[20]. The contractual agreements shall give the Discharger the authority to implement and enforce the approved pretreatment program within the sewer service areas of the treatment Facility. The Discharger shall assure that any other steps necessary to provide this implementation and enforcement authority (e.g. adoption of ordinances, etc.) are taken by all governmental agencies. If a governmental agency has an EPA approved pretreatment program for any portion of the service area of the treatment facility, the Discharger's pretreatment program shall contain provisions ensuring that that governmental agency's program is implemented. In the event that any agency discharging to Discharger's facility fails to effectively implement its individual EPA approved pretreatment program, the Discharger shall implement and enforce its approved program within that agency's service area.

[20] *Member agencies and sewering agencies discharging wastewater into the Facility.*

(3) The Discharger shall ensure that the POTW[21] pretreatment program for all contributory agencies discharging to the Discharger's treatment facility are implemented and enforced. The Discharger shall be responsible and liable for the performance of all Control Authority pretreatment requirements contained in 40 CFR 403, including any subsequent regulatory revisions to Part 403. Where Part 403 or subsequent revisions place mandatory actions upon the Discharger as Control Authority but does not specify a timetable for completion of the actions, the Discharger shall submit for approval of the Regional Water Board's Executive Officer, a schedule for implementation of the required actions and shall implement the approved schedule. The schedule for implementation shall be submitted within six months from the date that such mandatory actions are established. For violations of pretreatment requirements, the Discharger shall be subject to enforcement actions, penalties, fines and other remedies by the EPA, or other appropriate parties, as provided in the CWA, as amended (33 USC 1351 et seq.). The EPA or the Regional Water Board may also initiate enforcement action against an industrial user (IU) for non-compliance with applicable standards and requirements as provided in the CWA.

(4) The Discharger shall perform the pretreatment functions as required in 40 CFR Part 403 including, but not limited to:

(a) Enforce the pretreatment requirements under 40 CFR 403.5 and 403.6;

(b) Implement the necessary legal authorities as provided in 40 CFR 403.8(f)(1);

(c) Implement the programmatic functions as provided in 40 CFR 403.8(f)(2);

(d) Publish a list of significant non-compliance as required by 40 CFR 403.8(f)(2)(vii); and

(e) Provide the requisite funding and personnel to implement the pretreatment program as provided in 40 CFR 403.8(f)(3).

(5) The following wastes shall not be introduced into the treatment works:

(a) Wastes which create a fire or explosion hazard in the treatment works;

(b) Wastes which will cause corrosive structural damage to treatment works, but, in no case, wastes with a pH lower than 5.0 unless the works are designed to accommodate such wastes;

[21] *Publicly owned treatment works.*

(c) Wastes at a flow rate and/or pollutant discharge rate which is excessive over relatively short time periods so that there is a treatment process upset and subsequent loss of treatment efficiency;

(d) Solid or viscous wastes in amounts that would cause obstruction to the flow in sewers or otherwise interfere with the proper operation of the treatment works.

(6) The Discharger shall ensure compliance with any existing or future pretreatment standard promulgated by EPA under Section 307 of the CWA or amendments thereto for any discharge to the municipal system.

(7) The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement.

(8) The Discharger shall require each user not in compliance with any pretreatment standard to submit periodic notice (over intervals not to exceed nine months) of progress toward compliance with applicable toxic and pretreatment standards developed pursuant to the CWA or amendments thereto. The Discharger shall forward a copy of such notice to the Regional Water Board and to the EPA Regional Administrator.

(9) The Discharger shall operate the wastewater collection system under a comprehensive industrial pretreatment and pollutant control program for the control of discharge of toxic wastes from point sources. If the California Department of Health Services identifies any contaminants that may pose a risk of contamination to a drinking water supply, it may designate those contaminants for inclusion in the pretreatment and source control program requirements for IEUA to minimize the possibility that the influent wastewater to RP-1 and RP-4 will be contaminated with such toxic chemicals. The source control program shall include:

(a) An assessment of the fate of the specified contaminant compounds through the wastewater and recycled water treatment systems.

(b) A source investigation and monitoring program focused on the specified contaminants.

(c) An outreach program to industrial, commercial and residential communities within the sewage collection agency's service area to manage and minimize the discharge of compounds of concern at the source.

(d) A proactive program for maintaining an inventory of compounds discharged into the wastewater collection system so that new compounds of concern can be evaluated rapidly.

6. Other Special Provisions

a. As necessary based on the consideration of evidence regarding the implementation of the maximum benefit commitments shown in Attachment L , the Regional Water Board will be asked to make a determination of whether those commitments are being satisfied. If the Regional Water Board finds that the maximum benefit commitments are not being satisfied, then the Discharger shall implement a mitigation program approved by the Regional Water Board for recycled water use in the Chino 1, 2 or 3 Groundwater Management Zones using recycled water in excess of the limitations applicable to the Groundwater Management Zones (Sections IV.A.1.c. and IV.A.1.d., and Sections IV.C.1.b.). A proposed mitigation plan and schedule shall be submitted within 60-days of notification by the Regional Water Board Executive Officer of the need to do so. The Discharger shall implement the plan and schedule upon approval by the Regional Water Board.

7. Compliance Schedules – Not Applicable

VII. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in section IV of this Order will be determined as specified below:

A. General.

Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined in the MRP and Attachment A of this Order. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

B. Multiple Sample Data.

When determining compliance with an AMEL or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of “Detected, but Not Quantified” (DNQ) or “Not Detected” (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

1. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

2. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

C. Average Monthly Effluent Limitation (AMEL).

If the average (or when applicable, the median determined by subsection B above for multiple sample data) of daily discharges over a calendar month exceeds the AMEL for a given parameter, this will represent a single violation, though the Discharger will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Discharger will be considered out of compliance for that calendar month. The Discharger will only be considered out of compliance for days when the discharge occurs. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month.

D. Average Weekly Effluent Limitation (AWEL).

If the average or when applicable, the median determined by subsection B above for multiple sample data of daily discharges over a calendar week exceeds the AWEL for a given parameter, this will represent a single violation, though the Discharger will be considered out of compliance for each day of that week for that parameter, resulting in 7 days of non-compliance. If only a single sample is taken during the calendar week and the analytical result for that sample exceeds the AWEL, the Discharger will be considered out of compliance for that calendar week. The Discharger will only be considered out of compliance for days when the discharge occurs. For any one calendar week during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar week.

E. Maximum Daily Effluent Limitation (MDEL).

If a daily discharge or when applicable, the median determined by subsection B above for multiple sample data of a daily discharge exceeds the MDEL for a given parameter, the Discharger will be considered out of compliance for that parameter for that 1 day only within the reporting period. For any 1 day during which no sample is taken, no compliance determination can be made for that day.

F. Instantaneous Minimum Effluent Limitation.

If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both are lower than the instantaneous minimum effluent limitation would result in two instances of non-compliance with the instantaneous minimum effluent limitation).

G. Instantaneous Maximum Effluent Limitation.

If the analytical result of a single grab sample is higher than the instantaneous maximum effluent limitation for a parameter, the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both exceed the instantaneous maximum effluent limitation would result in two instances of non-compliance with the instantaneous maximum effluent limitation).

H. 12-Month Running Average Effluent Limitation (12-MRAEL).

Compliance with the 12-month flow weighted running average limits under Discharge Specification IV.A.1.c., IV.A.1.d., and IV.C.1.b. shall be determined by the arithmetic mean of the last twelve monthly averages.

I. Turbidity Limitations.

The Discharger shall be considered in compliance with Discharge Specifications IV.A.1.e.(1) and IV.C.1.c.(1), if the following conditions are met. If the Discharger is using a properly operating backup turbidimeter, the reading of the backup turbidimeter shall be considered in determining whether there has been an actual noncompliance:

1. There are no excursions above the limits specified in Discharge Specifications IV.A.1.e.(1)(a) and (b) and IV.C.1.c.(1)(a) and (b);
2. Exceedances of the “10 NTU at any time” turbidity requirement do not exceed a duration of one minute.
3. The apparent exceedance was caused by interference with, or malfunction of, the monitoring instrument.

J. Coliform Organism Effluent Limitations.

1. Compliance with the average weekly total coliform limit expressed in Discharge Specification IV.A.1.e.(2)(b), IV.C.1.c.(2)(a), and IV.C.1.d. shall be based on a median of test results from the previous 7 days. To comply with the limit, the 7-day median MPN must not exceed 2.2 per 100 milliliters on any day during the week. However, only one violation is recorded for each calendar week, even if the 7-day median MPN value is greater than 2.2 for more than one day in the week.

2. Compliance with the average weekly total coliform limit expressed in Discharge Specification IV.C.1.e. shall be based on a median of test results from the previous 7 days. To comply with the limit, the 7-day median MPN must not exceed 23 per 100 milliliters on any day during the week. However, only one violation is recorded for each calendar week, even if the 7-day median MPN value is greater than 23 for more than one day in the week.

K. pH Effluent Limitations.

Pursuant to 40 CFR 401.17, the Discharger shall be in compliance with the pH limitations specified in the Discharge Specification IV.A.1.g., IV.A.4.d., above, provided that both of the following conditions are satisfied:

1. The total time during which the pH values are outside the required range of 6.5-8.5 pH values shall not exceed 7 hours and 26 minutes in any calendar month; and
2. No individual excursion from the range of pH values shall exceed 60 minutes.

L. TDS Increment Limit.

Compliance with Discharge Specifications IV.A.1.c.(2) shall be based on IEUA's (RP-1, RP- 4, RP-5, and CCWRF) agency-wide flow weighted TDS water supply quality and shall be determined from TDS analysis of secondary treated wastewater. The Discharger shall provide the necessary calculations showing the overall TDS water supply quality.

M. Total Chlorine Residual Limitation (TCR)

Compliance determinations for total chlorine residual shall be based on 99% compliance. To determine 99% compliance with the effluent limitation for total chlorine residual, the following conditions shall be satisfied:

1. For TCR Limit specified in Section IV.A.1. :
   a The total time during which the total chlorine residual values are above 0.1 mg/L (instantaneous maximum value) shall not exceed 7 hours and 26 minutes in any calendar month;
   b No individual excursion from 0.1 mg/L value shall exceed 5 minutes; and
   c No individual excursion shall exceed 5.0 mg/L.

2. For TCR Limit specified in Section IV.A.4.:
   a The total time during which the total chlorine residual values are above 2.1 mg/L (instantaneous maximum value) shall not exceed 7 hours and 26 minutes in any calendar month;
   b No individual excursion from 2.1 mg/L value shall exceed 5 minutes; and
   c No individual excursion shall exceed 10.5 mg/L.

N. Percent Removal

Compliance with the 85 percent average monthly removal requirement (See Effluent Limitations and Discharge Specifications Section IV.A.1.b.)shall be determined for each individual facility (RP-1, RP-4, RP- 5, and CCWRF).

O. Priority Pollutants.

The Discharger shall be deemed out of compliance with an effluent limitation if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation.

1. Compliance determination shall be based on the reporting level selected from minimum level (ML)[22] specified in Attachment H of this Order, unless an alternative reporting level is approved by the Regional Water Board's Executive Officer. When there is more than one ML value for a given substance, the Discharger shall select the ML value that is below the calculated effluent limitation, and use its associated analytical method, listed in Attachment H of this Order. If no ML value is below the effluent limitation, then the Regional Water Board will select as the reporting level the lowest ML value and its associated analytical method.

2. When determining compliance with an average monthly limit and more than one sample result is available in a month, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of detected but not quantified (DNQ) or not detected (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

   a. The data set shall be ranked from low to high, reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

   b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ. If a sample result, or the arithmetic mean or median of multiple sample results, is below the reporting level, and there is evidence that the priority pollutant is present in the effluent above an effluent limitation and the Discharger conducts a pollutant minimization program (PMP)[23] the Discharger shall not be deemed out of compliance.

P. Non-Priority Pollutants.

The discharge shall be considered to be in compliance with an effluent limitation that is less than or equal to the method detection limit (MDL) specified in 40 CFR 136 if the arithmetic mean of all test results for the monitoring period is less than the constituent effluent limitation. Analytical results that are less than the specified MDL shall be assigned a value of zero.

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[22] *Minimum level is the concentration at which the entire analytical system must give a recognizable signal and acceptable point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.*

[23] *The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation.*

Q. Compliance Determination

Compliance determinations shall be based on available analyses for the time interval associated with the effluent limitation. Where only one sample analysis is available in a specified time interval (e. g., monthly or weekly average), that sample shall serve to characterize the discharge for the entire interval. If quarterly sample results show noncompliance with the average monthly limit and that sample result is used for compliance determinations for each month of the quarter, then three separate violations of the average monthly limit shall be deemed to have occurred.

Compliance with a single effluent limitation which applies to a group of chemicals (e.g., PCBs), based on a single sample shall be determined by considering the concentrations of individual members of the group to be zero if the analytical response for the individual chemical falls below the method detection limit (MDL) for that chemical.

ATTACHMENT A – DEFINITIONS

Arithmetic Mean (μ), also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

Arithmetic mean = $\mu = \Sigma x / n$ where: Σx is the sum of the measured ambient water concentrations, and n is the number of samples.

Average Monthly Effluent Limitation (AMEL): the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL): the highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Best Management Practices (BMPs) are methods, measures, or practices designed and selected to reduce or eliminate the discharge of pollutants to surface waters from point and nonpoint source discharges including storm water. BMPs include structural and non-structural controls, and operation and maintenance procedures, which can be applied before, during, and/or after pollution producing activities.

Bioaccumulative pollutants are those substances taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

Carcinogenic pollutants are substances that are known to cause cancer in living organisms.

Coefficient of Variation (CV) is a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

Criteria Continuous Concentration (CCC) equals the highest concentration of a pollutant to which aquatic life can be exposed for an extended period of time (4 days) without deleterious effects.

Criteria Maximum Concentration (CMC) equals the highest concentration of a pollutant to which aquatic life can be exposed for a short period of time without deleterious effects.

Daily Discharge: Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

Detected, but Not Quantified (DNQ) are those sample results less than the RL, but greater than or equal to the laboratory's MDL.

Effluent Concentration Allowance (ECA) is a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA) as used in USEPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

Estimated Chemical Concentration is the estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

Existing Discharger means any discharger that is not a new discharger. An existing discharger includes an "increasing discharger" (i.e., an existing facility with treatment systems in place for its current discharge that is or will be expanding, upgrading, or modifying its existing permitted discharge after the effective date of the State Implementation Policy).

Infeasible means not capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.

Inland Surface Waters are all surface waters of the State that do not include the ocean, enclosed bays, or estuaries.

Instantaneous Maximum Effluent Limitation: the highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

Instantaneous Minimum Effluent Limitation: the lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

Load Allocation (LA) is the portion of receiving water's total maximum daily load that is allocated to one of its non-point sources of pollution or to natural background sources.

Maximum Daily Effluent Limitation (MDEL) means the highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

Maximum Daily Flow is the maximum flow sample of all samples collected in a calendar day.

MEC: Maximum Effluent Concentration is the observed maximum pollutant concentration for the effluent.

Median is the middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements (*n*) is odd, then the median = $X_{(n+1)/2}$. If *n* is even, then the median = $(X_{n/2} + X_{(n/2)+1})/2$ (i.e., the midpoint between the *n*/2 and *n*/2+1).

Method Detection Limit (MDL) is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in title 40 of the Code of Federal Regulations, Part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (ML) is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

Mixing Zone is a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

Not Detected (ND) are those sample results less than the laboratory's MDL.

Objectionable Bottom Deposits are an accumulation of materials or substances on or near the bottom of a water body, which creates conditions that adversely impact aquatic life, human health, beneficial uses, or aesthetics. These conditions include, but are not limited to, the accumulation of pollutants in the sediments and other conditions that result in harm to benthic organisms, production of food chain organisms, or fish egg development. The presence of such deposits shall be determined by RWQCB(s) on a case-by-case basis.

Persistent pollutants are substances for which degradation or decomposition in the environment is nonexistent or very slow.

Pollutant Minimization Program (PMP) means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Regional Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

Pollution Prevention means any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State or Regional Water Board.

Reporting Level (RL) is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board either from Appendix 4 of the SIP[1] in accordance with section 2.4.2 of the SIP or established in accordance with section 2.4.3 of the SIP. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the RL.

Satellite Collection System is the portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility that a sanitary sewer system is tributary to.

Source of Drinking Water is any water designated as municipal or domestic supply (MUN) in a Regional Water Board Basin Plan.

[1] *SIP refers to the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California.*

Standard Deviation (σ) is a measure of variability that is calculated as follows:

$$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$$

where:

x is the observed value;

μ is the arithmetic mean of the observed values; and

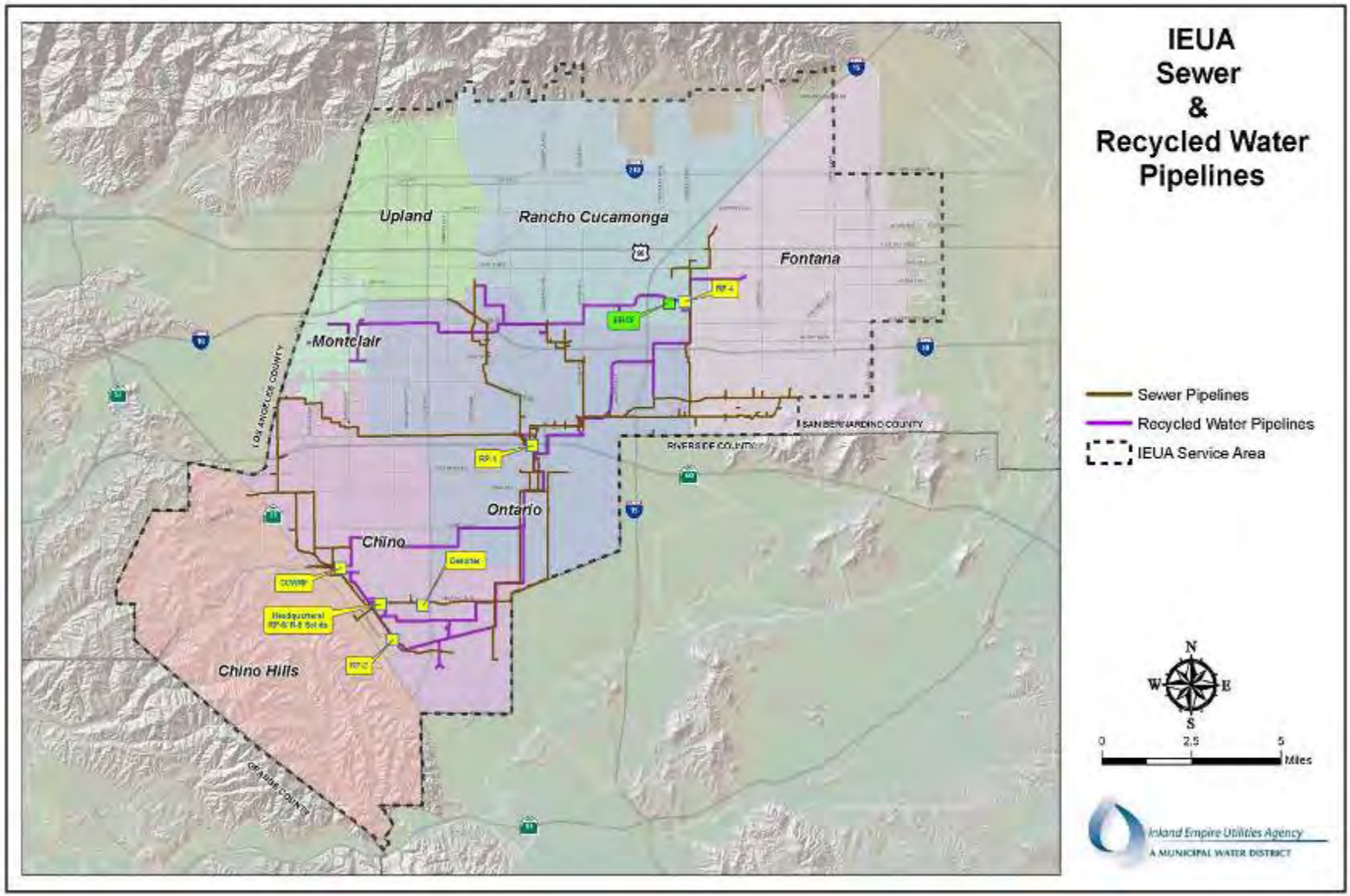
n is the number of samples.

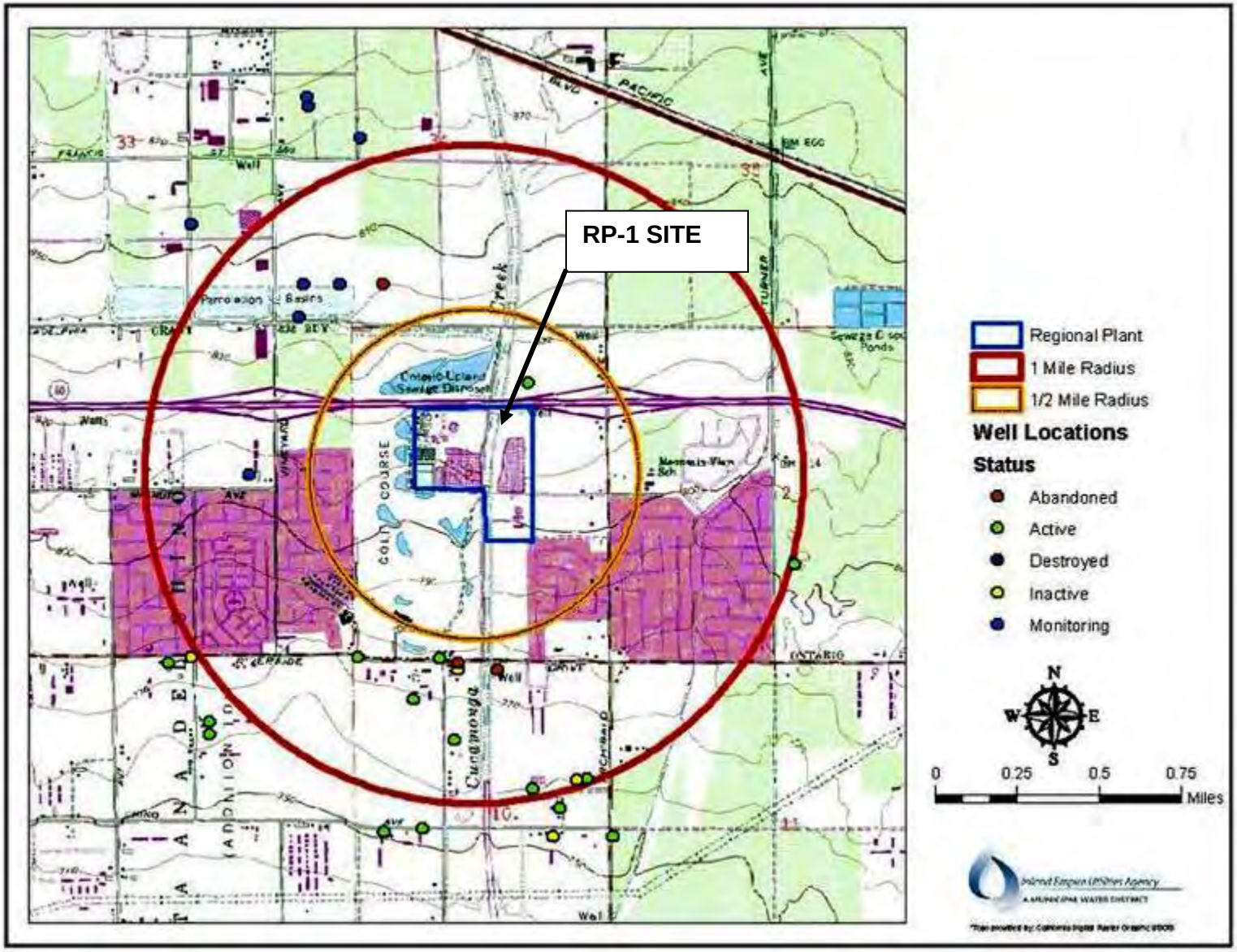
Toxicity Reduction Evaluation (TRE) is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

Water Effect Ratio (WER) is an appropriate measure of the toxicity of a material obtained in a site water divided by the same measure of the toxicity of the same material obtained simultaneously in a laboratory dilution water.

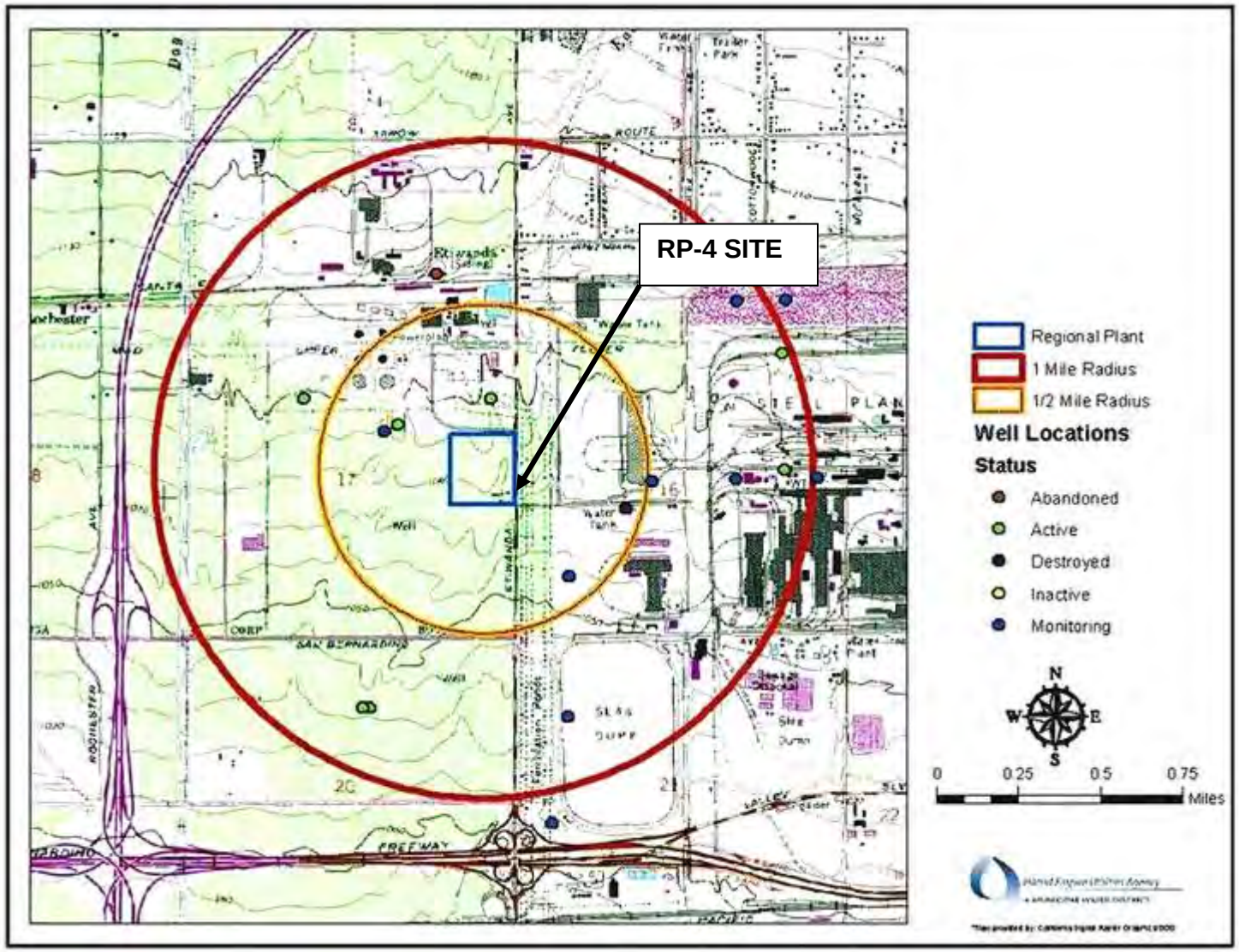
12-Month Running Average Effluent Limitation (12-MRAEL): the highest allowable average of monthly discharges over last twelve months, calculated as the sum of all monthly discharges measured during last twelve months divided by the number of monthly discharges measured during that time period.

ATTACHMENT B – LOCATION

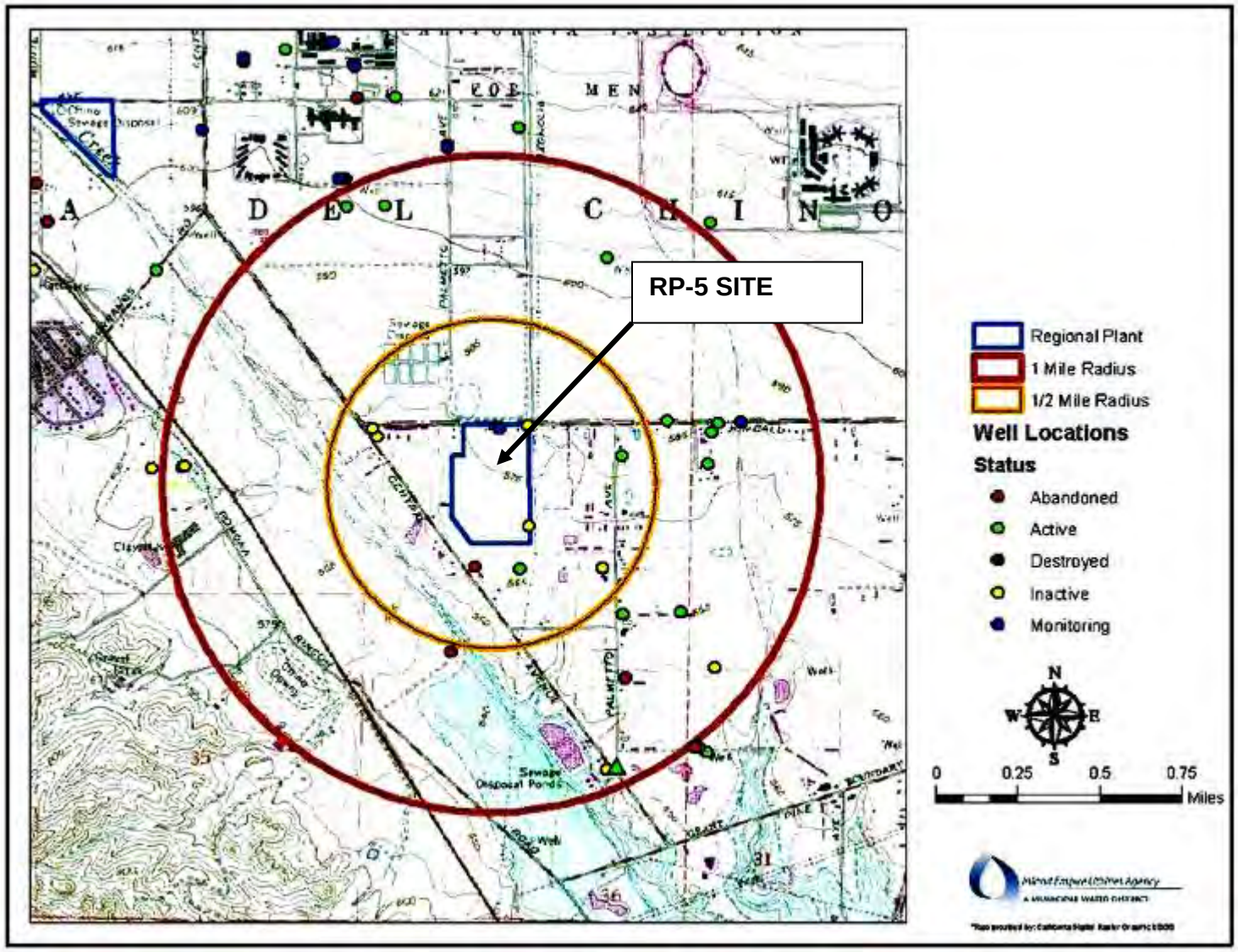




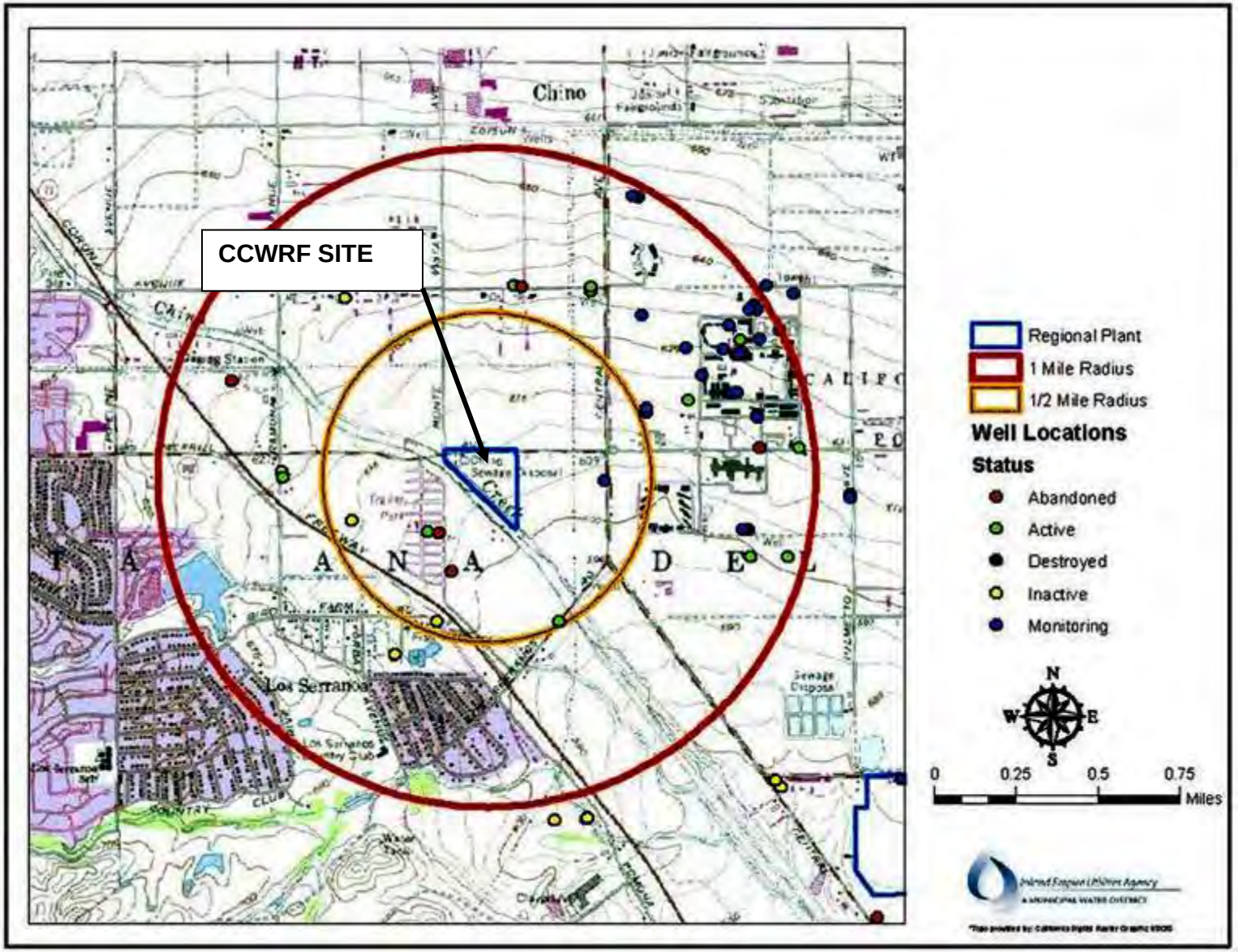
RP-1 LOCATION MAP



RP-4 LOCATION MAP

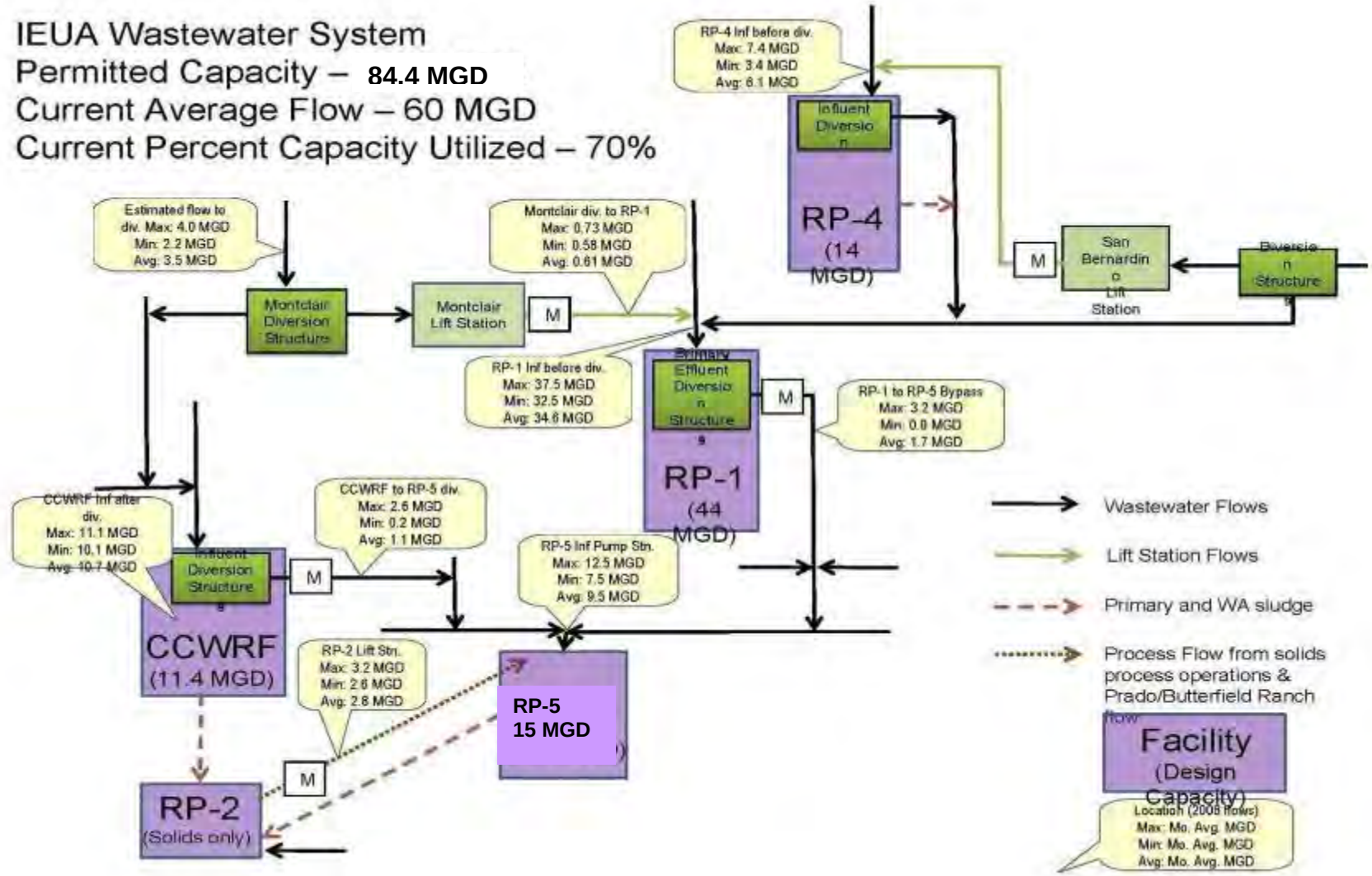


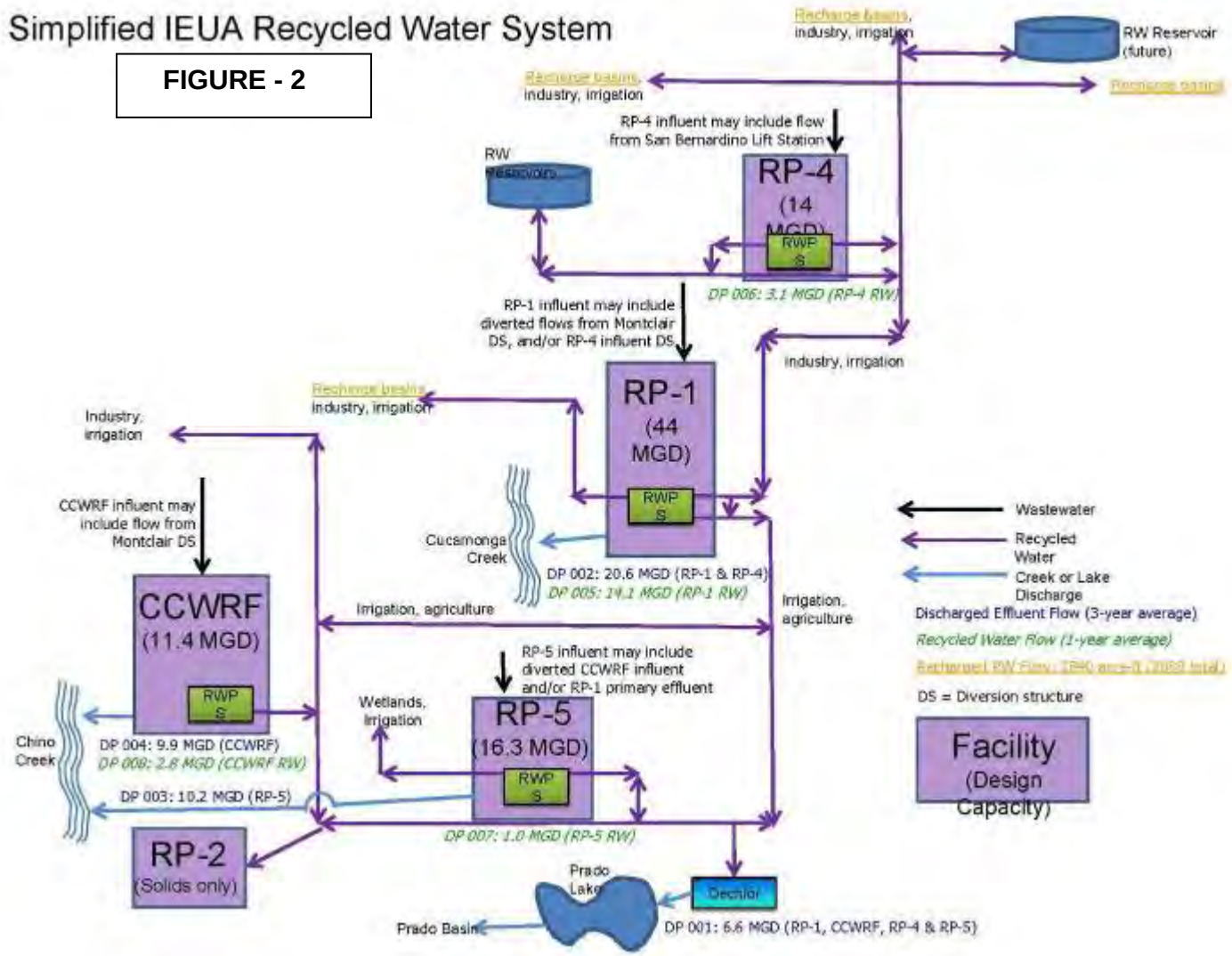
RP-5 LOCATION MAP

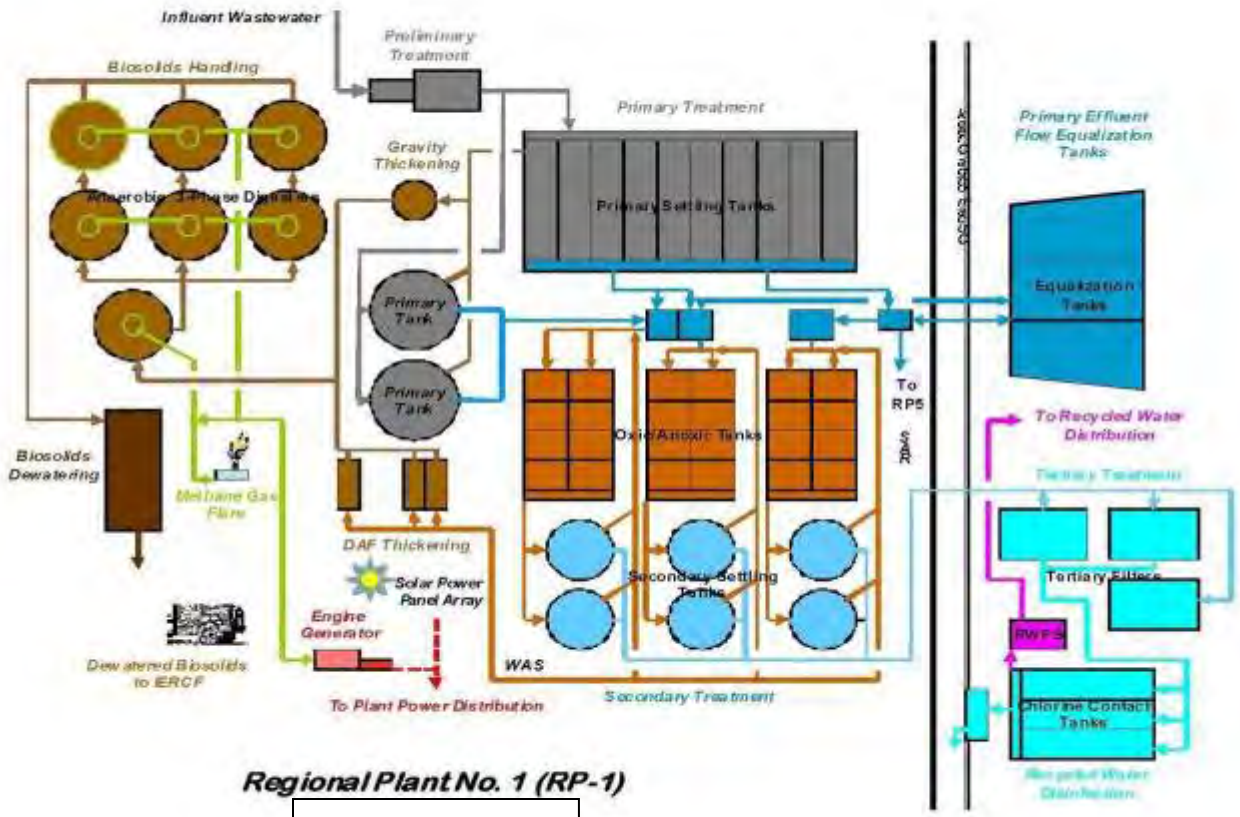


CCWRF LOCATION MAP

ATTACHMENT C – FIGURE 1




Simplified IEUA Recycled Water System
FIGURE - 2
Recharge basins, industry, irrigation
RW Reservoir (future)
Recharge basins, industry, irrigation
RP-4 influent may include flow from San Bernardino Lift Station
RW Reservoir
RP-4
(14 MGD)
RWPS
DP 006: 3.1 MGD (RP-4 RW)
RP-1 influent may include diverted flows from Montclair DS, and/or RP-4 influent DS
industry, irrigation
Recharge basins industry, irrigation
RP-1
(44 MGD)
RWPS
Industry, irrigation
CCWRF influent may include flow from Montclair DS
Cucamonga Creek
DP 002: 20.6 MGD (RP-1 & RP-4)
DP 005: 14.1 MGD (RP-1 RW)
Irrigation, agriculture
Irrigation, agriculture
CCWRF
(11.4 MGD)
RWPS
RP-5 influent may include diverted CCWRF influent and/or RP-1 primary effluent
Wetlands, irrigation
RP-5
(16.3 MGD)
RWPS
Chino Creek
DP 004: 9.9 MGD (CCWRF)
DP 008: 2.8 MGD (CCWRF RW)
DP 003: 10.2 MGD (RP-5)
DP 007: 1.0 MGD (RP-5 RW)
RP-2
(Solids only)
Prado Lake
Dechlor
Prado Basin
DP 001: 6.6 MGD (RP-1, CCWRF, RP-4 & RP-5)
Wastewater
Recycled Water
Creek or Lake Discharge
Discharged Effluent Flow (3-year average)
Recycled Water Flow (1-year average)
Recharged RW Flow: 1840 acre-ft (2003 total)
DS = Diversion structure
Facility
(Design Capacity)



Regional Plant No. 1 (RP-1)

FIGURE - 3

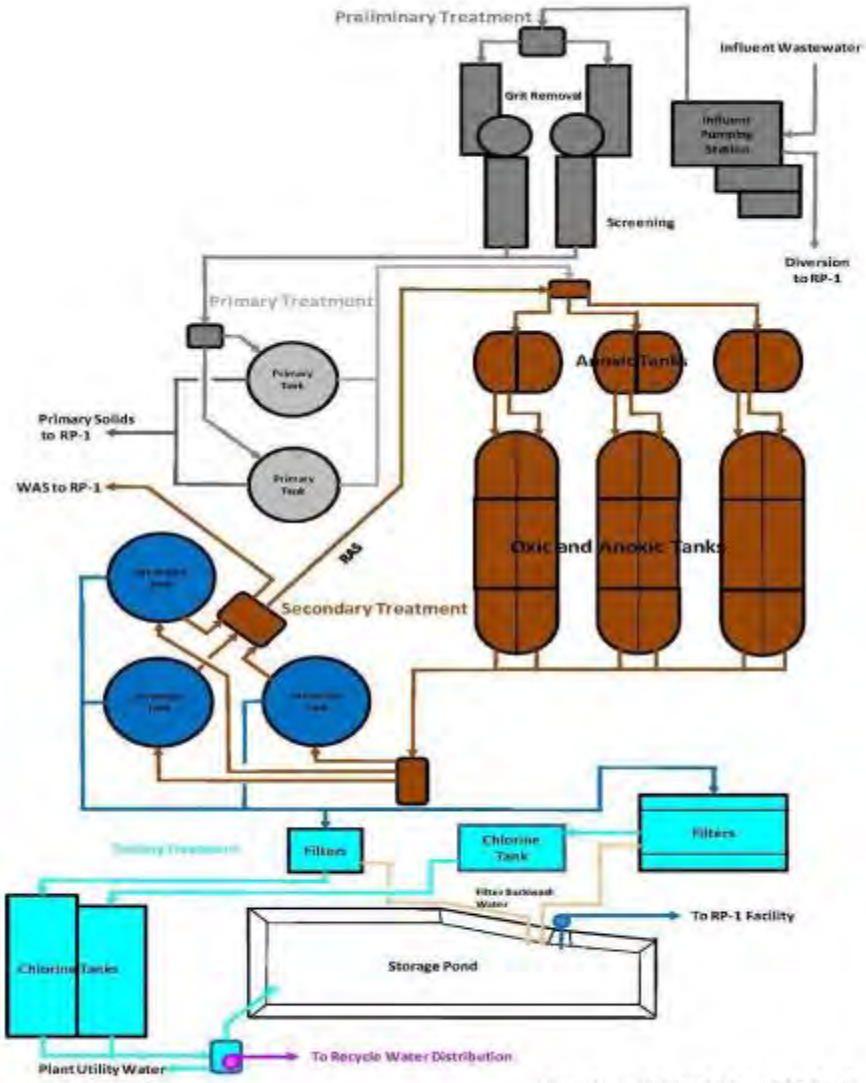
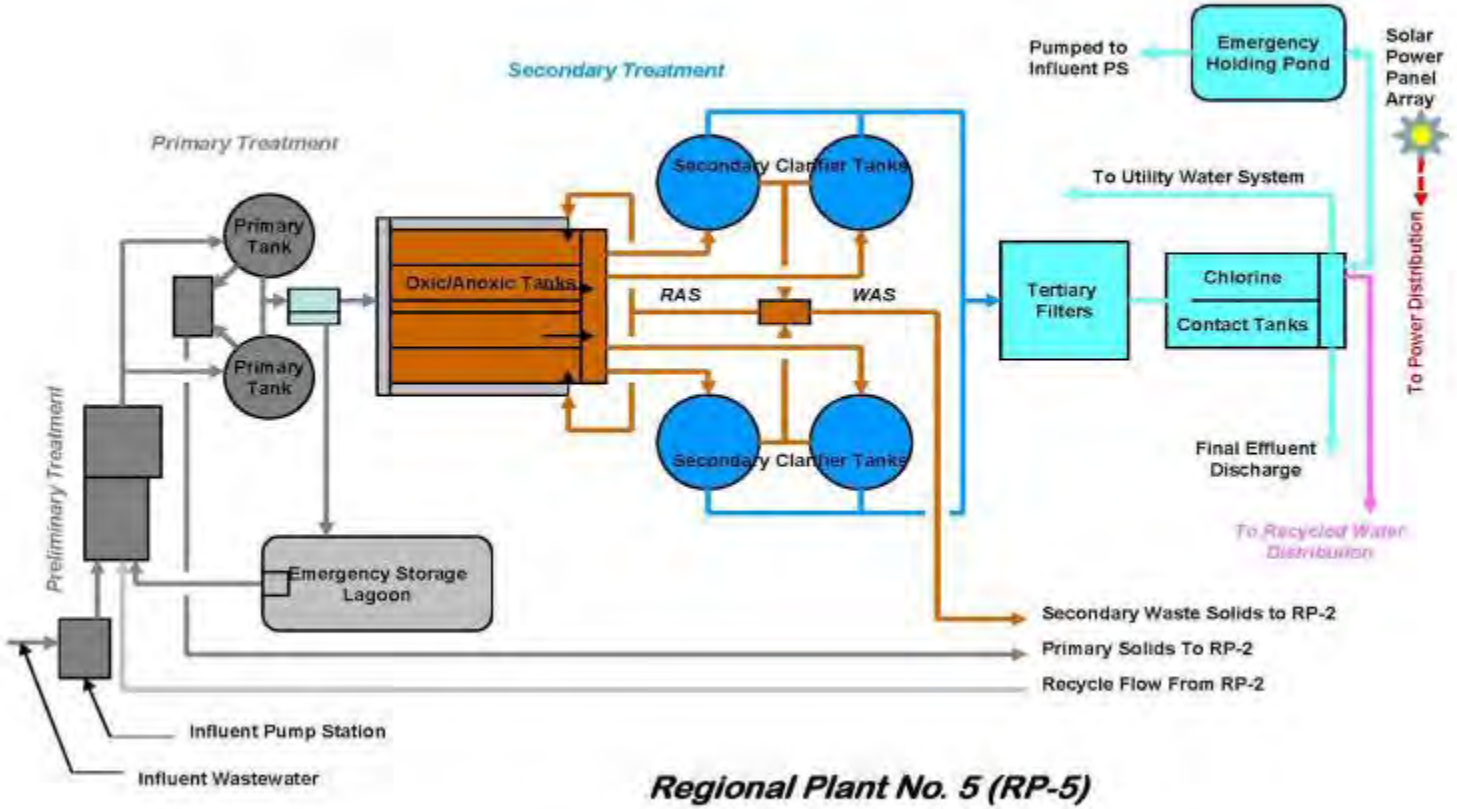
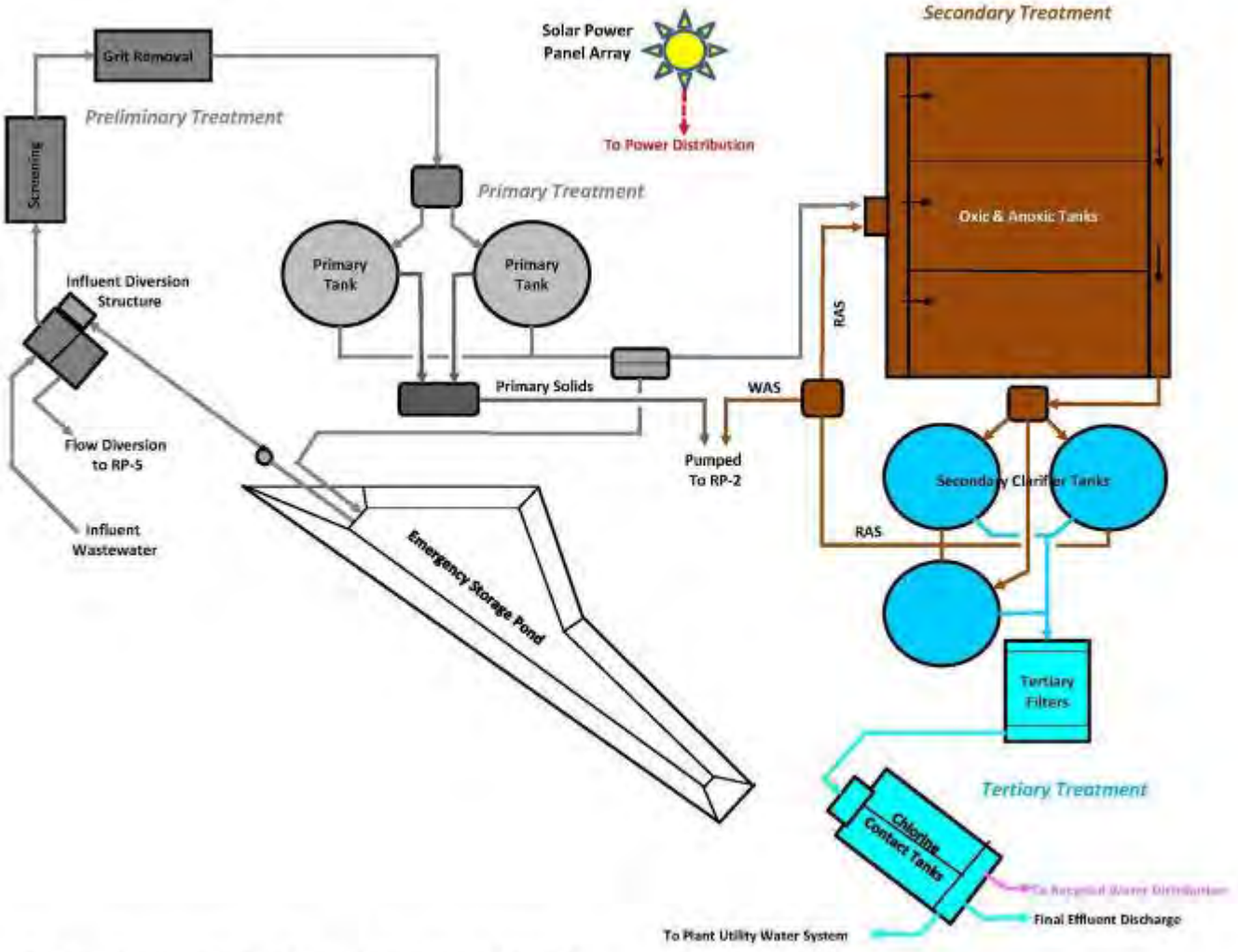

Preliminary Treatment
Influent Wastewater
Grit Removal
Screening
Diversion to RP-1
Primary Treatment
Primary Tank
Primary Tank
Primary Solids to RP-1
WAS to RP-1
RAS
Secondary Treatment
Aeration Tanks
Oxic and Anoxic Tanks
Filters
Chlorine Tank
Filters
To RP-1 Facility
Storage Pond
Chlorine Tanks
Plant Utility Water
To Recycle Water Distribution
Regional Plant No. 4 (RP-4)

FIGURE - 4



Regional Plant No. 5 (RP-5)

FIGURE - 5



Carbon Canyon Water Recycle Facility (CCWRF)

FIGURE - 6

ATTACHMENT D –STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 C.F.R. § 122.41(a).)

2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. § 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 C.F.R. § 122.41(c).)

C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 C.F.R. § 122.41(d).)

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order. (40 C.F.R. § 122.41(e).)

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 122.41(g).)

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 C.F.R. § 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the Regional Water Board, State Water Board, United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (40 C.F.R. § 122.41(i); Wat. Code, § 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (40 C.F.R. § 122.41(i)(1));

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 C.F.R. § 122.41(i)(2));

3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 C.F.R. § 122.41(i)(3)); and

4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (40 C.F.R. § 122.41(i)(4).)

G. Bypass

1. Definitions

   a. “Bypass” means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 122.41(m)(1)(i).)

   b. “Severe property damage” means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. § 122.41(m)(1)(ii).)

2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. § 122.41(m)(2).)

3. Prohibition of bypass. Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless (40 C.F.R. § 122.41(m)(4)(i)):

   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));

   b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and

   c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)

4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)

5. Notice

   a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 C.F.R. § 122.41(m)(3)(i).)

   b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 C.F.R. § 122.41(m)(3)(ii).)

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 C.F.R. § 122.41(n)(1).)

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. § 122.41(n)(2).).

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 C.F.R. § 122.41(n)(3)):

   a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));

   b. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));

   c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and

   d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. § 122.41(n)(3)(iv).)

3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. § 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 C.F.R. § 122.41(f).)

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (40 C.F.R. § 122.41(b).)

C. Transfers

This Order is not transferable to any person except after notice to the Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 C.F.R. § 122.41(l)(3); § 122.61.)

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. § 122.41(j)(1).)

B. Monitoring results must be conducted according to test procedures under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503 unless other test procedures have been specified in this Order. (40 C.F.R. § 122.41(j)(4); § 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by Part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time. (40 C.F.R. § 122.41(j)(2).)

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));

2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));

3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));

4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));

5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and

6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)

C. Claims of confidentiality for the following information will be denied (40 C.F.R. § 122.7(b)):

1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and

2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or USEPA within a reasonable time, any information which the Regional Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Regional Water Board, State Water Board, or USEPA copies of records required to be kept by this Order. (40 C.F.R. § 122.41(h); Wat. Code, § 13267.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 C.F.R. § 122.41(k).)

2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). (40 C.F.R. § 122.22(a)(3).).

3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 C.F.R. § 122.22(b)(1));

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and

c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)

5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

   "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." (40 C.F.R. § 122.22(d).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.22(l)(4).)

2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 C.F.R. § 122.41(l)(4)(i).)

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503, or as specified in this Order, the results of this monitoring shall be included in the

calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 C.F.R. § 122.41(l)(5).)

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 C.F.R. § 122.41(l)(6)(i).)

2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):

    a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)

    b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)

3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 C.F.R. § 122.41(l)(6)(iii).)

F. Planned Changes

The Discharger shall give notice to the Regional Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 C.F.R. § 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 C.F.R. § 122.41(l)(1)(ii).)

3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 C.F.R.§ 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Regional Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements. (40 C.F.R. § 122.41(l)(2).)

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 C.F.R. § 122.41(l)(7).)

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information. (40 C.F.R. § 122.41(l)(8).)

VI. STANDARD PROVISIONS – ENFORCEMENT

A. The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Publicly-Owned Treatment Works (POTWs)

All POTWs shall provide adequate notice to the Regional Water Board of the following (40 C.F.R. § 122.42(b)):

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to sections 301 or 306 of the CWA if it were directly discharging those pollutants (40 C.F.R. § 122.42(b)(1)); and

2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of the Order. (40 C.F.R. § 122.42(b)(2).)

3. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. (40 C.F.R. § 122.42(b)(3).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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List of Tables

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations section 122.48 requires that all NPDES permits specify monitoring and reporting requirements. Water Code Sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

A. General Monitoring Provision

1. All sampling and sample preservation shall be in accordance with the current edition of “Standard Methods for the Examination of Water and Wastewater” (American Public Health Association) or 40CFR136. (revised as of April 11, 2007) "Guidelines Establishing Test Procedures for the Analysis of Pollutants," promulgated by the United States Environmental Protection Agency (EPA).

2. All laboratory analyses shall be performed in accordance with test procedures under 40 CFR 136 (revised as of April 11, 2007) "Guidelines Establishing Test Procedures for the Analysis of Pollutants," promulgated by the United States Environmental Protection Agency (EPA), unless otherwise specified in this MRP. In addition, the Regional Water Board and/or EPA, at their discretion, may specify test methods that are more sensitive than those specified in 40 CFR 136.

3. Chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the California Department of Public Health in accordance with the provision of Water Code Section 13176, or conducted at a laboratory certified for such analyses by the EPA or at laboratories approved by the Regional Water Board's Executive Officer.

4. In conformance with federal regulations 40 CFR 122.45(c), analyses to determine compliance with the effluent limitations for metals shall be conducted using the total recoverable method. For Chromium (VI), the dissolved method in conformance with 40 CFR 136 may be used to measure compliance with the Chromium (VI) limitation.

5. The Discharger shall have, and implement an acceptable written quality assurance (QA) plan for laboratory analyses. Duplicate chemical analyses must be conducted on a minimum of ten percent (10%) of the samples, or at least one sample per month, whichever is greater. A similar frequency shall be maintained for analyzing spiked samples. When requested by the Regional Water Board or EPA, the Discharger will participate in the NPDES discharge monitoring report QA performance study.

6. For every item of monitoring data where the requirements are not met, the monitoring report shall include a statement discussing the reasons for noncompliance, the actions undertaken or proposed that will bring the discharge into full compliance with requirements at the earliest time, and an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Regional Water Board by letter when compliance with the time schedule has been achieved.

7. The Discharger shall assure that records of all monitoring information are maintained and accessible for a period of at least five years (this retention period supersedes the retention period specified in Section IV.A. of Attachment D) from the date of the sample, report, or application. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or by the request of the Regional Water Board at any time. Records of monitoring information shall include:

   a. The information listed in Attachment D- IV Standard Provisions – Records, subparagraph B. of this Order;
   b. The laboratory which performed the analyses;
   c. The date(s) analyses were performed;
   d. The individual(s) who performed the analyses;
   e. The modification(s) to analytical techniques or methods used;
   f. All sampling and analytical results, including
      (1) Units of measurement used;
      (2) Minimum reporting level for the analysis (minimum level);
      (3) Results less than the reporting level but above the method detection limit (MDL);
      (4) Data qualifiers and a description of the qualifiers;
      (5) Quality control test results (and a written copy of the laboratory quality assurance plan);
      (6) Dilution factors, if used; and
      (7) Sample matrix type.
   g. All monitoring equipment calibration and maintenance records;
   h. All original strip charts from continuous monitoring devices;
   i. All data used to complete the application for this Order; and,
   j. Copies of all reports required by this Order.
   k. Electronic data and information generated by the Supervisory Control And Data Acquisition (SCADA) System.

8. The flow measurement system shall be calibrated at least once per year or more frequently, to ensure continued accuracy.

9. Monitoring and reporting shall be in accordance with the following:

   a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

   b. The monitoring and reporting of influent, effluent, and sludge shall be done more frequently as necessary to maintain compliance with this Order and or as specified in this Order.

   c. Whenever the Discharger monitors any pollutant more frequently than is required by this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the discharge monitoring report specified by the Executive Officer.

   d. A "grab" sample is defined as any individual sample collected in less than 15 minutes.

   e. A composite sample is defined as a combination of no fewer than eight individual grab samples obtained over the specified sampling period. The volume of each individual grab sample shall be proportional to the discharge flow rate at the time of sampling. The compositing period shall equal the specific sampling period, or 24 hours, if no period is specified.

   f. Daily samples shall be collected on each day of the week.

   g. Monthly samples shall be collected on any representative day of each month.

   h. Quarterly samples shall be taken on any representative day of January, April, July, and October.

   i. Semi-annual samples shall be collected in January and July.

   j. Annual samples shall be collected in accordance with the following schedule:

Table 1 Annual Sampling Schedule

Year	Annual Samples
2010	July
2011	October
2012	January
2013	April
2014	July
2015	October

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Table 2 Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description	Latitude and Longitude
001/002	M-INF 1A	RP-1 influent line, before Headworks	34°01'48"N, 117°36'07"W
001/002	M-INF 1B	RP-4 influent line, before Headworks	34°05'09"N, 117°31'28"W
001	M-001A	RP-1 effluent Outfall to Prado Park Lake	33°56'39"N, 117°38'34"W
001	M-001B	At the RP-1splitter box	34°01'29"N, 117°35'57"W
002	M-002A	RP-1 and RP-4 Effluent outfall to Reach 1 of Cucamonga Creek	34°01'31"N, 117°35'56"W
002	M-002B	RP-1 at the end of CCB 3 (Chlorine Contact Basin) before outfall discharge to Reach 1 of Cucamonga Creek	34°01'28"N, 117°35'57"W
003	M-INF 3A	RP-5 influent upstream of any in-plant return flows (theoretical point of combined M-INFB & M-INFD flows)	33°58'04"N, 117°40'28"W
003	M-INF 3B	RP-5 Influent Pump Station	33°57'38"N, 117°40'16"W
003	M-INF 3C	RP-2 Recycle Flow	33°57'29"N, 117°40'23"W
003	M-INF 3D	RP-2 Lift Station	33°57.08"N, 117°40'00"W
003	M-003	RP-5 Effluent to Reach 2 of Chino Creek	33°57'44"N, 117°40'41"W
004	M-INF 4	Influent sampling at CCWRF	33°58'56"N, 117°41'48"W
004	M-004	CCWRF Effluent to Reach 2 of Chino Creek	33°58'47"N, 117°41'39"W
005	REC-001	RP-1 Effluent to recycled water use area, same as M-001B	34°01'29"N, 117°35'57"W
006	REC-002	RP-4 Effluent to recycled water use area	34°04'59"N, 117°31'35"W
007	REC-003	RP-5 Effluent to recycled water use area - Same as M-003	33°57'44"N, 117°40'41"W
008	REC-004	CCWRF Effluent to recycled water use area – Same as M-004	33°58'47"N, 117°41'39"W
002	R-002U	Cucamonga Creek within 100 feet upstream of the DP 002	34°01'29"N, 117°35'58"W
002	R-002D	Cucamonga Creek within 500 feet downstream of DP 002 after blending	34°00'43"N, 117°35'59"W
003	R-003U	Chino Creek within 100 feet upstream of DP 003	33º57'45"N, 117º40'41"W
003	R-003D	Chino Creek within 500 feet downstream of DP 003 in	33º57'45"N, 117º40'41"W
004	R-004U	Chino Creek within 100 feet upstream of DP 004	33º58'47"N, 117º40'41"W
004	R-004D	Chino Creek within 500 feet downstream of DP 004 in	33º58'46"N, 117º40'38"W
S-001	STORM-001	Storm water runoff from RP-1, west	34°01'36"N, 117°35'59"W

Table 2 Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description	Latitude and Longitude
S-002	STORM-002	Storm water runoff from RP-1, east	34°01'28"N, 117°35'58"W

Note: RP-5 influent consists of RP-5 Influent Pump Station flows and RP-2 Lift Station flows, which include RP-2 Recycle Flow and Prado/Butterfield Ranch flows. Therefore, values reported for M-INF3A are flow-weighted values based on flows from RP-5 Pump Station and RP-2 Lift Station.

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Locations M-INFs 1A, 1B, 3A, 3B, 3C, 3D, and M-INF 4

1. Sampling stations shall be established for the points of inflow to each treatment plant. The sampling stations shall be located upstream of any in-plant return flows and where representative samples of the influent of the treatment plant can be obtained.

2. The Discharger shall monitor the influent to the Facility at Monitoring Locations M-INFs 1A, 1B, 3A, 3B, 3C, 3D, and M-INF 4 as follows. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level:

Table 3 Influent Monitoring M-INFs 1A, 1B, 3A, 3B, 3C, 3D, and M-INF 4

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Recorder/Totalizer	Continuous	--
pH	pH Units	Recorder	Continuous	--
Specific Conductance	µmhos/cm	Recorder	Continuous	--
TOC	mg/L	Composite	Weekly	See Section I.A.2 & 3, above, of this MRP
BOD_5 [1]	mg/L	Composite	Weekly	"
Total Suspended Solids	mg/L	Composite	Weekly	"
Total Dissolved Solids	mg/L	Composite	Weekly	"
Ammonia-Nitrogen	mg/L	Grab	Weekly	"
Total Nitrogen	mg/L	Composite	Weekly	"
Total Inorganic Nitrogen	mg/L	Composite	Weekly	"
Cyanide (Free)[2]	µg/l	Grab	Monthly	"

1 *BOD_5 is calculated based on a BOD_5/TOC correlation approved by the Regional Water Board.*

2 *Free cyanide is measured as aquatic free cyanide (ASTM Method D7237) without sodium hydroxide (NaOH) preservation.*

Table 3 Influent Monitoring M-INFs 1A, 1B, 3A, 3B, 3C, 3D, and M-INF 4

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total Hardness	mg/L	Composite	Quarterly	"
Boron	mg/L	Composite	Quarterly	"
Chloride	mg/L	Composite	Quarterly	"
Fluoride	mg/L	Composite	Quarterly	"
Sodium	mg/L	Composite	Quarterly	"
Sulfate	mg/L	Composite	Quarterly	See Section I.A.3. above, of this MRP
Arsenic	µg/L	Composite	Quarterly	See Section I.A.2. above, of this MRP
Cadmium	µg/L	Composite	Quarterly	"
Total Chromium or Chromium VI	µg/L	Composite	Quarterly	See Section I.A.2. above, of this MRP
Total Recoverable Copper	µg/L	Composite	Quarterly	"
Total Recoverable Lead	µg/L	Composite	Quarterly	"
Total Recoverable Mercury	µg/L	Composite	Quarterly	"
Total Recoverable Nickel	µg/L	Composite	Quarterly	"
Selenium	µg/L	Composite	Quarterly	"
Total Recoverable Silver	µg/L	Composite	Quarterly	"
Total Recoverable Zinc	µg/L	Composite	Quarterly	"
Bis (2-ethylhexyl) phthalate	µg/L	Grab	Quarterly	See Sections I.A.2., I.A.3., above of this MRP
2,3,7,8-TCDD (Dioxin)[3]	µg/L	Composite	Semi-Annually	See Section I.A.3. above, RL 1 pg/L
Volatile organic portion of EPA Priority Pollutants[4] (See Attachment G)	µg/L	Grab	Annually	See Section I.A.2. above, of this MRP
Remaining EPA Priority Pollutants[5] (See Attachment G)	µg/L	Composite	Annually	"

[3] *Applies at M-INF 3B & 3D and M-INF 4 only.*

[4] *EPA priority pollutants are those remaining volatile organic pollutants listed in Attachment "G" which are not specifically listed in this monitoring program table.*

[5] *Remaining EPA priority pollutants are those pollutants listed in Attachment "G" which are not volatile organics and pollutants not specifically listed in this monitoring program table.*

IV. EFFLUENT MONITORING REQUIREMENTS TO SURFACE WATER

The Discharger shall monitor tertiary effluent at monitoring locations M-001, M-002, M-003, and M-004 as follows. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level.

A. Effluent Monitoring Locations M-001 to M-004

1. The Discharger shall monitor tertiary treated effluent for DP 001, DP 002, DP 003, and DP 004 at Monitoring Locations M-001B, M-002A, M-003, and M-004 as follows.

Table 4 Tertiary Effluent Monitoring at M-001B, M-002A, M-003, and M-004

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and Minimum Level, units, respectively
Flow	mgd	Recorder/ Totalizer	Continuous	--
Specific Conductance[6]	µmhos/cm	Recorder	Continuous	--
pH	pH units	Recorder	Continuous	--
Turbidity[7]	NTU	Recorder	Continuous	--
Total Chlorine Residual[8]	mg/L	Recorder	Continuous	--
Coliform Organisms[9], [10]	MPN per 100 ml[11]	Grab	Daily	See Section I.A.3., above of this MRP
CT	mg-minutes/L	Recorder	Continuous[12]	--
Total Organic Carbon (TOC)	mg/L	Composite	Daily	See Section I.A.3. above, of this MRP
BOD_5[13]	mg/L	Composite	Daily	See Section I.A.3. above, of

6 *Except M-001B.*

7 *Turbidity analysis shall be continuous, performed by a continuous recording turbidimeter. Compliance with the daily average operating filter effluent turbidity shall be determined by averaging the levels of recorded turbidity taken at a minimum of four-hour intervals over a 24-hour period. The results of the daily average turbidity determinations shall be reported monthly.*

8 *Except M-001B.*

9 *Samples for total coliform bacteria shall be collected daily. Samples shall be taken from the disinfected effluent.*

10 *M-001B is the coliform monitoring location for DP 001 & DP 002. Alternative monitoring at M-002B is available if gate is closed between Chlorine Contact Basin 2 and 3.*

11 *MPN/100mL = Most Probable Number per 100 milliliters.*

12 *The CT and modal contact time shall be continuously calculated and recorded. The minimum daily value shall be reported monthly. Modal contact time and CT shall be calculated based on the minimum one-hour average value in a 24-hr period.*

Table 4 Tertiary Effluent Monitoring at M-001B, M-002A, M-003, and M-004

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and Minimum Level, units, respectively
				this MRP
Total Suspended Solids	mg/L	Composite	Daily	See Section I.A.3. above
Ammonia-Nitrogen	mg/L	Grab	Weekly	See Section I.A.3. above, of this MRP
Temperature	°C	Grab	Weekly	--
Total Dissolved Solids[14]	mg/L	Composite	Monthly	See Section I.A.3. above
Total Inorganic Nitrogen	mg/L	Composite	Monthly	See Section I.A.3. above
Total Nitrogen	mg/L	Composite	Monthly	See Section I.A.3. above
Cyanide, free[15]	µg/L	Grab	Monthly	See Sections I.A.2., I.A.3., above of this MRP and RL 5 µg/L
Total Recoverable Copper	µg/L	Composite	Monthly	See Sections I.A.2., I.A.3. above of this MRP and RL 0.5 µg/L
Toxicity[16]	TUc	See Section V.A, Below	Monthly	See Section V, Below
Total Hardness	mg/L	Composite	Monthly	See Section I.A.3. above
Bicarbonate	mg/L	Composite	Monthly	See Section I.A.3. above, of this MRP
Boron	mg/L	Composite	Monthly	See Section I.A.3. above
Calcium	mg/L	Composite	Monthly	See Section I.A.3. above
Carbonate	mg/L	Composite	Monthly	See Section I.A.3. above
Chloride	mg/L	Composite	Monthly	See Section I.A.3. above
Fluoride	mg/L	Composite	Monthly	See Section I.A.3. above, of this MRP
Magnesium	mg/L	Composite	Monthly	See Section I.A.3. above
Sodium	mg/L	Composite	Monthly	See Section I.A.3. above
Sulfate	mg/L	Composite	Monthly	See Section I.A.3. above
Total Recoverable Cadmium	µg/L	Composite	Monthly	See Sections I.A.2., I.A.3., above of this MRP and RL 0.5 µg/L

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13 *BOD_5 is calculated daily based on a BOD_5/TOC correlation approved by the Regional Water Board.*

14 *Except M-001B.*

15 *Free cyanide is measured as aquatic free cyanide (ASTM Method D7237) without NaOH preservation.*

16 *Except M-001B.*

Table 4 Tertiary Effluent Monitoring at M-001B, M-002A, M-003, and M-004

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and Minimum Level, units, respectively
Chromium (VI) or Total Chromium[17]	µg/L	Composite	Monthly	See Sections I.A.2., I.A.3. above of this MRP and RL 5 µg/L, Total Cr, RL 2 µg/L
Total Recoverable Lead	µg/L	Composite	Monthly	See Sections I.A.2., I.A.3. above of this MRP and RL 2 µg/L
Total Recoverable Mercury	µg/L	Composite	Monthly	See Sections I.A.2., I.A.3. above of this MRP and RL 0.05 µg/L
Total Recoverable Selenium	µg/L	Composite	Monthly	See Sections I.A.2., I.A.3. above of this MRP and RL 2 µg/L
Total Recoverable Silver	µg/L	Composite	Monthly	See Sections I.A.2., I.A.3., above of this MRP and RL 1 µg/L
Total Recoverable Zinc	µg/L	Composite	Monthly	See Sections I.A.2., I.A.3., above of this MRP
Bis (2-ethylhexyl) phthalate	µg/L	Grab	Monthly	See Sections I.A.2., I.A.3., above of this MRP
Bromodichloromethane[18]	µg/L	Grab	Monthly	See Sections I.A.2., I.A.3., above of this MRP, ML 5 µg/L
Aluminum	mg/L	Composite	Quarterly	See Section I.A.3. above
Antimony	mg/L	Composite	Quarterly	See Sections I.A.2., I.A.3., above of this MRP
Arsenic	µg/L	Composite	Quarterly, (See IV.A.3., below)	See Section I.A.3. above
Barium	µg/L	Composite	Quarterly, (See IV. A.3., below)	See Section I.A.3. above
Cobalt	µg/L	Composite	Quarterly (See IV.A.3., below)	See Section I.A.3. above,
Total Recoverable Nickel	µg/L	Composite	Quarterly (See IV.A.3., below)	See Section I.A.3. above,
2,3,7,8-TCDD (Dioxin)[19]	µg/L	Composite	Quarterly (See IV.A.5., below)	See Section I.A.3. above, RL 1 pg/L
Volatile organic portion of remaining EPA Priority Pollutants (See Attachment G)	µg/L	Grab	Annually (See IV.A.4., below)	See Sections I.A.2., I.A.3., above of this MRP
Remaining EPA Priority Pollutants (See Attachment G)	µg/L	Composite	Annually (See IV.A.4., below)	See Sections I.A.2., I.A.3., above of this MRP

[17] *If Total Chromium test result is greater than 11 µg/L, the following sample shall be tested for Chromium VI, until directed otherwise.*

[18] *Applies at M-003 only.*

[19] *Applies at M-003 and M-004 only.*

2. The Discharger shall monitor tertiary treated effluent for DPs 001 and 002 at M-001A as follows:

Table 5 Effluent Monitoring Requirements at M-001A

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Test Method
Turbidity	NTU	Recorder	Continuous	--
Total Chlorine Residual	mg/l	Recorder	Continuous	--
Specific Conductance	µmhos/cm	Recorder	Continuous	--
Total Dissolved Solids	mg/l	Composite	Monthly	See Sections I.A.2., I.A.3., above of this MRP
Toxicity	TUc	See Section V.A, Below	Monthly	See Section V, Below

3. The monitoring frequency for those priority pollutants that are detected during the required quarterly monitoring at a concentration greater than the concentration specified for that pollutant[20] in Attachment I - Triggers for Monitoring Priority Pollutants shall be accelerated to monthly. To return to the monitoring frequency specified, the Discharger shall request and receive approval from the Regional Water Board's Executive Officer or designee.

4. The monitoring frequency for those priority pollutants that are detected during the required semi-annual or annual monitoring at a concentration greater than the concentration specified for that pollutant in Attachment I shall be accelerated to quarterly for one year. To return to the specified monitoring frequency, the Discharger shall request and receive approval from the Regional Water Board's Executive Officer or designee.

5. The Discharger is required to conduct quarterly monitoring for Dioxin for one year. After one year, if quarterly monitoring result show non-detect values at acceptable reporting levels, the Discharger may reduce the frequency of monitoring for Dioxin from quarterly to semi-annual monitoring upon approval by the Regional Water Board Executive Officer or designee.

B. Secondary Effluent Monitoring at M-002, M-003 and M-004 with 20:1 Dilution

1. The Discharger shall monitor secondary treated effluent at M-002B, M-003 and M-004 when 20:1 dilution is provided by the receiving surface water at the time of the discharge, as follows:

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[20] *For those priority pollutants without specified criteria values, accelerated monitoring is not required.*

Table 6 Secondary Effluent Monitoring at M-002B to M-004 w/ 20:1 Dilution

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Test Method
Flow	mgd	Grab	Daily (when discharging)	--
pH	pH units	Recorder/Totalizer	Continuous	--
Total Chlorine Residual	mg/L	Recorder	Continuous	--
BOD_5	mg/L	Grab	Daily (when discharging)	See Section I.A.3., above, of this MRP
Total Dissolved Solids	mg/L	Grab	when discharging	"
Coliform Organisms	MPN per 100 ml[21]	Grab	Daily (when discharging)	See Sections I.A.2., I.A.3., above of this MRP
Suspended Solids	mg/L	Grab	Daily (when discharging)	See Sections I.A.2., I.A.3., above of this MRP
Total Hardness	mg/L	Grab	When discharge	See Section I.A.3., above, of this MRP
EPA Priority Pollutants	µg/L	Grab	Annually[22] (See IV.A.3., above)	See Sections I.A.2., I.A.3., above of this MRP

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Toxicity Monitoring Requirements at M-001A, M-002A, M-003, and M-004

1. The Discharger shall conduct critical life stage chronic toxicity testing in accordance with Method 1002.0 - Survival and Reproduction test for water flea, *Ceriodaphnia dubia* as specified in "Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms", Fourth Edition, Environmental Monitoring Systems Laboratory, U.S. Environmental Protection Agency 2002, Cincinnati, Ohio (October 2002, EPA-821-R-02-013).

2. The Discharger shall establish procedures to ensure that the toxicity testing laboratory notifies the Discharger of the results of toxicity testing by the end of the next business day following the completion of such tests.

3. A minimum of one monthly chronic toxicity test shall be conducted on representative composite samples.

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[21] *MPN/100mL = Most Probable Number per 100 milliliters*

[22] *Sample is collected from the first discharge, once a year.*

4. The Discharger shall increase the frequency of chronic toxicity testing to every two weeks whenever any test result exceeds 1.0 TUc. The first test under the accelerated schedule shall be conducted within two weeks of receiving notice of the test that exceeds 1.0 TUc, and every two weeks thereafter. The Discharger may resume the regular test schedule when two consecutive chronic toxicity tests result in 1.0 TUc, or when the results of the Initial Investigation Reduction Evaluation conducted by the Discharger have adequately addressed the identified toxicity problem.

5. The presence of chronic toxicity shall be estimated as specified in Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. Fourth Edition. EPA-821-R-02-013.

6. Results for both survival and reproduction endpoints shall be reported in TUc, where TUc = 100/NOEC or 100/ICp or ECp (p is the percent effluent). The no observed effect concentration (NOEC) is the highest concentration of toxicant to which organisms are exposed in a chronic test, that causes no observable adverse effect on the tests organisms (e.g., the highest concentration of toxicant to which the values for the observed responses are not statistically significant different from the controls). The inhibition concentration (IC) is a point estimate of the toxicant concentration that causes a given percent reduction in a non-quantal biological measurement (e.g., reproduction or growth) calculated from a continuous model (the EPA Interpolation Method). The effective concentration (EC) is a point estimate of the toxicant concentration that would cause a given percent reduction in quantal biological measurement (e.g., larval development, survival) calculated from a continuous model (e.g., probit).

7. Additional Testing Requirements

    a. A series of at least five dilutions and a control will be tested. Five dilutions of the series shall be within 60% to 100% effluent concentration.
    b. If organisms are not cultured in-house, concurrent testing with reference toxicants shall be conducted. Where organisms are cultured in-house, monthly reference toxicant testing is sufficient. Reference toxicants shall also be conducted using the same test conditions as the effluent toxicity test (e.g., same test duration, etc).
    c. If either of the reference toxicant test or the effluent tests do not meet all test acceptability criteria as specified in the manual[23], then the Discharger must re-sample and re-test within 14 days or as soon as the Discharger receives notification of failed tests.
    d. Control and dilution water should be receiving water or lab water, as appropriate, as described in the manual. If the dilution water used is different from the culture water, a second control, using culture water shall also be used.

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[23] *Refers to USEPA Manual "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. - 4th Ed., October 2002, EPA-821-R-02-013.*

8. Quality Assurance/Control:

   a. A quality assurance/quality control (QA/QC) program shall be instituted to verify the results of the effluent toxicity monitoring program. The QA/QC program shall include but shall not be limited to the following: (1) Selection of an independent testing laboratory; (2) Approval by the Regional Water Board's Executive Officer or Executive Officer's designee of the independent testing laboratory; (3) Once during the year, the Discharger shall split samples with the independent laboratory for conducting chronic toxicity testing; (4) Results from the independent laboratory shall be submitted to the Regional Water Board and the Discharger for evaluation; (5) The Discharger shall review the test acceptability criteria in accordance with the EPA test protocols, Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. Fourth Edition. EPA-821-R-02-013.

   b. Results from the independent laboratory of the annual QA/QC split samples are to be used for Quality Assurance/Quality Control (QA/QC) purposes only and not for purposes of determining compliance with other requirements of this Order.

9. The use of alternative methods for measuring chronic toxicity may be considered by the Executive Officer on a case–by-case basis. The use of a different test species, in lieu of conducting the required test species may be considered and approved by the Executive Officer on a case-by case basis upon submittal of the documentation supporting Discharger’s determination that a different species is more sensitive and appropriate.

10. Reporting: Results of all toxicity testing conducted within the month following the reporting period shall be submitted monthly in accordance with "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. Fourth Edition. EPA-821-R-02-013.” The report shall include a determination of the median value of all chronic toxicity testing results conducted during the two previous months.

11. Whenever an Initial Investigation Reduction Evaluation is conducted, the results of the evaluation shall be submitted upon completion. In addition, monthly status reports shall be submitted as part of the Discharger’s monitoring report for the previous month.

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VII. RECLAMATION MONITORING REQUIREMENTS

A. Monitoring Locations REC-001 to REC-004

1. The Discharger shall monitor recycled water at REC-001, REC-002, REC-003 and REC-004 as follows:

Table 7 Reclamation Monitoring at REC-001 to REC-004

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Recorder/Totalizer	Continuous	--
pH	Standard units	Recorder/Totalizer	Continuous	--
Turbidity[24]	NTU	Recorder	Continuous	--
CT	mg-minutes/L	Recorder	Continuous[25]	--
Coliform Organisms	MPN per 100 mL	Grab	Daily	See Section I.A.3., above, of this MRP
BOD_5	mg/L	Composite	Daily	See Section I.A.3., above, of this MRP
Total Suspended Solids	mg/L	Composite	Daily	See Section I.A.3., above, of this MRP
TDS	mg/L	Composite	Monthly	See Section I.A.3., above, of this MRP

B. Monitoring Users

Whenever recycled water is supplied to a user, the Discharger shall record on a permanent log: the volume of recycled water supplied; the user of recycled water; the locations of those sites including the names of the groundwater management zones underlying the recycled water use sites; type of use (e.g. irrigation, industrial, etc); and the dates at which water is supplied. The Discharger shall submit annually a summary report of the recorded information by groundwater management zone to the Regional Water Board.

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[24] *Turbidity samples shall be collected at M-001A, M-002A, M-003, and M-004, respectively.*

[25] *The CT and modal contact time shall be continuously calculated and recorded. Modal contact time and CT shall be calculated based on the minimum one-hour average value in a 24-hr period.*

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

A. Flow Measurements at Monitoring Locations R-002U, R-003U, and R-004U During 20:1 Dilution.

The Discharger shall make provisions for the measurement of the receiving water flow at a suitable location in the creek and determine whether a 20:1 dilution exists at DP 002, DP 003, or DP 004, before discharging secondary treated effluent. A dilution of 20:1 or more exclusive of discharges to surface waters from upstream publicly owned treatment works is required at the point of discharge for the discharge of secondary effluent. Flow measurements shall be made prior to any direct discharge to the creeks and shall continue on a daily basis until the discharge is terminated.

B. Monitoring Locations R-002U, R-003U, and R-004U

1. The Discharger shall monitor the receiving water at R-002U, R-003U, and R-004U for the following parameters/constituents when there is flowing water:

Table 8 Receiving Water Monitoring at R-002U, R-003U, and R-004U

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	estimate	Weekly	--
Dissolved Oxygen	mg/L	Grab	Weekly	--
Temperature	^{0}C	"	Weekly	--
pH	pH unit	Grab	Weekly	--
Total Dissolved Solids	mg/L	Grab	Monthly	See Sections I.A.3. above of this MRP
Total Inorganic Nitrogen	mg/L	Grab	Monthly	See Sections I.A.3. above of this MRP
Total Hardness	mg/L	Grab	Quarterly	See Sections I.A.3. above of this MRP
Total Suspended Solids	mg/L	Grab	Quarterly	See Sections I.A.3. above of this MRP
EPA Priority Pollutants (see VIII.C.2., below)	µg/L	Grab	Annually	See Sections I.A.2., 3. above of this MRP

C. Monitoring Locations R-002D & R-003D

1. The Discharger shall monitor the receiving water at R-002D, R-003D, when there is flowing water upstream of the discharge point for the following constituents:

Table 9 Receiving Water Monitoring at R-002D & R-003D

Parameter	Units	Sample Type	Minimum Sampling & Testing Frequency	Required Analytical Test Method
Dissolved Oxygen	mg/L	Grab	Weekly	--
Temperature	^{0}C	Grab	Weekly	--
pH	pH unit	Grab	Weekly	--
Color change, foam, deposition of material, odor	--	Observe	Weekly	See Section I.A.3., above, of this MRP
Total Hardness	mg/L	Grab	Quarterly	See Sections I.A.3. above of this MRP
Total Suspended Solids	mg/L	Grab	Quarterly	"
EPA Priority Pollutants (see VIII.C.2., below)	µg/L	Grab	Annually	See Sections I.A.2., 3. above of this MRP

2. For the annual monitoring of the heavy metals EPA Priority Pollutants, the total recoverable and total dissolved metal concentrations shall be determined.

D. Regional Monitoring for Fish Flesh Testing:

Unless otherwise directed by the Regional Water Board Executive Officer, the Discharger shall implement the approved plan for the annual sampling and testing of mercury levels in fish flesh samples collected from the Santa Ana River. The frequency of monitoring and submission of reports shall be as stipulated in the approved plan.

E. Monitoring Requirements for Groundwater – Not Applicable

Monitoring of groundwater by the Discharger is addressed in Order No.R8-2007-0039.

IX. OTHER MONITORING REQUIREMENTS

A. Biosolids Monitoring

1. Biosolids monitoring shall be conducted as follows:

Table 10 Biosolids Monitoring Requirements

Biosolids Monitoring	Units	Type of Sample	Minimum Frequency of Sampling & Testing
Priority Pollutants	mg/kg	Grab	Semi-annually
Moisture Content (% solid)	mg/kg	Grab	Quarterly

2. The Discharger shall maintain a permanent log of solids hauled away from the treatment facilities for use/disposal elsewhere, including the date hauled, the volume or weight (in dry tons), type (screening, grit, raw sludge, biosolids), application (agricultural, composting, etc), and destination. This information shall be reported quarterly.

B. Stormwater Monitoring

The Discharger shall monitor discharges at Discharge Points S-001 to S-002 (as specified in Table 2 of this MRP) and submit monitoring reports in accordance with Attachments J and K - Stormwater Monitoring and Reporting Requirements.

C. Water Supply Monitoring

1. In August of each year, a sample of each source of the water supplied to the sewered area shall be obtained and analyzed for total dissolved solids concentration expressed in "mg/L".

2. Monthly reports shall be submitted stating the amount (in percentage or acre-feet) supplied to the sewered area from each source of water and the resulting flow-weighted water supply quality for total dissolved solids.

D. Pretreatment Monitoring and Reporting

1. The Discharger shall submit to the Regional Water Board and the EPA Region 9, a quarterly compliance status report. The quarterly compliance status reports shall cover the periods January 1 - March 31, April 1 - June 30, July 1 - September 30, and October 1 -December 31. Each report shall be submitted by the end of the month following the quarter, except that the report for April 1 - June 30 may be included in the annual report. This quarterly reporting requirement shall commence for the first full quarter following issuance of this Order. The reports shall identify:

   a. All significant industrial users (SIUs) which violated any standards or reporting requirements during that quarter;

   b. The violations committed (distinguish between categorical and local limits);

   c. The enforcement actions undertaken; and

d. The status of active enforcement actions from previous periods, including closeouts (facilities under previous enforcement actions which attained compliance during the quarter).

2. Annually, the Discharger shall submit a report to the Regional Water Board, the State Water Resources Control Board and the EPA Region 9 describing the pretreatment activities within the service area during the previous year. In the event that any control authority within the service area is not in compliance with any conditions or requirements of this Order or their approved pretreatment program (such as due to industrial user discharges, interjurisdictional agency agreement implementation issues, or other causes,) then the Discharger shall also include the reasons for non-compliance and state how and when the Discharger and the control authority shall comply with such conditions and requirements. This annual report shall cover operations from July 1 through June 30 of each fiscal year and is due on September 30 of each year. The report shall contain, but not be limited to, the following information:

   a. A summary of analytical results from representative, flow-proportioned, 24-hour composite sampling of the POTWs' influent and effluent wastewaters for those pollutants which are known or suspected to be discharged by industrial users (IUs) as identified by EPA under Section 307(a) of the CWA. The summary will include the result of annual full priority pollutant scan, with quarterly samples analyzed only for those pollutants[26] detected in the full scan. The Discharger shall also provide any influent or effluent monitoring data for non-priority pollutants which the Discharger believes may be causing or contributing to Interference, Pass Through or adversely impacting sludge quality. Sampling and analysis shall be performed in accordance with the techniques prescribed in 40 CFR 136 and amendments thereto.

   b. A discussion of any upset, interference, or pass-through incidents at the treatment plants (if any), which the Discharger knows or suspects were caused by IUs of the POTW system. The discussion shall include the following:

      (1) The reasons why the incidents occurred, the corrective actions taken, and, if known, the name and address of the IU(s) responsible.

      (2) A review of the applicable pollutant limitations to determine whether any additional limitations, or changes to existing requirements, may be necessary to prevent pass through, interference or noncompliance with sludge disposal requirements.

[26] *The Discharger is not required to analyze for asbestos.*

c. A complete and updated list of the Discharger's significant industrial users (SIUs), including names, Standard Industrial Classification (SIC) code(s) and addresses, and a list of any SIU deletions and/or additions. The Discharger shall provide a brief explanation for each deletion. The SIU list shall identify the SIUs subject to Federal Categorical Standards by specifying which set(s) of standards are applicable to each SIU. The list shall also indicate which SIUs are subject to local limitations more stringent than Federal Categorical Standards and those, which are not subject to local limits.

d. A list or table characterizing the industrial compliance status of each SIU, including:

(1) SIU name;
(2) Industrial category;
(3) The type (processes) of wastewater treatment in place;
(4) Number of samples taken by the POTW during the year;
(5) Number of samples taken by the SIU during the year;
(6) Whether all needed certifications (if allowed) were provided by SIUs which have limits for total toxic organics;
(7) Federal and Regional Standards violated during the year, reported separately;
(8) Whether the SIU at any time in the year was in Significant Noncompliance (SNC)[27], as defined by 40 CFR 403.12 (f)(2)(vii); and
(9) A summary of enforcement actions against the SIU taken during the year, including the type of action, final compliance date, and amount of fines assessed/collected (if any). Proposed actions, if known, should be included.
(10) Number of inspections conducted at each SIU during the year.

e. A compliance summary table which includes:

(1) SIU's which were in SNC at any time during the year;
(2) The total number of SIUs which are in SNC with pretreatment compliance schedules during the year;
(3) The total number of notices of violation and administrative orders issued against SIUs during the year;
(4) The total number of civil and criminal judicial actions filed against SIUs during the year;
(5) The number of SIUs which were published as being in SNC during the year; and
(6) The number of IUs from which penalties were collected during the year.

[27] *SNC is determined at the beginning of each quarter based on data of the previous six months.*

f. A short description of any significant changes in operating the pretreatment program which differ from the previous year including, but not limited to changes concerning:

(1) The program's administrative structure;
(2) Local industrial discharge limitations;
(3) Monitoring program or monitoring frequencies;
(4) Legal authority or enforcement policy;
(5) Funding mechanisms; and
(6) Resource requirements and/or staffing levels.

g. A summary of the annual pretreatment budget, including the cost of pretreatment program functions and equipment purchases.

h. A summary of public participation activities to involve and inform the public.

i. A description of any changes in sludge disposal methods and a discussion of any concerns not described elsewhere in the report.

3. The cumulative number of industrial users that the Discharger has notified regarding Baseline Monitoring Reports and the cumulative number of industrial user responses.

4. The Discharger shall submit the quarterly compliance status reports and the annual pretreatment report to EPA Region 9, the State Board and the Regional Water Board.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.
2. All analytical data shall be reported with method detection limit[28] (MDLs) and with identification of either reporting level or limits of quantitation (LOQs). Quality assurance/quality control data shall be submitted upon request. Test results shall be reported in either milligrams/liter (mg/L) or micrograms/liter (µg/L), or picograms/L (pg/L), as appropriate.
3. For effluent wastewater monitoring:

[28] *The standardized test procedure to be used to determine the method detection limit (MDL) is given at Appendix B, 'Definition and Procedure for the Determination of the Method Detection Limit' of 40 CFR 136.*

a. The Discharger shall require its testing laboratory to calibrate the analytical system down to the minimum level (ML)[29] specified in Attachment H for priority pollutants with effluent limitations in this Order, unless an alternative minimum level is approved by the Regional Water Board's Executive Officer. When there is more than one ML value for a given substance, the Discharger shall use the ML values, and their associated analytical methods, listed in Attachment H that are below the calculated effluent limitation. The Discharger may select any one of those cited analytical methods for compliance determination. If no ML value is below the effluent limitation, then the lowest ML value and its associated analytical method, listed in Attachment H shall be used. Any internal quality control data associated with the sample must be reported when requested by the Executive Officer. The Regional Water Board will reject the quantified laboratory data if quality control data is unavailable or unacceptable.

b. The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

(1) Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

(2) Sample results less than the reported ML, but greater than or equal to the laboratory's current Method Detection Limit (MDL)[30], shall be reported as "Detected, but Not Quantified," or "DNQ." The estimated chemical concentration of the sample shall also be reported.

(3) Sample results not detected above the laboratory's MDL shall be reported as "not detected" or "ND."

4. For receiving water monitoring and for those priority pollutants without effluent limitations, the Discharger shall require its testing laboratory to quantify constituent concentrations to the lowest achievable MDL as determined by the procedure found in 40 CFR 136 (revised as of April 11, 2007). In situations where the most stringent applicable receiving water objective (freshwater or human health (consumption of organisms only), as specified for that pollutant in 40 CFR 131.38[31] is below the minimum level value specified in Attachment H and the Discharger cannot achieve an MDL value for that pollutant below the ML value, the Discharger shall submit justification why a lower MDL value cannot be achieved. Justification shall be submitted together with monthly monitoring reports.

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29 *Minimum level is the concentration at which the entire analytical system must give a recognizable signal and acceptable point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.*

30 *MDL is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analytical concentration is greater than zero, as defined in 40 CFR 136, Appendix B, revised as of April 11, 2007.*

31 *See Federal Register/ Vol. 65, No. 97 / Thursday, May 18, 2000 / Rules and Regulations.*

5. For non-priority pollutants monitoring, all analytical data shall be reported with method detection limits, as determined by the procedure found in 40 CFR 136 (revised as of April 11, 2007).
6. Any internal quality control data associated with the sample must be reported when requested by the Executive Officer. The Regional Water Board will reject the quantified laboratory data if quality control data is unavailable or unacceptable.
7. Discharge monitoring data shall be submitted in a format acceptable by the Regional Water Board. Specific reporting format may include preprinted forms and/or electronic media. The results of all monitoring required by this Order shall be reported to the Regional Water Board, and shall be submitted in such a format as to allow direct comparison with the limitations and requirements of this Order.
8. The Discharger shall tabulate the monitoring data to clearly illustrate compliance and/or noncompliance with the requirements of the Order.
9. The Discharger shall submit to the Regional Water Board reports necessary to determine compliance with effluent limitations in this Order and shall follow the chemical nomenclature and sequential order of priority pollutant constituents shown in Attachment G – Priority Pollutant Lists for reporting the required annual priority pollutant monitoring.
10. The reports for June and December shall include a roster of plant personnel, including job titles, duties, and level of State certification for each individual.
11. The Discharger shall report monitoring results for specific parameters in accordance with the following table:

Table 11 Reporting Requirements

Parameter	Measurement
Flow	Daily total flow
pH	Daily High and daily low
Total Residual Chlorine	Daily Maximum
Electrical Conductivity	Daily High
Turbidity	Daily maximum

12. The Discharger shall file a written report with the Regional Water Board within ninety (90) days after the average dry-weather waste flow for any month equals or exceeds 75 percent of the design capacity of the waste treatment and/or disposal facilities. The Discharger's senior administrative officer shall sign a letter which transmits that report and certifies that the policy making body is adequately informed about it. The report shall include:

    a. Average daily flow for the month, the date on which the instantaneous peak flow occurred, the rate of that peak flow, and the total flow for the day.

    b. The Discharger's best estimate of when the average daily dry-weather flow rate will equal or exceed the design capacity of the treatment facilities.

c. The Discharger's intended schedule for studies, design, and other steps needed to provide additional capacity for the waste treatment and/or disposal facilities before the waste flow rate equals the capacity of present units.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). Until such notification is given, the Discharger shall submit hard copy SMRs. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.

2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under Sections III through IX. Additionally, the Discharger shall report in the SMR the results of any special studies, acute and chronic toxicity testing, TRE/TIE, PMP, and Pollution Prevention Plan required by Special Provisions – VI.C. of this Order. The Discharger shall submit monthly, quarterly, and annual SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table 12 Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On	Monitoring Period	SMR Due Date
Continuous	The effective day of this Order	All	Submit with monthly SMR
Daily	The effective day of this Order	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	Submit with monthly SMR
Weekly	The effective day of this Order	Sunday through Saturday	Submit with monthly SMR
Monthly	First day of calendar month following permit effective date or on permit date if that date is first day of the month	1st day of calendar month through last day of calendar month	First day of the second month following the reporting period, submit as monthly SMR

Table 12 Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On	Monitoring Period	SMR Due Date
Quarterly[32]	Closest of January 1, April 1, July 1, or October 1 following permit effective date	January 1 through March 31, samples are collected in January; April 1 through June 30; samples are collected in April; July 1 through September 30; samples are collected in July; October 1 through December 31; samples are collected in October	First day of the second month following the reporting period, submit with monthly SMR
Semi-annually	Closest of January 1 or July 1 following permit effective date	January 1 through June 30, samples are collected in January. July 1 through December 31, samples are collected in July.	first day of the second month following the reporting period, submit with monthly SMR
Annually	The effective day of this Order	January 1 through December 31, see Table 1.	April 1 each year including report requirements in Attachments Pretreatment report due to September, 1

4. Reporting Protocols. The Discharger shall report with each sample result the applicable reported Minimum Level (ML) and the current Method Detection Limit (MDL), as determined by the procedure in Part 136.

   The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

   a. Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

   b. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

   c. For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (+ a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

[32] *Quarterly monitoring result for certain constituents may be used to satisfy the annual monitoring for the same constituents.*

d. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.

e. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

5. The Discharger shall submit hard copy SMRs (with an original signature) when required by subsection B.1 above in accordance with the following requirements:

   a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations.

   b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

   c. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the address listed below:

      California Regional Water Quality Control Board
      Santa Ana Region
      3737 Main Street, Suite 500
      Riverside, CA 92501-3348

6. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

7. By April 1 of each year, the Discharger shall submit an annual report to the Regional Water Board. The annual report shall include the following:

   a. Tabular and graphical summaries of the monitoring data obtained during the previous year;

   b. A discussion of the compliance record and the corrective actions taken or planned, which may be needed to bring the discharge into full compliance with the waste discharge requirements;

   c. A summary of the quality assurance (QA) activities for the previous year; and

d. For priority pollutant constituents that do not have effluent limitations but are required to be monitored, the Discharger shall evaluate the monitoring data obtained during the previous year and determine whether detected constituents are at levels that would warrant reopening the permit to include effluent limitations for such constituent(s). To conduct this evaluation, the concentration of detected constituents shall be compared to the most stringent applicable receiving water objectives (freshwater or human health (consumption of organisms only) as specified for that pollutant in 40 CFR 131.3833). The Discharger shall include a discussion of the corrective actions taken or planned to address values above receiving water objectives.

C. Discharge Monitoring Reports (DMRs)

1. As described in Section X.B.1 above, at any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of Discharge Monitoring Reports (DMRs). Until such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below.

2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharger shall submit the original DMR and one copy of the DMR to the address listed below:

Table 13 Monitoring Reporting Submittal

Standard Mail	FedEx/UPS/ Other Private Carriers
State Water Resources Control Board Division of Water Quality c/o DMR Processing Center PO Box 100 Sacramento, CA 95812-1000	State Water Resources Control Board Division of Water Quality c/o DMR Processing Center 1001 I Street, 15th Floor Sacramento, CA 95814

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated will not be accepted unless they follow the exact same format of EPA Form 3320-1.

   Regional Administrator
   U. S. Environmental Protection Agency
   Region 9 – Attention WTR – 7
   75 Hawthorne Street
   San Francisco, CA 94105

[33] *See Federal Register/ Vol. 65, No. 97 / Thursday, May 18, 2000 / Rules and Regulations.*

D. Other Reports

1. The Discharger shall report the results of any special studies, acute and chronic toxicity testing, TRE/TIE, PMP, and Pollution Prevention Plan required by Special Provisions – VI.C. of this Order. The Discharger shall submit reports with the first monthly SMR scheduled to be submitted on or immediately following the report due date in compliance with SMR reporting requirements described in subsection X.B.5 above.

2. Site Spills

a. In accordance with the requirements of Health and Safety Code section 5411.5, the Discharger shall provide notification to the local health officer or the director of environmental health with jurisdiction over the affected water body of any unauthorized release of sewage or other waste that causes, or probably will cause, a discharge to any waters of the state.

b. In accordance with the requirements of Water Code section 13271, the Discharger shall provide notification to the Office of Emergency Services of the release of reportable amounts of hazardous substances or sewage that causes, or probably will cause, a discharge to any waters of the state. The California Code of Regulations, Title 23, section 2250, defines a reportable amount of sewage as being 1,000 gallons. The phone number for reporting these releases to the Office of Emergency Services is (800) 852-7550.

c. The Discharger shall notify the Regional Water Board of any unauthorized release of sewage from its wastewater treatment plant that causes, or probably will cause, a discharge to a water of the state as soon as possible, but not later than two (2) hours after becoming aware of the release. This notification does not need to be made if the Discharger has notified the Office of Emergency Services. The phone number for reporting these releases of sewage to the Regional Water Board is (951) 782-4130. At a minimum, the following information shall be provided:

(1) The location, date, and time of the release.

(2) The water body that received or will receive the discharge.

(3) An estimate of the amount of sewage or other waste released and the amount that reached a surface water at the time of notification.

(4) If ongoing, the estimated flow rate of the release at the time of the notification.

(5) The name, organization, phone number and email address of the reporting representative.

d. As soon as possible, but not later than twenty four (24) hours after becoming aware of an unauthorized discharge of sewage or other waste from its wastewater treatment plant to a water of the state, the Discharger shall submit a statement to the Regional Water Board by email at spillreportR8@waterboards.ca.gov. If the discharge is 1,000 gallons or more, this statement shall certify that the State Office of Emergency Services has been notified of the discharge in accordance with Water Code section 13271. The statement shall also certify that the local health officer or director of environmental health with jurisdiction over the affected water bodies has been notified of the discharge in accordance with Health and Safety Code section 5411.5. The statement shall also include at a minimum the following information:

(1) Agency and Order No.

(2) The location, date, and time of the discharge.

(3) The water body that received the discharge.

(4) A description of the level of treatment of the sewage or other waste discharged.

(5) An initial estimate of the amount of sewage or other waste released and the amount that reached a surface water.

(6) The Office of Emergency Services control number and the date and time that notification of the incident was provided to the Office of Emergency Services.

(7) The name of the local health officer or director of environmental health representative notified (if contacted directly); the date and time of notification; and the method of notification (e.g., phone, fax, email).

Attachment F – Fact Sheet

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List of Tables

ATTACHMENT F – FACT SHEET

As described in Section II of this Order, this Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for Dischargers in California. Only those sections or subsections of this Order that are specifically identified as "not applicable" have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as "not applicable" are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table 1. Facility Information

WDID		**8 332818001**			
Discharger/Operator		Inland Empire Utilities Agency			
Name of Facility		Regional Water Recycling Plant No. 1 (RP-1)	Regional Water Recycling Plant No. 4 (RP-4)	Regional Water Recycling Plant No. 5 (RP-5)	Carbon Canyon Water Reclamation Facility (CCWRF)
Address		2450 East Philadelphia Street.	12811 Sixth Street	6068 Kimball Avenue, Building "C"	14950 Telephone Avenue
		Ontario, CA 91761	Rancho Cucamonga, CA 91729	Chino, CA 91708	Chino, CA 91710
		San Bernardino County			
Facility Contact, Title and Phone		Patrick O. Sheilds, Executive Manager of Operations, (909) 993-1806			
Authorized Person to Sign and Submit Reports		Patrick O. Sheilds, Executive Manager of Operations, (909) 993-1806			
Address		6075 Kimball Avenue, Chino, CA 91708			
Mailing/Billing Address		P.O. Box 9020, Chino Hills, CA 91709			
Major or Minor Facility		Major			
Type of Facility		POTW			
Threat to Water Quality		1			
Complexity		A			
Pretreatment Program		Y			
Reclamation Requirements		Y			
Facilities Permitted Flow		84.4 million gallons per day (mgd)			
Facility Design Flow		44 mgd	14 mgd	15 mgd (and 1.3 mgd flow from sludge treatment system at Regional Water Recycling Plant No.2 (RP-2))	11.4 mgd
Watershed		Santa Ana River watershed			
Receiving Water	**Surface Waters**	Prado Park Lake, Reach 1A of Chino Creek, Reach 1 of Cucamonga Creek, Mill Creek, and Reach 3 of Santa Ana River		Reach 1B of Chino Creek and Reach 3 of Santa Ana River	Reach 2 of Chino Creek and Reach 3 of Santa Ana River
	Groundwater	Chino North "Maximum Benefit" Groundwater Management Zone/Chino 1, 2, and 3 "Antidegradation" Groundwater Management Zones			
Receiving Water Type		Inland surface water and groundwater			

A. Inland Empire Utilities Agency (hereinafter Discharger, or IEUA) is the owner and operator of four regional water recycling facilities, appurtenant structures[1], sewer pipeline system, and recycled water distribution system (hereinafter Facilities). The four Facilities are linked as shown in Figures 1 and 2 of Attachment C.

For the purposes of this Order, references to the "discharger" or "permittee" in applicable federal and State laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

B. The Discharger produces tertiary treated wastewater and discharges to surface waters at different locations, including discharges into Reaches IA, IB and 2 of Chino Creek, Reach 1 of Cucamonga Creek, Prado Park Lake, and Reach 3 of the Santa Ana River. Chino Creek, Reach 1 of Cucamonga Creek, Prado Park Lake, and the Santa Ana River are waters of the United States. Discharges from the Facilities are regulated pursuant to the following Orders tabulated below for each facility:

Table 2. List of Orders adopted for each Facility

Facility	Order No.	Order Adoption Date	Expiration Date	WDR Regulatory Scope
RP-1 & RP-4	R8-2006-0010, amended by R8-2007-0045 and R8-2007-0078	May 19, 2006	May 1, 2011	Regulates discharges to Prado Park Lake and Reach 1 of Cucamonga Creek, tributaries to Reach 3 of Santa Ana River and recycled water use.
RP-5	R8-2008-0028	Sept. 5, 2008	Sept. 1, 2013	Regulates discharges to Reach 1B of Chino Creek, a tributary to Reach 3 of Santa Ana River and recycled water use.
CCWRF	R8-2004-0020, amended by R8-2006-0038 and R8-2007-0078	August 13, 2004	August 1, 2009	Regulates discharges to Reach 2 of Chino Creek, a tributary to Reach 3 of Santa Ana River and recycled water use.

The terms and conditions of the current Orders remain in effect until new Waste Discharge Requirements and NPDES permit are adopted pursuant to this Order.

[1] *Appurtenant structures among other things include the Regional Water Recycling Plant No.2 (RP-2) facility. RP-2 is an existing tertiary wastewater treatment plant owned by the Discharger. Cease and Desist Order No. 94-74 required the Discharger to relocate the liquid treatment facilities at RP-2 to a site not subject to flooding. Consequently, RP-5 replaced RP-2. Only the sludge treatment systems at RP-2 are operational and there are no longer surface water discharges from RP-2. Primary and waste activated sludge from RP-5 and CCWRF are piped to the regional solids handling facility at RP-2 for sludge treatment. Dewatered wastewater from RP-2 is pumped back to the headworks of RP-5.*

C. The Discharger filed a report of waste discharge and submitted an application for a new Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit on January 27, 2009. The Discharger requests consolidation of all three permits into one permit for the Discharger's Facilities. This request is consistent with the interconnected nature of the facilities and the approach specified in the individual Orders to regulate certain constituents (TDS and TIN) on an agency-wide, flow-weighted average basis. This new permit will regulate the discharges from the Facilities to surface waters and will also regulate recycled water use. Supplemental information was requested starting February 13, 2009. The latest supplemental information was received on May 21, 2009. A site visit was conducted on May 19, 2009, to observe operations and collect additional data to develop permit limitations and conditions. The application was deemed complete on May 21, 2009.

II. FACILITY DESCRIPTION

A. Description of Wastewater and Biosolids Treatment or Controls

1. Discharger and Service Area

Inland Empire Utilities Agency (IEUA) is a municipal water supply and wastewater treatment agency. IEUA owns and operates a regional wastewater collection system and water recycling plants, including RP-1, RP-4, RP-5, and CCWRF. The treatment Facilities receive domestic, commercial, and industrial waste waters generated within the IEUA service areas. Wastewater can be diverted to different plants via available routing options built into the regional system (see Figure 1 of Attachment C for further detail). After treatment, recycled water can be discharged to nearby outfall(s) or recycled for industrial uses, irrigation and groundwater recharge. The following table summarizes the service areas and the population served by each Facility.

Table 3. Summary of Service Areas & Population Served

Facility	Population Served	Cities/Agency Served
RP-1 & RP-4	602,000	Chino, Fontana, Montclair, Upland, Ontario, and Cucamonga Valley Water District
RP-5	104,000	Chino, Chino Hills, and Ontario; Montclair and Upland via CCWRF
CCWRF	126,400	Chino, Chino Hills, Montclair, and Upland

Attachment B provides a map of the area at each water recycling Facility.

Attachment C provides the IEUA System-Wide influent flow interrelationship diagram, IEUA System-Wide Water Recycling Distribution System and treatment flow schematic for each Facility.

2. Design Characteristics and Biosolids Treatment

The treatment processes at each Facility are tabulated as follows:

Table 4. Plant Treatment Processes

Facility	RP-1	RP-4	RP-5	CCWRF
Preliminary & Primary Treatment	Mechanical bar screens, grit chambers, chemical addition, primary clarifiers, flow equalization /emergency storage basins	Mechanical bar screens, grit chambers, chemical addition, primary clarifiers	Mechanical bar screen, grit chambers, one storage basin (, primary clarifiers	Mechanical bar screen, grit removal, chemical addition, primary clarifiers, emergency storage basin
Secondary Treatment	Aeration trains with oxic/anoxic zones, secondary clarifiers	Aeration basins with oxic /anoxic zones, secondary clarifiers	Aeration basins with anoxic/oxic zones, secondary clarifiers	Aeration basins with anoxic/oxic zones, secondary clarifiers
Tertiary Treatment	Coagulation/Flocculation, sedimentation, filtration, chlorination, dechlorination	Coagulation/Flocculation, filtration, chlorination, de-chlorination (not used), emergency diversion pond	Coagulation/Flocculation, filtration, chlorination, de-chlorination, emergency overflow pond	Coagulation/flocculation, filtration, chlorination, dechlorination
Design Capacity, mgd	44	14	15 (and 1.3 mgd RP-2 sludge treatment system wastewater flows)	11.4
Solids Handling	The solids handling for these facilities takes place at RP-1. RP-4 primary sludge and waste activated sludge are conveyed through the sewer system and enter RP-1 as influent. Solids treatment includes gravity thickener and dissolved air flotation thickeners, anaerobic digestion, digester gas utilization, and belt press dewatering. Belt press wash water is pumped to the DAFT units where the solids can be recovered and the remaining liquid is returned to the activated sludge process.[2] Belt press filtrate is pumped to the Non-Reclaimable Waste System (NRWS) line and is ultimately treated by the County Sanitation Districts of Los Angeles County.		Primary and waste activated sludge wastes from RP-5 and CCWRF are piped to the regional solids handling facility at RP-2 for sludge treatment. The solids treatment system at RP-2 includes gravity thickeners; dissolved air flotation thickeners; anaerobic digestion; aerobic digestion; belt press, and centrifuge dewatering. Dewatered biosolids are hauled away to approved disposal sites Sludge treatment system wastewater from RP-2 is pumped back to headworks of RP-5.	

[2] *IEUA plans to construct a building to house four new centrifuges for dewatering digested sludge. This will replace the belt press dewatering. The tentative project completion and start-up date is 2012.*

3. Recycled Water Uses

The Discharger delivers tertiary treated wastewater through the regional recycled water system at various locations for recycling use. The recycled water is used for landscape irrigation by public and private users, for agricultural irrigation by farmers, for dust control at construction sites and for industrial purposes, including equipment/machinery cooling. Total average flow for recycled water use has increased significantly in recent years, with a peak annual average usage of approximately 20 mgd in 2008. This Order also regulates the recycled water use within the Discharger's service area.

Recycled water from RP-1 and RP- 4 is also used for groundwater recharge in areas overlying the Chino North Groundwater Management Zone. This groundwater recharge is regulated under a separate Order (Order No. R8-2007-0039). Order No. R8-2007-0039 was issued to the Discharger and the Chino Basin Watermaster to regulate the use of recycled water for the Chino Basin Recycled Water Groundwater Recharge Project, Phase I and Phase II. Order No. R8-2009-0021 does not regulate the use of recycled water for groundwater recharge.

B. Discharge Points and Receiving Waters

1. Discharge Points to Surface Water

Tertiary treated wastewater from each of the four Facilities is discharged at different Discharge Points (DPs 001, 002, 003, & 004) to surface waters that include Reaches 1A, 1B and 2 of Chino Creek, Reach 1 of Cucamonga Creek, and Prado Park Lake. These waterbodies are tributary to Reach 3 of the Santa Ana River within the Prado Basin Management Zone.

2. Stormwater Discharge points

Stormwater flows generated on site at RP-1 are collected and pumped to a liquid process stream for treatment. In the event that stormwater flows exceed the capacity to store and/or pump to a liquid process stream, stormwater may enter Reach 1 of Cucamonga Creek via S-001 or S-002.

Stormwater flows generated on site at RP- 4 are fully contained in an onsite, 4 million gallon capacity storage basin. All water captured in this basin is then pumped to a liquid process stream for treatment.

Stormwater flows generated on site at RP-5 and CCWRF plant are collected and pumped to the liquid process stream for treatment.

3. Recycled Water Use Area

Recycled water for irrigation is delivered to IEUA's service area through Discharge Points (DP) 005 through DP 008.

4. Receiving Water

Surface water. Tertiary treated wastewater discharges from the Facilities are either into Reaches 1A, 1B and 2 of Chino Creek, Reach 1 of Cucamonga Creek, and Prado Park Lake, tributaries of Reach 3 of the Santa Ana River within the Prado Basin Management Zone (PBMZ).

Groundwater. The Discharger distributes recycled water throughout its service area. The current recycled water use area overlies the Chino North "Maximum Benefit" Groundwater Management Zone (or Chino 1, 2, and 3 "Antidegradation" groundwater management zones).

There is little or no groundwater storage within the PBMZ.

Table 5 shows a summary of the discharge points, discharge coordinates (longitude and latitude), affected receiving waters, and estimated volume of discharge:

Table 5. Summary of Discharge Points and Receiving Waters

Discharge Point	Latitude	Longitude	Discharging Facility	Effluent Description and Receiving Water	Flow (MGD) & Frequency
001	N33°56'39"	W117°38'34"	RP-1	Tertiary treated effluent into Prado Park Lake. Overflow from the lake to an unnamed creek, then to Reach 1A of Chino Creek, a tributary to Reach 3 of Santa Ana River in Prado Basin	6.6 mgd 3-year average Continuous discharge
002	N34°1'31"	W117°33'56"	RP-1 & RP-4	Reach 1 of Cucamonga Creek, then to Mill Creek, then Reach 1A of Chino Creek, a tributary to Reach 3 of Santa Ana River in Prado Basin	20.6 mgd 3-year average Continuous discharge
003	N33°57'44"	W117°40'41"	RP-5	Reach 1B of Chino Creek, a tributary to Reach 3 of Santa Ana River	10.2 mgd 3-year average Continuous discharge
004	N33°58'56	W117°41'48"	CCWRF	Reach 2 of Chino Creek, a tributary to Reach 3 of Santa Ana River	9.9 mgd 3-year average Continuous discharge

Table 5. Summary of Discharge Points and Receiving Waters					
Discharge Point	Latitude	Longitude	Discharging Facility	Effluent Description and Receiving Water	Flow (MGD) & Frequency
005	N34°01'29"	W117°35'57"	RP-1	Recycled water use in areas overlying Chino North "Max Benefit" GMZ	14.1 mgd 1-year average - intermittent
006	N34°04'59"	W117°31'35"	RP-4	Recycled water use in areas overlying Chino North "Max Benefit" GMZ	3.1 mgd 1-year average (2007) - intermittent
007	N33°57'51"	W117°40'24"	RP-5	Recycled water use in areas overlying Chino North "Max Benefit" GMZ	1.0 MGD 1-year average - intermittent
008	N33°58'47"	W117°41'37"	CCWRF	Recycled water use in areas overlying Chino North "Max Benefit" GMZ	2.8 mgd 1-year average - intermittent
S-001	N34°01'36"	W117°35'59"	RP-1	Stormwater runoff to Reach 1 of Cucamonga Creek	Varies during storm event
S-002	N34°01'28"	W117°35'58"	RP-1	Stormwater runoff to Reach 1 of Cucamonga Creek	Varies during storm event

C. Summary of Previous Requirements and Self-Monitoring Report (SMR) Data

1. Effluent Limitations/Discharge Specifications contained in the previous Order No. R8-2006-0010 for discharges from RP-1 & RP-4 at Discharge Point 001 and DP002 and representative monitoring data from the term of the previous Order are as follows:

Table 6. RP-1 Historic Effluent Limitations and Monitoring Data at M-001A and M-001B

Parameter (units)	Effluent Limitation			Monitoring Data (From Aug. 2004 to December 2008)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge	Highest 12-Month Average
Flow (mgd) (Jan 06 to Dec 08)				11.1		11.7	Avg: 6.5
pH Daily Average (SU)			Range 6.5-8.5			Range 6.7-8.4	
BOD5 (mg/L)	20	30		2	3		
Suspended Solids (mg/L)	20	30		2	3		
Coliform Organisms (MPN/100 mL)	23 (1/mo.)	2.2			2		
Ammonia-Nitrogen (mg/L)	4.5			2.9			

Table 6. RP-1 Historic Effluent Limitations and Monitoring Data at M-001A and M-001B

Parameter (units)	Effluent Limitation			Monitoring Data (From Aug. 2004 to December 2008)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge	Highest 12-Month Average
Total Residual Chlorine (mg/L)			0.1 Instant. Max			0.0	
TDS (mg/L)	12-M, 550 agency-wide[3]			543			505 combined M-001 and M-002
Total Hardness (mg/L)					5th percentile 123	159	
Toxicity, TUc				1.7 Reproductio n			
TIN[4] (mg/L)	12-M, 8 agency-wide						9.8 Note: combined RP-1 and RP-4
Arsenic(µg/L)				6		6	
Cadmium(µg/L)				<0.25		<0.25	
Total recoverable Chromium (VI) (µg/L)				4.6		4.6	
Copper (µg/L)				7		7	
Free Cyanide (µg/L)[5]	4.2		8.5	24		24	
Lead (µg/L)				<0.5		<0.5	
Mercury (µg/L)				<0.05		<0.05	
Nickel (µg/L)				16		16	
Total recoverable Selenium (µg/L)	4.1		8.2	7		7	
Silver (µg/L)				0.7		0.7	
Zinc (µg/L)				122		122	
Bis(2-Ethylhexyl) Phthalate (µg/L)	5.9		11.8	9		9	
Bromodichloro Methane (µg/L)				34		34	
Chlorodibromo Methane (µg/L)				13		13	

[3] *This limitation may be met on an agency-wide basis using flow weighted averages of the discharges from all treatment plants operated by the Discharger*

[4] *Agency wide, the Discharger currently complies with the total inorganic nitrogen limitations in the Orders for RP-1, RP-4, RP-5 and CCWRF.*

[5] *Prior to January 2008, "Available cyanide" was measured rather than just "Free Cyanide". Available cyanide encompasses weak-acid dissociable cyanide compounds (that can release free cyanide) and free cyanide.*

Table 6. RP-1 Historic Effluent Limitations and Monitoring Data at M-001A and M-001B

Parameter (units)	Effluent Limitation			Monitoring Data (From Aug. 2004 to December 2008)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge	Highest 12-Month Average
Turbidity, NTU			2			>2	

Table 7. RP-1 & RP-4 Historic Effluent Limitations and Monitoring Data at M-002A and M-002B

Parameter (units)	Effluent Limitation			Monitoring Data (From Aug 2004 to December 2008)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge	Highest 12-Month Average
Flow (mgd) (Jan 06 to Dec 08)				28.5		40.9	Avg: 20.4
pH Daily Average (SU)			Range 6.5-8.5			Range 6.5-8.0	
BOD5 (mg/L)	20	30		2	3		
Suspended Solids (mg/L)	20	30		5	12		
Coliform Organisms (MPN/100 mL)	23 (1/mo.)	2.2	240		2		
Ammonia-Nitrogen (mg/L)	4.5			3.0			
Total Residual Chlorine (mg/L)			0.1 instant. Max			4.8	
TDS (mg/L)	12-M, 550 agency-wide			534			505 Note: combined RP-1 and RP-4
Total Hardness (mg/L)					5^{th} percentile 120	162	
Toxicity, TUc				1.3 Reproduction			
TIN (mg/L)	12-M, 8 agency-wide						9.8 combined M-001 and M-002 only
Arsenic(µg/L)				6		6	
Cadmium(µg/L)				<0.25		<0.25	
Total recoverable Chromium (VI) (µg/L)				4.3		4.3	
Copper (µg/L)				8		8	
Free Cyanide (µg/L)[6]	4.2		8.5	15		15	
Lead (µg/L)				5		5	
Mercury (µg/L)				<0.05		<0.05	
Nickel (µg/L)				4		4	

[6] *Prior to January 2008, "Available" cyanide was measured rather than "Free Cyanide".*

Table 7. RP-1 & RP-4 Historic Effluent Limitations and Monitoring Data at M-002A and M-002B

Parameter (units)	Effluent Limitation			Monitoring Data (From Aug 2004 to December 2008)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge	Highest 12-Month Average
Total recoverable Selenium (µg/L)	4.1		8.2	8		8	
Silver (µg/L)				0.37		0.37	
Zinc (µg/L)				59		59	
Bis(2-Ethylhexyl) Phthalate (µg/L)	5.9		11.8	7		7	
Bromodichloro Methane (µg/L)				31		31	
Chlorodibromo Methane (µg/L)				13		13	

2. Effluent limitations/Discharge Specifications contained in the previous Order No. R8-2008-0028 for discharges from RP-5 at discharge Point 003 and representative monitoring data from the term of the previous Order are as follows:

Table 8. RP-5 Historic Effluent Limitations and Monitoring Data at M-003

Parameter (units)	Effluent Limitation			Monitoring Data (From Aug 2004 to December 2008)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge	Highest 12-Month Average
Flow (mgd) (Jan 06 to Dec 08)				13.0		15.4	Avg: 10.3
pH Daily Average (SU)			Range 6.5-8.5			Range 6.5-8.1	
BOD5 (mg/L)	20	30		<2	<3		
Suspended Solids (mg/L)	20	30		4	7		
Coliform Organisms (MPN/100 mL)	23 (1/mo.)	2.2	240		2		
Ammonia-Nitrogen (mg/L)	4.5			0.4			
Total Residual Chlorine (mg/L)			0.1 Instant. Max.			0.0	
TDS (mg/L)	12-M, 550 agency-wide			557			533
Total Hardness (mg/L)					5^{th} percentile 148	215	
Toxicity, TUc				>1.7 Reproduction			
TIN (mg/L)	12-M, 8 agency-wide						6.5
Arsenic (µg/L)				7		7	
Cadmium (µg/L)				1.7		1.7	

Table 8. RP-5 Historic Effluent Limitations and Monitoring Data at M-003

Parameter (units)	Effluent Limitation			Monitoring Data (From Aug 2004 to December 2008)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge	Highest 12-Month Average
Total recoverable Chromium (VI) (µg/L)				9		9	
Copper (µg/L)				13		13	
Free Cyanide (µg/L) [7]	4.6		7.3	8		8	
Lead (µg/L)				3		3	
Mercury (µg/L)				<0.05		<0.05	
Nickel (µg/L)				7		7	
Total recoverable Selenium (µg/L)				3		3	
Silver (µg/L)				0.5		0.5	
Zinc (µg/L)				69		69	
Bis(2-Ethylhexyl) Phthalate (µg/L)				3		3	
Bromodichloro Methane (µg/L)				48		48	
Chlorodibromo Methane (µg/L)				21		21	
2,3,7,8-TCDD (Dioxin), (µg/L)						0.0000035	

3. Effluent limitations/Discharge Specifications contained in the previous Order No. R8-2004-0020 for discharges from CCWRF at Discharge Point 004 and representative monitoring data from the term of the previous Order are as follows:

Table 9. CCWRF Historic Effluent Limitations and Monitoring Data at M-004

Parameter (units)	Effluent Limitation			Monitoring Data (From Aug 2004 to December 2008)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge	Highest 12-Month Average
Flow (mgd) (Jan 06 to Dec 08)	11.4			10.0		13.2	Avg: 6.9
pH Daily Average (SU)			Range 6.5-8.5			Range 6.6-7.7	
BOD5 (mg/L)	20	30		2	3		
Suspended Solids (mg/L)	20	30		2	8		
Coliform Organisms (MPN/100 mL)	23 (1/mo.)	2.2	240		2		
Ammonia-Nitrogen (mg/L)	4.5			0.2			

[7] *Prior to January 2008, "Available cyanide" was measured rather than "Free Cyanide".*

Table 9. CCWRF Historic Effluent Limitations and Monitoring Data at M-004

Parameter (units)	Effluent Limitation			Monitoring Data (From Aug 2004 to December 2008)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge	Highest 12-Month Average
Total Residual Chlorine (mg/L)			0.1 instant. Max			0.0	
TDS (mg/L)	12M, 550 agency-wide			554			537
Total Hardness (mg/L)					5th percentile 130		
Toxicity, TUc				1.7 Reproduction			
TIN (mg/L)	12M, 8						7.5
Arsenic(µg/L)				7		7	
Cadmium(µg/L)				<0.25		<0.25	
Total recoverable Chromium (VI) (µg/L)	8.2		16.3	4.1		4.1	
Copper (µg/L)				12		12	
Free Cyanide (µg/L)[8]	4.1		8.2	8		8	
Lead (µg/L)				0.5		0.5	
Mercury (µg/L)				<0.05		<0.05	
Nickel (µg/L)				20		20	
Total recoverable Selenium (µg/L)	4.1		8.2	<2		<2	
Silver (µg/L)				0.9		0.9	
Zinc (µg/L)				57		57	
Bis(2-Ethylhexyl) Phthalate(µg/L)	5.9		11.8	25		25	
Bromodichloro Methane (µg/L)				33		33	
Chlorodibromo Methane (µg/L)				10		10	
2,3,7,8-TCDD (Dioxin) (µg/L)						0.00000026	

D. Compliance Summary

Based on a review of effluent monitoring data submitted by the Discharger for the period from 2004 through 2008, the following Table shows the compliance summary for each Facility:

[8] *Prior to January 2008, "Available cyanide" was measured rather than Free Cyanide.*

Table 10. Compliance Status RP-1, RP-5 and CCWRF

Date	Plant	Parameter	Value	Permit Limit	Reason for Violation	Corrective Measures
01/02/04	RP-1 (001)	Chlorine Residual	4.6 mg/L	0.1mg/L	Sodium Bisulfite (SBS) crystallized due to low temps	Heat tape installed to the SBS piping distribution system to prevent crystallization of SBS in the line
10/17/04	RP-1 (001)	Chlorine Residual	6.5 mg/L	0.1mg/L or not exceed 5 mg/L	Dechlor Station power failure	Monthly standby generator testing and automated V-1 valve closure
03/14/05	RP-1 (001)	Turbidity	>2 NTU	2 NTU	Plant upset, unstable activated sludge system , and one activated sludge train was in repair	Placed train back into service, reseeded one activated sludge system, polymer addition, chlorinated RAS.
03/14/05 - 03/16/05	RP-1 (002)	Turbidity	>2 NTU	2 NTU, 5 NTU 5%		
07/24/06	RP-1 (002)	Chlorine Residual	4.8 mg/L	0.1mg/L	Stage 2 Power Alert. Standby generator at pump stations and Dechlor stn power failure	Preventative maintenance procedures reviewed, revised, and implemented.
10/01/06	RP-1 (002)	Coliform	900 MPN/100 mL	240 MPN/ 100mL	Sample contamination	Staff retrained in sample collection and handling techniques
09/05/07	RP-1 (001)	Coliform	500 MPN/100 mL	240 MPN/ 100mL	Sample contamination	Staff retrained in sample collection and handling techniques
11/22/07	RP-1 (002)	Coliform	>1600 MPN/100 mL	240 MPN/ 100mL	Metal tip at sampling point contaminated sample	Discontinued use of metal tip at sampling point
03/06/07	CCWRF	Bis(2-ethylhexyl phthalate	25 µg/L	5.9 µg/L avg; 11.8 µg/L max	Sample contamination	Compound commonly used in the manufacturing of plastics. Influent concentration was “non-detect”
01/04/05	RP-5	Chlorine Residual	5.29 mg/L	0.1mg/L or not exceed 5 mg/L	Sodium Bisulfite (SBS) crystallized due to low temps	Heat tape installed to the SBS piping distribution system to prevent crystallization of SBS in the line.
01/09/05	RP-5	Chlorine Residual	>5.0 mg/L	0.1mg/L or not exceed 5 mg/L	Control analyzer failure	Allow effluent gate to close automatically as designed.

E. Planned Changes – Not Applicable

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

A. Legal Authorities

This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and Chapter 5.5, Division 7 of the California Water Code (commencing with Section 13370). It shall serve as a NPDES permit for point source discharges from the Regional Water Recycling Facilities to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, Chapter 4, Division 7 of the Water Code (commencing with Section 13260). This Order also includes Producer/User Recycling Requirements to regulate recycled water use for irrigation and other industrial uses.

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code section 21000 et seq. (*County of Los Angeles v. California State Water Resources Control Board* (2006) 143 Cal.App.4th 985, mod. (Nov. 6, 2006, B184034) 50 Cal.Rptr.3d 619, 632-636.)

This action also involves the re-issuance of waste discharge requirements for an existing Facility that discharges treated wastewater to land and as such, is exempt from the provisions of California Environmental Quality Act (commencing with Section 21100) in that the activity is exempt pursuant to Title 14 of the California Code of Regulations Section 15301.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The Regional Water Board adopted an updated Water Quality Control Plan for the Santa Ana Basin (hereinafter Basin Plan) that became effective on January 24, 1995. The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, State Water Resources Control Board (State Water Board) Resolution No. 88-63 (Sources of Drinking Water Policy) requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic water supply use to water bodies. Based on the exception criteria specified in Resolution No. 88-63, the Regional Water Board excepted certain waters from the municipal and domestic supply beneficial use.

   On January 22, 2004, the Regional Water Board adopted Resolution No. R8-2004-0001, amending the Basin Plan to incorporate revised boundaries for groundwater subbasins, now termed “management zones”, new nitrate-nitrogen and TDS objectives for the new management zones, and new nitrogen and TDS management strategies applicable to both surface and ground waters. The State Water Board and Office of Administrative Law (OAL) approved the N/TDS

Amendment on September 30, 2004 and December 23, 2004, respectively. EPA approved the surface water standards components of the N/TDS Amendment on June 20, 2007. Effluent limitations in this Order for TDS and TIN discharges to Chino Creek, Reach 1 of Cucamonga Creek, Prado Park Lake, and Reach 3 of the Santa Ana River are based on applicable wasteload allocations specified in the Basin Plan as amended.

The designated beneficial uses of receiving waters affected by the discharge from the Facility are as follows:

Table 11. Basin Plan Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
001	Prado Park Lake, overflow from the lake to an unnamed creek, then to Reach 1A of Chino Creek	Present or Potential: Water contact recreation (REC-1), non-contact water recreation (REC-2), warm freshwater habitat, wildlife habitat (WILD), and rare, threatened and endangered species. Recreational use at Prado Park Lake is restricted to fishing and boating. Excepted from Municipal and Domestic Supply.
002	Reach 1 of Cucamonga Creek, to Mill Creek, then Reach 1A of Chino Creek	Present or Potential: Groundwater Recharge, Water contact recreation (REC-1), non-contact water recreation (REC-2), Limited warm freshwater habitat, and wildlife habitat (WILD). Excepted from Municipal and Domestic Supply.
003	Reach 1B of Chino Creek	Present or Potential: Water contact recreation (REC-1), non-contact water recreation (REC-2), warm freshwater habitat, wildlife habitat (WILD), and rare, threatened and endangered species. Excepted from Municipal and Domestic Supply.
004	Reach 2 of Chino Creek	Present or Potential: Groundwater Recharge, Water contact recreation (REC-1), non-contact water recreation (REC-2), Cold freshwater habitat, and wildlife habitat (WILD). Excepted from Municipal and Domestic Supply.
001, 002, 003, 004, S-001, & S-002	Reach 3 of Santa Ana River within Prado Basin Management Zone	Present or Potential: Agricultural supply, groundwater recharge, water contact recreation, non-contact water recreation, warm freshwater habitat, wildlife habitat, rare, threatened or endangered species, and spawning, reproduction, and development waters supporting high quality aquatic habitats. Excepted from Municipal and Domestic Supply.

Table 11. Basin Plan Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
001, 002, 003, 004, 005, 006, 007, 008, S-001, & S-002	Chino North "Max Benefit" GMZ / Chino 1, 2 and 3 "antidegradation" GMZs	Present or Potential: Municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.
	Orange GMZ (affected GMZ downstream of discharge points)	Present or Potential: Municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.

Requirements of this Order implement the Basin Plan.

2. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.

3. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

4. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes (40 C.F.R. § 131.21, 65 Fed. Reg. 24641 (April 27, 2000)). Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

5. **Antidegradation Policy.** 40 CFR § 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. As discussed in Section IV. E. 2 of this Fact Sheet, the permitted discharges are consistent with the antidegradation provisions of § 131.12 and State Water Board Resolution No. 68-16.

6. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations[9] section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. All effluent limitations in the Order are at least as stringent as the effluent limitations in the previous Orders for each Facility.

7. **Monitoring and Reporting Requirements.** Section 122.48 of 40 CFR requires that all NPDES permits specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of the CWC authorize the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP) establishes monitoring and reporting requirements to implement federal and State requirements. This MRP is provided in Attachment E.

D. Impaired Water Bodies on CWA 303(d) List

Reach 1 of Chino Creek, Mill Creek (Prado Area) and Prado Park Lake are included in the USEPA approved 2006 CWA 303(d) list due to nutrients resulting principally from agricultural and dairy operations inputs during storm events. Reaches 1 & 2 of Mill Creek are also listed due to pathogen indicators, also resulting principally from dairy operations inputs during storm events. This Order requires that the wastewater discharged from the Facilities be essentially free of pathogens/pathogen indicators and that the wastewaters comply with the applicable Basin Plan wasteload allocation for total inorganic nitrogen (8 mg/L) for surface water discharges.

E. Other Plans, Polices and Regulations-Not Applicable

[9] *All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.*

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source Dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: section 122.44(a) requires that permits include applicable technology-based limitations and standards; and section 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water

A. Discharge Prohibitions

The discharge prohibitions are based on the Federal Clean Water Act, Basin Plan, State Water Board's plans and policies, U.S. Environmental Protection Agency guidance and regulations, and previous permit provisions in Orders No. R8-2006-0010, R8-2008-0028, and R8-2004-0020 and are consistent with the requirements set for other discharges regulated by NPDES permits adopted by the Regional Water Board.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations, require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at Part 133 and/or Best Professional Judgment (BPJ) in accordance with Part 125, section 125.3.

Regulations promulgated in 40 CFR §125.3(a)(1) require technology-based effluent limitations for municipal dischargers to be placed in waste discharge requirements based on Secondary Treatment Standards or Equivalent to Secondary Treatment Standards.

The Federal Water Pollution Control Act Amendments of 1972 (PL 92-500) established the minimum performance requirements for POTWs [defined in Section 304(d)(1)]. Section 301(b)(1)(B) of that Act requires that such treatment works must, as a minimum, meet effluent limitations based on secondary treatment as defined by the USEPA Administrator.

Based on this statutory requirement, USEPA developed secondary treatment regulations, which are specified in 40 CFR Part 133. These technology-based regulations apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of biochemical oxygen demand (BOD_5), total suspended solids (TSS), and pH.

2. Applicable Technology-Based Effluent Limitations for 20:1 dilution

This Facility meets the technology-based regulations for the minimum level of effluent quality attainable by secondary treatment in terms of BOD_5, total suspended solids and removal rate as summarized in the Table below. These effluent limitations have been set for secondary treated wastewater discharges at Discharge Points (DPs) 002, 003, and 004 under 20:1 dilution conditions.

Table 12. Summary of Technology-Based Effluent Limits for Secondary Treatment

Constituent	Average Weekly (mg/L)	Average Monthly (mg/L)	Average Monthly Removal Rate %
Biochemical Oxygen Demand, 5-day 20^0C	45	30	85
Total Suspended Solids	45	30	85

DP 001 discharges to Prado Park Lake. This lake is a property of the County of San Bernardino. The County and the Discharger agreed that the Discharger will provide up to 6.6 mgd of tertiary treated recycled water to the lake for recreation and fishing. There are no other discharges into the lake except stormwater from the tributary drainage area. Overflow from this lake discharges continuously to an unnamed creek, then to Reach 1A of Chino Creek. Consequently, discharges of secondary treated wastewater under 20:1 dilution condition into the lake is not allowed.

C. WQBEL-Based Effluent Limitations for DP 001 through DP 004

1. Scope and Authority

Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

Section 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the

pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

a. The Basin Plan specifies narrative and numeric water quality objectives applicable to surface water as follows.

Table 13. Applicable Basin Plan Surface Water Quality Objectives

Constituents	Basis for Limitations
Ammonia Nitrogen	Dissociates under certain conditions to the toxic un-ionized form. Thus, nitrogen discharges to surface water pose a threat to aquatic life and instream beneficial uses, as well as to the beneficial uses of affected groundwater. The Basin Plan specifies total ammonia and un-ionized ammonia objectives and an effluent limit of 4.5 mg/L for discharges to surface waters--Chino Creek and Mill Creek.
Hydrogen Ion (pH)	Hydrogen Ion (pH) is a measure of Hydrogen Ion concentration in the water. A pH range of 6.5 to 8.5 for surface water discharges is specified.
Oil & Grease	Oil and related materials have a high surface tension and are not soluble in water, resulting in odors and visual impacts.
Total Dissolved Solids	High levels of TDS can adversely impact groundwater affected by recharge of the affected receiving waters, as well as the use of that groundwater for supply purposes. The TDS limit for surface water discharges is based on the amended Basin Plan wasteload allocation for the discharger of 550 mg/L[10] and 80 mgd flow.
Total Inorganic Nitrogen	Nitrogen discharges to the Santa Ana River pose a threat to aquatic life and instream beneficial uses, as well as to the beneficial uses of affected groundwater. The TIN limit for surface water discharges is based on the amended Basin Plan wasteload allocation of 8.0 mg/L and 80 mgd flow .
Total Chlorine Residual	Wastewater disinfection with chlorine usually produces chlorine residual. Chlorine and its reaction products are toxic to aquatic life. To protect aquatic life, the chlorine residual in wastewater discharged to inland surface waters shall not exceed 0.1 mg/L.

10 *The Basin Plan specifies in Table 5-5 that TDS and TIN discharges to surface waters from the Discharger's wastewater treatment facilities are to be regulated pursuant to a single wasteload allocation, applied as a flow-weighted average of the discharges from the facilities. The TDS and TIN wasteload allocations are not contingent on "maximum benefit" objectives or implementation.*

(1) TDS and TIN: TDS and TIN limitations are specified in the Order for discharges of tertiary treated effluent at DPs 001, 002, 003, and 004. These TDS/TIN limits are based on the waste load allocation specified in Table 5-5 of the amended Basin Plan.

(2) TDS: This Order also includes a TDS limit based on the flow weighted running average quality of the water supplied to the service area plus a reasonable use increment of 250 mg/L. This reasonable use increment addition is discussed and authorized in the Basin Plan.

(3) For surface water discharges, the more restrictive of the TDS limit based on the wasteload allocation or the TDS limit based on water supply quality plus the reasonable use increment applies to discharges from the Facilities.

(4) In accordance with 40 CFR Section 122.45(d), there may be instances in which the basis for a limit for a particular continuous discharge may be impracticable to be stated as a maximum daily, average weekly, or average monthly effluent limitation. The Regional Water Board has determined that it is not practicable to express TDS and TIN effluent limitations as average weekly and average monthly effluent limitations because the TDS and TIN objectives in the Basin Plan were established primarily to protect the underlying groundwater. Consequently, a 12-month average period is more appropriate.

b. NTR, CTR and SIP. The National Toxics Rule, California Toxics Rule (CTR) and State Implementation Policy specify numeric objectives for toxic substances and the procedures whereby these objectives are to be implemented. The procedures include those used to conduct reasonable potential analysis to determine the need for effluent limitations for priority and non-priority pollutants.

c. Requirement to meet 2.2 total coliform bacteria limit in the effluent. Article 3, Section 60305 of Title 22, Chapter 3, "Use of Recycled water for impoundments" of the California Code of Regulations specifies that recycled water used as a source of supply in a nonrestricted recreational impoundment shall be at all times an adequately disinfected, oxidized, coagulated, clarified, filtered wastewater (tertiary treated). The degree of treatment specified represents an approximately 5-log reduction in the virus content of the water. The California State Department of Public Health (CDPH) has determined that this degree of virus removal is necessary to protect the health of people using these impoundments for water contact recreation. The CDPH has developed wastewater disinfection guidelines ("Wastewater Disinfection for Health Protection", Department of Health Services, Sanitary Engineering Branch, February 1987) for discharges of wastewater to surface waters where water contact recreation (REC-1) is a beneficial use. The disinfection guidelines recommend the same treatment requirements for wastewater discharges to REC-1 waters as those stipulated in Title 22 for supply of recycled water to nonrestricted recreational impoundments, since the public health risks under both

scenarios are analogous. The disinfection guidelines are based on sound science and are widely used as guidance to assure public health and beneficial use protection.

None of the surface waters to which the discharges regulated under this Order occur are considered to be "nonrestricted recreational impoundments", nor is "recycled water[11]" being used as a supply source pursuant to the definitions in Title 22. However, to protect the water contact recreation beneficial use and to prevent nuisance and health risk, it is necessary and appropriate to require the same degree of treatment for wastewater discharges to the affected waterbodies as would be required for the use of recycled water in a nonrestricted recreational impoundment. Thus, this Order specifies requirements based on tertiary or equivalent treatment.

d. Requirement to meet disinfection CT limit in the effluent. The Board has consulted with the CDPH regarding the applicability of the process design standards (specifically filter rates, CT, and modal contact) for discharges of waste to flowing streams. CDPH has determined that although compliance with these standards is necessary to protect public health when recycled water is used, compliance with these standards is not necessary to protect public health for discharges into waterbodies that provide dilution of the wastewater, provided the performance standards are consistently met. During periods when the receiving water can provide a 1:1 dilution of the wastewater discharge, the Order provides that the specified filter rates, CT, and modal contact time do not apply to wastewater discharges to surface water. The specified filter rates, CT, and modal contact time applies to recycled water use.

3. Determining the Need for WQBELs

In accordance with Section 1.3 of the SIP, the Regional Water Board conducted a reasonable potential analysis (RPA) for each priority pollutant with an applicable criterion or objective to determine if a WQBEL is required in the Order. The Regional Water Board analyzed effluent data to determine if a pollutant in a discharge has the reasonable potential to cause or contribute to an excursion above a state water quality standard. For all parameters that have the reasonable potential to cause or contribute to an excursion above a water quality standard, numeric WQBELs are required. The RPA considers criteria from the CTR, and when applicable, water quality objectives specified in the Basin Plan. For hardness dependent metals, a fixed hardness value for each outfall, based on the lowest 5th percentile of effluent hardness measurements from each plant, is used to facilitate the determination of compliance. The decision to use the 5th percentile of effluent hardness measurements is based on previous practice resulting from the Santa Ana River Use Attainability Analysis conducted in 1994 and a 2008 special study conducted by the State Water Board staff.

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11 *As defined in the Reclamation Criteria, recycled water means water which, as a result of treatment of domestic wastewater, is suitable for a direct beneficial use or a controlled use that would not otherwise occur.*

Sufficient data are needed to conduct a complete RPA. If data are not sufficient, the Discharger will be required to gather the appropriate data for the Regional Water Board to conduct the RPA. Upon review of the data, and if the Regional Water Board determines that WQBELs are needed to protect the beneficial uses, the permit will be reopened for appropriate modification.

The RPA was performed by reviewing the data provided by the Discharger in accordance with the SIP. Total recoverable selenium, and bis(2-ethylhexyl) phthalate were determined to have reasonable potential to cause an excursion above applicable pollutant criteria or objectives for discharges at DP 001 and DP 002. For discharges at DP 003, cyanide, selenium, bis(2-ethylhexyl) phthalate, and Bromodichloromethane were determined to have reasonable potential to cause an excursion above applicable pollutant criteria or objectives. For discharges at DP 004, bis(2-ethylhexyl) phthalate was determined to have reasonable potential to cause an excursion above applicable pollutant criteria or objectives. For CCWRF, the RPA also determined that total recoverable chromium (VI) does not have the reasonable potential to cause an excursion above applicable pollutant criteria or objectives. Consequently, effluent limitations for this constituent are not included in this Order.

The December 2007 monitoring data for 2,3,7,8-TCDD (Dioxin) at DP 003 and DP 004 showed one detected value each at 0.0000035 µg/L and 0.00000026 µg/L, respectively. These values are above the water quality criteria for Dioxin. However, the prior monitoring results before detection showed non-detect values and subsequent to detection, three monitoring data for each outfall also showed non-detect values. Considering the previous and subsequent monitoring results, it is determined that there is no reasonable potential for Dioxin to exceed applicable pollutant criteria. Consequently, no effluent limitation for Dioxin is included in the Order. However, the Order requires the Discharger to conduct quarterly monitoring for Dioxin for one year. The monitoring frequency is reduced to semi-annual if quarterly monitoring results show non-detect values at acceptable reporting levels.

For free cyanide, the RPA was based on the previous RPA that was done for each facility because the EPA approved test method for free cyanide is in question and the Discharger is using a test method that is currently being verified for accuracy and repeatability. This test method will be submitted to EPA for approval. Meanwhile, this Order retains the current effluent limits for free cyanide for RP-1, RP-4, RP-5 and CCWRF.

The following tables show the RPA study results for each Facility. Effluent limitations are established in this Order for those parameters with “yes” in the RPA column of the tables.

Table 14. RP-1 - Comparing DP 001 Effluent Data with WQOs

Parameter	unit	Effluent MEC[12]	CTR-Fresh water			Basin Plan	RPA
		Fresh water	CMC/CCC	WQO	Human Health Organisms Only	WQO	
Cyanide, Free	µg/L	24	22/5.2				yes
Bis(2-ethylhexyl) Phthalate	µg/L	9			5.9		yes
Total recoverable selenium	µg/L	7.0	0/5.0				yes

*: 5th percentile of effluent hardness of 124 mg/l is used to calculate metals criteria with hardness related.

Table 15. RP-1 & RP-4 - Comparing DP 001 & DP 002 Effluent Data with WQOs

Parameter	unit	Effluent MEC	CTR-Fresh water			Basin Plan	RPA
		Fresh water	CMC/CCC	WQO	Human Health	WQO	
Cyanide, Free	µg/L	15	22/5.2				yes
Bis(2-ethylhexyl) Phthalate	µg/L	7			5.9		yes
Total recoverable selenium	µg/L	8.0	0/5.0				yes

*: 5th percentile of effluent hardness of 122 mg/l is used to calculate metals criteria with hardness related.

Table 16. RP-5 - Comparing DP 003 Effluent Data with WQOs

Parameter	unit	Effluent MEC	CTR-Fresh water			Basin Plan	RPA
		Fresh water	CMC/CCC	WQO	Human Health	WQO	
Cyanide, Free	µg/L	8	22/5.2				yes
Bis(2-ethylhexyl) Phthalate	µg/L	4			5.9		no
Total recoverable Selenium	µg/L	3	0/5.0				No
2,3,7,8-TCDD (Dioxin)	µg/L	0.0000035			0.000000014		No, see Section IV.C.3., above
Bromodichloromethane	µg/L	48			46		yes

*: 5th percentile of effluent hardness of 148 mg/l is used to calculate metals criteria with hardness related.

[12] *MEC, CMC, CCC are defined in Attachment A.*

Table 17. CCWRF - Comparing DP 004 Effluent Data with WQOs

Parameter	unit	Effluent MEC	CTR-Fresh water			Basin Plan	RPA
		Fresh water	CMC/CCC	WQO	Human Health	WQO	
Cyanide, Free	µg/L	8	22/5.2				yes
Bis(2-ethylhexyl) Phthalate	µg/L	25			5.9		yes
Total recoverable chromium (VI)	µg/L	4.1	16/11				No
Total recoverable Selenium	µg/L	<2	0/5.0				No
2,3,7,8-TCDD (Dioxin)	µg/L	0.00000026			0.000000014		No, see Section IV.C.3., above

*: 5th percentile of effluent hardness of 130 mg/l is used to calculate metals criteria with hardness related.

4. WQBEL Calculations

No mixing zone allowance is included in the calculation of effluent limits in this Order. Consequently, compliance with the effluent limits is required to be determined at the end of the discharge pipe for freshwater discharge.

a. For priority pollutants, water quality based effluent limits based on monitoring results and the calculation process outlined in Section 1.4 of the California Toxic Rule and the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays and Estuaries of California are summarized in the following Tables 19, 20 and 21. The criteria calculation is based on CTR criteria for freshwater.

The calculated coefficients of variation (CVs) for data sets of total recoverable selenium and cyanide are based on standard deviation, number of samples and mean of the data set.

This Order retains the free cyanide limits in the prior permits. The following table shows the free cyanide limits.

Table 18. Cyanide Limits in prior Orders

Discharge Point	Order	Facility	Effluent Limitations, µg/L	
			Average Monthly	Maximum Daily
DP 001&DP 002	R8-2006-0010	RP-1/RP-4	4.2	8.5
DP 003	R8-2008-0028	RP-5	4.6	7.3
DP 004	R8-2004-0020	CCWRF	4.3	8.5

Table 19. Calculation of Effluent Limits at DP 001 and DP002

				CV = 0.6, long-term average			Aquatic Life		Human		Permit Limit	
	CTR Criteria			Acute M	Chronic M	LTA	Objective/limits		Health Limits		Concentration Limit	
	Fresh water		Human Health	0.321	0.527		**3.11**	**1.55**	**2.01**			
Constituent	CMC	CCC		Acute LTA	Chronic LTA		MDEL	AMEL	MDEL	AMEL	MDEL	AMEL
Bis(2-ethylhexyl) Phthalate			5.9						11.9	5.9	**11.9**	**5.9**
Total recoverable selenium		5.0			2.6	***2.6***	8.2	4.1			**8.2**	**4.1**

Table 20. Calculation of Effluent Limits at DP 003

Bromodichloromethane			46						92.5	46.0	**92**	**46**

Table 21. Calculation of Effluent Limits at DP 004

Constituent	CMC	CCC		Acute LTA	Chronic LTA		MDEL	AMEL	MDEL	AMEL	MDEL	AMEL
Bis(2-ethylhexyl) Phthalate			5.9						11.9	5.9	**11.9**	**5.9**

5. Whole Effluent Toxicity (WET)

This Order does not specify WET limits but requires chronic toxicity monitoring. This Order, as in the previous Orders, also requires the Discharger to conduct the accelerated monitoring as specified in Attachment E when the result of any single chronic toxicity test of the effluent exceeds 1.0 TUc. The monitoring data for all the Facilities during the past three years (2005-2008) indicated that the monthly trigger of 1 TUc has not been exceeded.

D. BPJ - Based Effluent Specifications for DP 001 through DP 004

For tertiary treated wastewater, the BOD_5 and TSS concentration limits are based on Best Professional Judgment. The technology-based secondary treatment standards specify BOD_5 and TSS concentration limits that are less stringent.

Table 22. Tertiary Effluent BOD_5 and TSS Limits

Constituent	Average Weekly	Average Monthly
Biochemical Oxygen Demand	30 mg/L	20 mg/L
Suspended Solids	30 mg/L	20 mg/L

E. Summary of Final Effluent Limitations

1. Satisfaction of Anti-Backsliding Requirements

All effluent limitations in this Order are at least as stringent as the effluent limitations in previous Orders.

2. Satisfaction of Antidegradation Policy

The discharges addressed in this Order are existing discharges regulated under waste discharge requirements issued for each of the Facilities. This Order consolidates those requirements. The effluent limitations in this Order are at least as stringent as those specified in the prior individual waste discharge requirements. No increases in the regulated discharge flows are proposed. Therefore, discharges conducted in conformance with the requirements of this Order will not result in a lowering of water quality. The discharges therefore conform to antidegradation requirements specified in Resolution No. 68-16, which incorporates the federal antidegradation policy at 40 CFR 131.12 where, as here, is it applicable.

3. Stringency of Requirements for Individual Pollutants

Water quality-based effluent limitations have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to section 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations for priority pollutants are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. Apart from certain surface water standards changes resulting from the N/TDS Basin Plan amendment that do not materially affect the quality requirements for the discharges regulated by this Order, all beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to section 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

4. Summary of Final Effluent Limitations

Table 23. Summary of Water Quality-Based Effluent Limits at all DPs

Parameter	Units	Effluent Limitations					Basis
		Average Monthly	Average Weekly	Max Daily	Instant. Max.	Range	
BOD_5	mg/L	20	30	--	--	--	Basin Plan
Total Suspended Solids	mg/L	20	30	--	--	--	BP
pH	Std. unit	--	--	--		6.5-8.5	BP
Total Residual Chlorine	mg/L				0.1		BP
Coliform	MPN	--		2.2 MPN	--	--	Title 22
Ammonia Nitrogen	mg/L	4.5					BP
Free Cyanide	µg/L	4.0		9.2			CTR
Bis (2-Ethylhexyl) Phthalate at DPs 001, 002, & 004	µg/L	5.9		12			CTR
Total recoverable selenium at DPs 001 & 002	µg/L						CTR
Bromodichloromethane At DP 003	µg/L	46		92	µg/L		CTR

F. Interim Effluent Limitations - Not Applicable

G. Land Discharge Specifications – Not Applicable

H. Reclamation Specifications

1. Section 13523 of the California Water Code provides that a Regional Water Board, after consulting with and receiving the recommendations from the CDPH and any party who has requested in writing to be consulted, and after any necessary hearing, shall prescribe water reclamation requirements for water which is used or proposed to be used as recycled water, if, in the judgment of the Board, such requirements are necessary to protect the public health, safety, or welfare. Section 13523 further provides that such requirements shall include, or be in conformance with, the statewide uniform water recycling criteria established by the CDPH pursuant to California Water Code Section 13521.

2. Reclamation specifications in the proposed Order are based upon the recycling criteria contained in Title 22, Division 4, Chapter 3, Sections 60301 through 60355, California Code of Regulations, and the California Water Code Section 13521.

3. As shown in Chapter 4 of the Basin Plan as amended by the N/TDS Amendment, Resolution No. R8-2004-0001, two sets of groundwater management zones (GMZs) and respective TDS objectives have been adopted for a portion of the Chino Basin. "Maximum benefit" objectives are established for the Chino North GMZ, while "antidegradation" objectives are set for the Chino 1, 2 and 3 GMZs. Order Nos. R8-2004-0020, R8-2006-0010, and R8-2008-0028 include TDS limits for recycled water use that implement the Chino North and Chino 1, 2, and 3 TDS objectives. Provided that applicable maximum benefit commitments specified in Chapter 5 of the amended Basin Plan (and shown in Attachment J of this Order) are satisfied by the Discharger and the Chino Basin Watermaster, the TDS discharges from the combined effluent quality from the Discharger's treatment plants will be limited to 550 mg/L. Note that the "maximum benefit" objective for the Chino North GMZ is 420 mg/L. The basis for the TDS limit of 550 mg/L is as follows. The TDS value of 550 mg/L for recycled water use was assumed as part of the development of the maximum benefit objective for the Chino North GMZ and the maximum benefit program. Implementation of that program, which entails blending of recycled water with other sources of supply (stormwater, imported State Project Water) will assure that the TDS objective of the Chino North GMZ is achieved and maintained. If the Regional Board finds that thee maximum benefit commitments are not satisfied, then the Chino 1, 2 and 3 "antidegradation" management zones and their respective TDS objectives apply. Since the Chino 1, 2 and 3 GMZs lack assimilative capacity for TDS, the TDS limits are the same as the management zone objectives.

Table 24. TDS Limitations

Receiving Groundwater Management Zone	12-Mo Average TDS Concentration, mg/L
Chino 1	280
Chino 2	250
Chino 3	260
Chino – North "maximum benefit"	550

4. TIN limits: When recycled water is reused for irrigation, no nitrogen limit is established for the effluent, since nitrogen is anticipated to be used by plants and will not affect water quality.

I. Stormwater Discharge Requirements

On April 17, 1997, the State Board adopted the General Industrial Storm Water Permit, Order No. 97-03-DWQ, NPDES No. CAS000001. This General Permit implements the Final Regulations (40 CFR 122, 123, and 124) for stormwater runoff published on November 16, 1990 by EPA in compliance with Section 402(p) of the Clean Water Act (CWA). Industrial facilities, including POTW sites, are required to obtain NPDES Permits for stormwater discharges. Accordingly, this Order incorporates requirements for the discharge of stormwater from RP-1[13].

J. Groundwater Recharge Requirements – Not Applicable

Order No. R8-2007-0039 regulates the use of recycled water from RP-1 and RP-4 for groundwater recharge.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

The surface water receiving water limitations in this Order are based upon the water quality objectives contained in the Basin Plan. As such, they are required part of the proposed Order.

B. Groundwater – Not Applicable

[13] *Stormwater discharges from the Discharger's other Facilities are treated onsite (see II. B. 2, above).*

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 of 40 CFR requires all NPDES permits to specify recording and reporting of monitoring results. Sections 13267 and 13383 of the CWC authorize the Regional Water Boards to require technical and monitoring reports. The MRP, Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and State requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for these Facilities.

A. Influent Monitoring

This Order carries forward the treatment plant influent monitoring requirements specified in Orders No. R8-2004-0020, R8-2006-0010, and R8-2008-0028 with modifications. Influent monitoring is required to determine the effectiveness of the treatment program and assess treatment plant performance, and to implement EPA source control/pretreatment program.

B. Effluent Monitoring

The Discharger is required to conduct monitoring of the permitted discharges in order to evaluate compliance with permit conditions. Monitoring requirements are given in the proposed monitoring and reporting program (Attachment E). This provision requires compliance with the monitoring and reporting program, and is based on 40 CFR 122.44(i), 122.62, 122.63 and 124.5. The SMP is a standard requirement in almost all NPDES permits (including the proposed Order) issued by the Regional Water Board. In addition to containing definitions of terms, it specifies general sampling/analytical protocols and the requirements of reporting of spills, violations, and routine monitoring data in accordance with NPDES regulations, the California Water Code, and Regional Water Board's policies. The monitoring and reporting program also contains sampling program specific for the Discharger's wastewater treatment plant. It defines the sampling stations and frequency, pollutants to be monitored, and additional reporting requirements. Pollutants to be monitored include all pollutants for which effluent limitations are specified. Further, in accordance with Section 1.3 of the SIP, periodic monitoring is required for all priority pollutants defined by the CTR, for which criteria apply and for which no effluent limitations have been established, to evaluate reasonable potential to cause or contribute to an excursion above a water quality standard.

This Order continues the monitoring requirements specified in the Order No. R8-2004-0020, No. R8-2006-0010, and No. R8-2008-0028, with modifications. This Order also requires the Discharger to conduct accelerated monitoring for those constituents that are detected in the annual priority pollutant scan.

C. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity (WET) protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. WET tests measure the degree of response of exposed aquatic test organisms to an effluent. The WET approach implements the narrative "no toxics in toxic amounts" criterion. There are two types of WET tests: acute and chronic. An acute toxicity test is conducted over a shorter time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth.

The Basin Plan specifies a narrative objective for toxicity, requiring that all waters be maintained free of toxic substances in concentrations that are lethal to or produce other detrimental response on aquatic organisms. Detrimental response includes but is not limited to decreased growth rate, decreased reproductive success of resident or indicator species, and/or significant alterations in population, community ecology, or receiving water biota.

In addition to the Basin Plan requirements, Section 4 of the SIP states that a chronic toxicity effluent limitation is required in permits for all discharges that will cause, have the reasonable potential to cause, or contribute to chronic toxicity in receiving waters. Therefore, in accordance with the SIP, this Order requires the Discharger to conduct chronic toxicity testing. In addition, the Order establishes thresholds that when exceeded require the Discharger to conduct accelerated toxicity testing and/or to conduct toxicity identification evaluation (TIE) studies.

This Order requires the Discharger to conduct chronic toxicity testing of the effluent from each of the Facilities on a monthly basis. The Order also requires the Discharger to conduct an Initial Investigation Toxicity Reduction Evaluation (IITRE) program when either the two-month median of toxicity test results exceeds 1 TUc or any single test exceeds 1.7 TUc for survival endpoint. Based on the results of this investigation program and at the discretion of the Executive Officer, a more rigorous Toxicity Reduction Evaluation/Toxicity Identification Evaluation (TRE/TIE) may be required. A re-opener provision is included in the Order to incorporate a chronic toxicity effluent limitation if warranted by the toxicity test results.

D. Receiving Water Monitoring

1. Surface Water

Receiving water monitoring is required to determine compliance with receiving water limitations and to characterize the water quality of the receiving water. Requirements are based on the Basin Plan.

2. Groundwater – Not Applicable

E. Other Monitoring Requirements

1. **Water Supply Monitoring** - The Discharger is required to collect a sample of each source of water supplied and analyze for total dissolved solids. The result of this monitoring will enable the Discharger to show compliance with TDS limitations in the Order.

2. **Biosolids Monitoring** - This Order continues the monitoring requirements specified in Order No. R8-2004-0020, No. R8-2006-0010, and No. R8-2008-0028, with modifications.

3. **Pretreatment Monitoring** - These monitoring and reporting requirements are established pursuant EPA 40 CFR 403 regulations.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42.

Section 122.41(a)(1) and (b) through (n) establish conditions that apply to all State-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. Section 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with section 123.25, this Order omits federal conditions that address enforcement authority specified in section0s 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

B. Special Provisions

1. Reopener Provisions

The provisions are based on 40 CFR Parts 122.44(c) and 123. The Regional Water Board may reopen the permit to modify permit conditions and requirements. Causes for modifications include the promulgation of new regulations, modification in sludge use or disposal practices, or adoption of new regulations by the State Water Board or Regional Water Board, including revisions to the Basin Plan.

2. Special Studies and Additional Monitoring Requirements

Toxicity Identification Evaluations or Toxicity Reduction Evaluations. This provision is based on the SIP, Section 4, Toxicity Control Provisions.

3. Best Management Practices and Pollution Prevention

Best Management Practices and Pollution Prevention - The requirements are based on the SIP Section 2.4.5.1

4. Construction, Operation, and Maintenance Specifications

Construction, Operation, and Maintenance Specifications - The requirements are based on requirements that were specified in prior Orders issued to the Discharger.

5. Special Provisions for Municipal Facilities - POTWs Only

a. Oxidized, filtered, and disinfected by UV or chlorine Wastewater Requirements: These requirements are based on Title 22 requirements for the use of recycled water.

b. Pretreatment: The system treatment plants capacity is 84.4 mgd. Consequently, this Order contains requirements for the implementation of an effective pretreatment program pursuant to Section 307 of the Federal Clean Water Act; Parts 35 and 403 of Title 40, Code of Federal Regulations (40 CFR 35 and 40 CFR 403); and/or Section 2233, Title 23, California Code of Regulations.

c. The State Water Board issued General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003-DWQ (General Order) on May 2, 2006. The General Order requires public agencies that own or operate sanitary sewer systems with greater than one mile of pipes or sewer lines to enroll for coverage under the General Order. The General Order requires agencies to develop sanitary sewer management plans (SSMPs) and report all sanitary sewer overflows (SSOs), among other requirements and prohibitions. The Discharger has enrolled and implemented these requirements.

Furthermore, the General Order contains requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows. Inasmuch as the Discharger's collection system is part of the system that is subject to this Order, Provisions section VI.C.5.a. of this Order applies. For instance, the 24-hour reporting requirements in this Order (Provisions section VI.A.2.b.) are not included in the General Order. The Discharger must comply with both the General Order and this Order. The Discharger and public agencies that are discharging wastewater into one or more of the individual facilities were required to obtain enrollment for regulation under the General Order. The Discharger and public agencies that are discharging wastewater into one or more of the individual facilities have enrolled and implemented these requirements.

d. Biosolids: On February 19, 1993, the USEPA issued a final rule for the use and disposal of sewage sludge, 40 CFR, Part 503. This rule requires that producers of sewage sludge meet certain reporting, handling, and disposal requirements. The State of California has not been delegated the authority to implement this program, therefore, the U.S. Environmental Protection Agency is the implementing agency.

6. Other Special Provisions – Not Applicable

7. Compliance Schedules – Not Applicable

VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, Santa Ana Region (Regional Water Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for Inland Empire Utilities Agency's Regional Water Recycling Facilities. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through the posting of a Notice of Public Hearing at the Inland Empire Utilities Agency's RP-1, RP-4, RP-5, CCWRF Facilities and office, and at the Regional Water Board website http://www.waterboards.ca.gov/santaana/board_decisions/tentative_orders/index.shtml and publication in the local newspaper on June 10, 2009.

B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments must be submitted either in person or by mail to the Executive Officer at the Regional Water Board at the address shown below.

To be fully responded to by staff and considered by the Regional Water Board, written comments should be received at the Regional Water Board offices by 5:00 p.m. on June 19, 2009.

Jane Qiu
California Regional Water Quality Control Board
Santa Ana Region
3737 Main Street, Suite 500
Riverside, CA 92501-3348

C. Public Hearing

The Regional Water Board will hold a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: July 20, 2009
Time: 10:00 A.M.
Location: California Regional Water Quality Control Board
Santa Ana Region
3737 Main Street, Suite 500
Riverside, CA 92501-3348

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our web address is http://www.waterboards.ca.gov/santaana. You can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

E. Information and Copying

The Report of Waste Discharge (RWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 9:00 a.m. and 3:00 p.m. Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling Jane Qiu (951) 320-2008.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference this facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this Order should be directed to Jane Qiu at (951) 320-2008.

ATTACHMENT G - EPA PRIORITY POLLUTANT LIST

EPA PRIORITY POLLUTANT LIST					
Metals		**Acid Extractibles**		**Base/Neutral Extractibles (continuation)**	
1.	Antimony	45.	2-Chlorophenol	91.	Hexachloroethane
2.	Arsenic	46.	2,4-Dichlorophenol	92.	Indeno (1,2,3-cd) Pyrene
3.	Beryllium	47.	2,4-Dimethylphenol	93.	Isophorone
4.	Cadmium	48.	2-Methyl-4,6-Dinitrophenol	94.	Naphthalene
5a.	Chromium (III)	49.	2,4-Dinitrophenol	95.	Nitrobenzene
5b.	Chromium (VI)	50.	2-Nitrophenol	96.	N-Nitrosodimethylamine
6.	Copper	51.	4-Nitrophenol	97.	N-Nitrosodi-N-Propylamine
7.	Lead	52.	3-Methyl-4-Chlorophenol	98.	N-Nitrosodiphenylamine
8.	Mercury	53.	Pentachlorophenol	99.	Phenanthrene
9.	Nickel	54.	Phenol	100.	Pyrene
10.	Selenium	55.	2, 4, 6 – Trichlorophenol	101.	1,2,4-Trichlorobenzene
11.	Silver	**Base/Neutral Extractibles**		**Pesticides**	
12.	Thallium	56.	Acenaphthene	102.	Aldrin
13.	Zinc	57.	Acenaphthylene	103.	Alpha BHC
Miscellaneous		58.	Anthracene	104.	Beta BHC
14.	Cyanide, Free	59.	Benzidine	105.	Delta BHC
15.	Asbestos (not required unless requested)	60.	Benzo (a) Anthracene	106.	Gamma BHC
16.	2,3,7,8-Tetrachlorodibenzo-P-Dioxin (TCDD)	61.	Benzo (a) Pyrene	107.	Chlordane
Volatile Organics		62.	Benzo (b) Fluoranthene	108.	4, 4' - DDT
17.	Acrolein	63.	Benzo (g,h,i) Perylene	109.	4, 4' - DDE
18.	Acrylonitrile	64.	Benzo (k) Fluoranthene	110.	4, 4' - DDD
19.	Benzene	65.	Bis (2-Chloroethoxy) Methane	111.	Dieldrin
20.	Bromoform	66.	Bis (2-Chloroethyl) Ether	112.	Alpha Endosulfan
21.	Carbon Tetrachloride	67.	Bis (2-Chloroisopropyl) Ether	113.	Beta Endosulfan
22.	Chlorobenzene	68.	Bis (2-Ethylhexyl) Phthalate	114.	Endosulfan Sulfate
23.	Chlorodibromomethane	69.	4-Bromophenyl Phenyl Ether	115.	Endrin
24.	Chloroethane	70.	Butylbenzyl Phthalate	116.	Endrin Aldehyde
25.	2-Chloroethyl Vinyl Ether	71.	2-Chloronaphthalene	117.	Heptachlor
26.	Chloroform	72.	4-Chlorophenyl Phenyl Ether	118.	Heptachlor Epoxide
27.	Dichlorobromomethane	73.	Chrysene	119.	PCB 1016
28.	1,1-Dichloroethane	74.	Dibenzo (a,h) Anthracene	120.	PCB 1221
29.	1,2-Dichloroethane	75.	1,2-Dichlorobenzene	121.	PCB 1232
30.	1,1-Dichloroethylene	76.	1,3-Dichlorobenzene	122.	PCB 1242
31.	1,2-Dichloropropane	77.	1,4-Dichlorobenzene	123.	PCB 1248
32.	1,3-Dichloropropylene	78.	3,3'-Dichlorobenzidine	124.	PCB 1254
33.	Ethylbenzene	79.	Diethyl Phthalate	125.	PCB 1260
34.	Methyl Bromide	80.	Dimethyl Phthalate	126.	Toxaphene
35.	Methyl Chloride	81.	Di-n-Butyl Phthalate		
36.	Methylene Chloride	82.	2,4-Dinitrotoluene		
37.	1,1,2,2-Tetrachloroethane	83.	2-6-Dinitrotoluene		
38.	Tetrachloroethylene	84.	Di-n-Octyl Phthalate		
39.	Toluene	85.	1,2-Dipenylhydrazine		
40.	1,2-Trans-Dichloroethylene	86.	Fluoranthene		
41.	1,1,1-Trichloroethane	87.	Fluorene		
42.	1,1,2-Trichloroethane	88.	Hexachlorobenzene		
43.	Trichloroethylene	89.	Hexachlorobutadiene		
44.	Vinyl Chloride	90.	Hexachlorocyclopentadiene		

ATTACHMENT H – MINIMUM LEVELS

MINIMUM LEVELS IN PPB (μg/l)

Table 1- VOLATILE SUBSTANCES[1]	GC	GCMS
Acrolein	2.0	5
Acrylonitrile	2.0	2
Benzene	0.5	2
Bromoform	0.5	2
Carbon Tetrachloride	0.5	2
Chlorobenzene	0.5	2
Chlorodibromomethane	0.5	2
Chloroethane	0.5	2
Chloroform	0.5	2
Dichlorobromomethane	0.5	2
1,1 Dichloroethane	0.5	1
1,2 Dichloroethane	0.5	2
1,1 Dichloroethylene	0.5	2
1,2 Dichloropropane	0.5	1
1,3 Dichloropropylene (volatile)	0.5	2
Ethylbenzene	0.5	2
Methyl Bromide (*Bromomethane*)	1.0	2
Methyl Chloride (*Chloromethane*)	0.5	2
Methylene Chloride (*Dichloromethane*)	0.5	2
1,1,2,2 Tetrachloroethane	0.5	1
Tetrachloroethylene	0.5	2
Toluene	0.5	2
trans-1,2 Dichloroethylene	0.5	1
1,1,1 Trichloroethane	0.5	2
1,1,2 Trichloroethane	0.5	2
Trichloroethylene	0.5	2
Vinyl Chloride	0.5	2
1,2 Dichlorobenzene (volatile)	0.5	2
1,3 Dichlorobenzene (volatile)	0.5	2
1,4 Dichlorobenzene (volatile)	0.5	2

Selection and Use of Appropriate ML Value:

ML Selection: When there is more than one ML value for a given substance, the discharger may select any one of those ML values, and their associated analytical methods, listed in this Attachment that are below the calculated effluent limitation for compliance determination. If no ML value is below the effluent limitation, then the discharger shall select the lowest ML value, and its associated analytical method, listed in the PQL Table.

ML Usage: The ML value in this Attachment represents the lowest quantifiable concentration in a sample based on the proper application of all method-based analytical procedures and the absence of any matrix interferences. Assuming that all method-specific analytical steps are followed, the ML value will also represent, after the appropriate application of method-specific factors, the lowest standard in the calibration curve for that specific analytical technique. Common analytical practices sometimes require different treatment of the sample relative to calibration standards.
Note: chemical names in parenthesis and italicized is another name for the constituent.

[1] *The normal method-specific factor for these substances is 1, therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance.*

MINIMUM LEVELS IN PPB (μg/l)

Table 2 – Semi-Volatile Substances[2]	GC	GCMS	LC
2-Chloroethyl vinyl ether	1	1	
2 Chlorophenol	2	5	
2,4 Dichlorophenol	1	5	
2,4 Dimethylphenol	1	2	
4,6 Dinitro-2-methylphenol	10	5	
2,4 Dinitrophenol	5	5	
2- Nitrophenol		10	
4- Nitrophenol	5	10	
4 Chloro-3-methylphenol	5	1	
2,4,6 Trichlorophenol	10	10	
Acenaphthene	1	1	0.5
Acenaphthylene		10	0.2
Anthracene		10	2
Benzidine		5	
Benzo (a) Anthracene (*1,2 Benzanthracene*)	10	5	
Benzo(a) pyrene (*3,4 Benzopyrene*)		10	2
Benzo (b) Flouranthene (*3,4 Benzofluoranthene*)		10	10
Benzo(g,h,i)perylene		5	0.1
Benzo(k)fluoranthene		10	2
bis 2-(1-Chloroethoxyl) methane		5	
bis(2-chloroethyl) ether	10	1	
bis(2-Chloroisopropyl) ether	10	2	
bis(2-Ethylhexyl) phthalate	10	5	
4-Bromophenyl phenyl ether	10	5	
Butyl benzyl phthalate	10	10	
2-Chloronaphthalene		10	
4-Chlorophenyl phenyl ether		5	
Chrysene		10	5
Dibenzo(a,h)-anthracene		10	0.1
1,2 Dichlorobenzene (semivolatile)	2	2	
1,3 Dichlorobenzene (semivolatile)	2	1	
1,4 Dichlorobenzene (semivolatile)	2	1	
3,3-Dichlorobenzidine		5	
Diethyl phthalate	10	2	
Dimethyl phthalate	10	2	
di-n-Butyl phthalate		10	
2,4 Dinitrotoluene	10	5	
2,6 Dinitrotoluene		5	
di-n-Octyl phthalate		10	
1,2-Diphenylhydrazine		1	
Fluoranthene	10	1	0.05
Fluorene		10	0.1
Hexachloro-cyclopentadiene	5	5	
1,2,4 Trichlorobenzene	1	5	

MINIMUM LEVELS IN PPB (μg/l)

Table 2 - SEMI-VOLATILE SUBSTANCES[2]	GC	GCMS	LC	COLOR
Pentachlorophenol	1	5		
Phenol [3]	1	1		50
Hexachlorobenzene	5	1		
Hexachlorobutadiene	5	1		
Hexachloroethane	5	1		
Indeno(1,2,3,cd)-pyrene		10	0.05	
Isophorone	10	1		
Naphthalene	10	1	0.2	
Nitrobenzene	10	1		
N-Nitroso-dimethyl amine	10	5		
N-Nitroso -di n-propyl amine	10	5		
N-Nitroso diphenyl amine	10	1		
Phenanthrene		5	0.05	
Pyrene		10	0.05	

Table 3– INORGANICS[4]	FAA	GFAA	ICP	ICPMS	SPGFAA	HYDRIDE	CVAA	COLOR	DCP
Antimony	10	5	50	0.5	5	0.5			1000
Arsenic		2	10	2	2	1		20	1000
Beryllium	20	0.5	2	0.5	1				1000
Cadmium	10	0.5	10	0.25	0.5				1000
Chromium (total)	50	2	10	0.5	1				1000
Chromium VI	5							10	
Copper	25	5	10	0.5	2				1000
Lead	20	5	5	0.5	2				10000
Mercury				0.5			0.2		
Nickel	50	5	20	1	5				1000
Selenium		5	10	2	5	1			1000
Silver	10	1	10	0.25	2				1000
Thallium	10	2	10	1	5				1000
Zinc	20		20	1	10				1000
Cyanide								5	

2 *With the exception of phenol by colorimetric technique, the normal method-specific factor for these substances is 1000, therefore, the lowest standards concentration in the calibration curve is equal to the above ML value for each substance multiplied by 1000.*

3 *Phenol by colorimetric technique has a factor of 1.*

4 *The normal method-specific factor for these substances is 1, therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance.*

MINIMUM LEVELS IN PPB (μg/l)

Table 4- PESTICIDES – PCBs[5]	GC
Aldrin	0.005
alpha–BHC (*a-Hexachloro-cyclohexane*)	0.01
beta–BHC (*b-Hexachloro-cyclohexane*)	0.005
Gamma–BHC (*Lindane; g-Hexachloro-cyclohexane*)	0.02
Delta-BHC (*d-Hexachloro-cyclohexane*)	0.005
Chlordane	0.1
4,4'-DDT	0.01
4,4'-DDE	0.05
4,4'-DDD	0.05
Dieldrin	0.01
Alpha-Endosulfan	0.02
Beta-Endosulfan	0.01
Endosulfan Sulfate	0.05
Endrin	0.01
Endrin Aldehyde	0.01
Heptachlor	0.01
Heptachlor Epoxide	0.01
PCB 1016	0.5
PCB 1221	0.5
PCB 1232	0.5
PCB 1242	0.5
PCB 1248	0.5
PCB 1254	0.5
PCB 1260	0.5
Toxaphene	0.5

Techniques:
GC - Gas Chromatography
GCMS - Gas Chromatography/Mass Spectrometry
HRGCMS - High Resolution Gas Chromatography/Mass Spectrometry (i.e., EPA 1613, 1624, or 1625)
LC - High Pressure Liquid Chromatography
FAA - Flame Atomic Absorption
GFAA - Graphite Furnace Atomic Absorption
HYDRIDE - Gaseous Hydride Atomic Absorption
CVAA - Cold Vapor Atomic Absorption
ICP - Inductively Coupled Plasma
ICPMS - Inductively Coupled Plasma/Mass Spectrometry
SPGFAA - Stabilized Platform Graphite Furnace Atomic Absorption (i.e., EPA 200.9)
DCP - Direct Current Plasma
COLOR - Colorimetric

5 *The normal method-specific factor for these substances is 100, therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance multiplied by 100.*

ATTACHMENT I – TRIGGERS FOR MONITORING PRIORITY POLLUTANTS

Table I-1. For DP001 and DP002

	CONSTITUENT	µg/L		CONSTITUENT	µg/L
1	Antimony	2150	38	Tetratchloroethylene	4.43
2	Arsenic	75	*39*	***Toluene***	***150***
3	Beryllium	--	*40*	***1,2,-Trans-dichloroethylene***	***10***
4	Cadmium	3.7	*41*	***1,1,1-Trichloroethane***	***200***
5a	Chromium III	122	42	***1,1,2-Trichloroethane***	***5***
5b	Chromium VI	5.5	*43*	***Trichloroethylene***	***5***
6	Copper	14	*44*	***Vinyl Chloride***	***0.5***
7	Lead	12	45	2-Chlorophenol	200
8	Mercury	0.026	46	2,4-Dichlorophenol	395
9	Nickel	31	47	2,4-Dimethylphenol	1150
10	Selenium	2.5	48	2-Methy-4,6-Dinitrophenol	383
11	Silver	2.9	49	2,4-Dinitrophenol	7000
12	Thallium	3.2	50	2-Nitrophenol	--
13	Zinc	71	51	4-Nitrophenol	--
14	Cyanide	2.6	52	3-Methyl-4-Chlorophenol	--
15	Asbestos	--	53	***Pentachlorophenol***	***1***
16	2,3,7,8-TCDD (Dioxin)	0.000000007	54	Phenol	2,300,000
17	Acrolein	390	55	2,4,6-Trichlorophenol	3.3
18	Acrylonitrile	0.33	56	Acenapthene	1,350
19	***Benzene***	***1***	57	Acenapthylene	--
20	Bromoform	180	58	Anthracene	55,000
21	***Carbon Tetrachloride***	***0.5***	59	Benzidine	0.00027
22	Chlorobenzene	10500	60	Benzo (a) anthracene	0.025
23	Chlorodibromomethane	17	61	Benzo (a) pyrene	0.025
24	Chloroethane	--	62	Benzo (b) fluoranthene	0.025
25	2-Chloroethyl vinyl ether	--	63	Benzo (g,h,i) pyrylene	--
26	Chloroform	--	64	Benzo (k) fluorantene	0.025
27	Dichlorobromomethane	23	65	Bis (2-Chloroethoxy) methane	--
28	***1,1-Dichloroethane***	***5***	66	Bis (2-Chloroethyl) ether	0.7
29	***1,2-Dichloroethane***	***0.5***	67	Bis (2-Chloroisopropyl) ether	85,000
30	1,1-Dichloroethylene	1.6	68	Bis (2-ethyhexyl) phthalate	3.0
31	***1,2-Dichloropropane***	***5***	69	4-Bromophenyl phenyl ether	--
32	***1,3-Dichloropropylene***	***0.5***	70	Butyl benzyl phthalate	2600
33	***Ethylbenzene***	***300***	71	2- Chloronapthalene	2150
34	Methyl Bromide	2000	72	4-Chlrorphenyl phenyl ether	--
35	Methyl Chloride	--	73	Chrysene	0.025
36	Methylene Chloride	800	74	Dibenzo (a,h) anthracene	0.025
37	***1,1,2,2-Tetratchloroethane***	***1***	***75***	***1,2-Dichlorobenzene***	***600***

Table I-1. For DP001 and DP002--Continued

	CONSTITUENT	µg/L
76	1,3-Dichlorobenzene	1,300
77	***1,4-Dichlorobenzene***	***5***
78	3,3-Dichlorobenzidine	0.039
79	Diethyl phthalate	60,000
80	Dimethyl phthalate	1,450,000
81	Di-N-butyl phthalate	6,000
82	2,4-Dinitrotoluene	4.6
83	2,6-Dinitrotoluene	--
84	Di-N-octyl phthalate	--
85	1,2-Diphenylhydrazine	0.27
86	Fluoranthene	185
87	Fluorene	7,000
88	Hexachlorobenzene	0.00039
89	Hexachlorobutadiene	25
90	***Hexachlorocyclopentadiene***	***50***
91	Hexachloroethane	4.5
92	Indeno (1,2,3-cd) pyrene	0.025
93	Isophorone	300
94	***Naphthalene***	***17***
95	Nitrobenzene	950
96	***N-Nitrosodimethylamine***	***0.01***
97	***N-Nitrosodi-N-propylamine***	***0.01***
98	N-Nitrosodiphenylamine	8
99	Phenantrene	--

	CONSTITUENT	µg/L
100	Pyrene	5,500
101	***1,2,4 -Trichlorobenzene***	***5***
102	Aldrin	0.00007
103	BHC Alpha	0.0065
104	BHC Beta	0.023
105	BHC Gamma	0.032
106	BHC Delta	--
107	Chlordane	0.0003
108	4,4-DDT	0.0003
109	4,4-DDE	0.0003
110	4,4-DDD	0.00042
111	Dieldrin	0.00007
112	Endosulfan Alpha	0.028
113	Endosulfan Beta	0.028
114	Endosulfan Sulfate	120
115	Endrin	0.018
116	Endrin Aldehyde	0.42
117	Heptachlor	0.00011
118	Heptachlor Epoxide	0.000055
119	PCB 1016	0.000085
120	PCB 1221	0.000085
125	PCB 1260	0.000085
126	Toxaphene	0.0001

Notes:

1. For constituents not shown italicized, the values shown in the Table are fifty percent of the most stringent applicable receiving water objectives (freshwater or human health (consumption of water and organisms) as specified for that pollutant in 40 CFR 131.38[1]).
2. For constituents shown bold and italicized, the values shown in the Table are based on the California Department of Public Health maximum contaminant levels (MCLs) or Notification Level. Notification Level based trigger is underlined.
3. For hardness dependent metals, the hardness value used is 122 mg/L as 5th percentile of effluent flows and for pentachlorophenol, the pH value used is 7.5 standard units.

[1] *See Federal Register/ Vol. 65, No. 97 / Thursday, May 18, 2000 / Rules and Regulations.*

Table I-1. For DP003

	CONSTITUENT	µg/L
1	Antimony	2150
2	Arsenic	75
3	Beryllium	--
4	Cadmium	4.4
5a	Chromium III	143
5b	Chromium VI	5.5
6	Copper	17
7	Lead	16
8	Mercury	0.026
9	Nickel	36
10	Selenium	2.5
11	Silver	4.0
12	Thallium	3.2
13	Zinc	84
14	Cyanide	2.6
15	Asbestos	--
16	2,3,7,8-TCDD (Dioxin)	0.000000007
17	Acrolein	390
18	Acrylonitrile	0.33
19	***Benzene***	***1***
20	Bromoform	180
21	***Carbon Tetrachloride***	***0.5***
22	Chlorobenzene	10500
23	Chlorodibromomethane	17
24	Chloroethane	--
25	2-Chloroethyl vinyl ether	--
26	Chloroform	--
27	Dichlorobromomethane	23
28	***1,1-Dichloroethane***	***5***
29	***1,2-Dichloroethane***	***0.5***
30	1,1-Dichloroethylene	1.6
31	***1,2-Dichloropropane***	***5***
32	***1,3-Dichloropropylene***	***0.5***
33	***Ethylbenzene***	***300***
34	Methyl Bromide	2000
35	Methyl Chloride	--
36	Methylene Chloride	800
37	***1,1,2,2-Tetratchloroethane***	***1***
38	Tetratchloroethylene	4.43
39	***Toluene***	***150***
40	***1,2,-Trans-dichloroethylene***	***10***
41	***1,1,1-Trichloroethane***	***200***
42	***1,1,2-Trichloroethane***	***5***
43	***Trichloroethylene***	***5***
44	***Vinyl Chloride***	***0.5***
45	2-Chlorophenol	200
46	2,4-Dichlorophenol	395
47	2,4-Dimethylphenol	1150
48	2-Methy-4,6-Dinitrophenol	383
49	2,4-Dinitrophenol	7000
50	2-Nitrophenol	--
51	4-Nitrophenol	--
52	3-Methyl-4-Chlorophenol	--
53	***Pentachlorophenol***	***1***
54	Phenol	2,300,000
55	2,4,6-Trichlorophenol	3.3
56	Acenapthene	1,350
57	Acenapthylene	--
58	Anthracene	55,000
59	Benzidine	0.00027
60	Benzo (a) anthracene	0.025
61	Benzo (a) pyrene	0.025
62	Benzo (b) fluoranthene	0.025
63	Benzo (g,h,i) pyrylene	--
64	Benzo (k) fluorantene	0.025
65	Bis (2-Chloroethoxy) methane	--
66	Bis (2-Chloroethyl) ether	0.7
67	Bis (2-Chloroisopropyl) ether	85,000
68	Bis (2-ethyhexyl) phthalate	3.0
69	4-Bromophenyl phenyl ether	--
70	Butyl benzyl phthalate	2600
71	2- Chloronapthalene	2150
72	4-Chlrorphenyl phenyl ether	--
73	Chrysene	0.025
74	Dibenzo (a,h) anthracene	0.025
75	***1,2-Dichlorobenzene***	***600***

Table I-1. For DP003--Continued

	CONSTITUENT	µg/L
76	1,3-Dichlorobenzene	1,300
77	***1,4-Dichlorobenzene***	***5***
78	3,3-Dichlorobenzidine	0.039
79	Diethyl phthalate	60,000
80	Dimethyl phthalate	1,450,000
81	Di-N-butyl phthalate	6,000
82	2,4-Dinitrotoluene	4.6
83	2,6-Dinitrotoluene	--
84	Di-N-octyl phthalate	--
85	1,2-Diphenylhydrazine	0.27
86	Fluoranthene	185
87	Fluorene	7,000
88	Hexachlorobenzene	0.00039
89	Hexachlorobutadiene	25
90	***Hexachlorocyclopentadiene***	***50***
91	Hexachloroethane	4.5
92	Indeno (1,2,3-cd) pyrene	0.025
93	Isophorone	300
94	***Naphthalene***	***17***
95	Nitrobenzene	950
96	***N-Nitrosodimethylamine***	***0.01***
97	***N-Nitrosodi-N-propylamine***	***0.01***
98	N-Nitrosodiphenylamine	8
99	Phenantrene	--

	CONSTITUENT	µg/L
100	Pyrene	5,500
101	***1,2,4 -Trichlorobenzene***	***5***
102	Aldrin	0.00007
103	BHC Alpha	0.0065
104	BHC Beta	0.023
105	BHC Gamma	0.032
106	BHC Delta	--
107	Chlordane	0.0003
108	4,4-DDT	0.0003
109	4,4-DDE	0.0003
110	4,4-DDD	0.00042
111	Dieldrin	0.00007
112	Endosulfan Alpha	0.028
113	Endosulfan Beta	0.028
114	Endosulfan Sulfate	120
115	Endrin	0.018
116	Endrin Aldehyde	0.42
117	Heptachlor	0.00011
118	Heptachlor Epoxide	0.000055
119	PCB 1016	0.000085
120	PCB 1221	0.000085
125	PCB 1260	0.000085
126	Toxaphene	0.0001

Notes:

4. For constituents not shown italicized, the values shown in the Table are fifty percent of the most stringent applicable receiving water objectives (freshwater or human health (consumption of water and organisms) as specified for that pollutant in 40 CFR 131.38[2]).
5. For constituents shown bold and italicized, the values shown in the Table are based on the California Department of Public Health maximum contaminant levels (MCLs) or Notification Level. Notification Level based trigger is underlined.
6. For hardness dependent metals, the hardness value used is 148 mg/L as 5th percentile of effluent flows and for pentachlorophenol, the pH value used is 7.5 standard units.

[2] *See Federal Register/ Vol. 65, No. 97 / Thursday, May 18, 2000 / Rules and Regulations.*

Table I-2. For DP004

	CONSTITUENT	µg/L
1	Antimony	2150
2	Arsenic	75
3	Beryllium	--
4	Cadmium	3.9
5a	Chromium III	128
5b	Chromium VI	5.5
6	Copper	15
7	Lead	14
8	Mercury	0.026
9	Nickel	33
10	Selenium	2.5
11	Silver	3.2
12	Thallium	3.2
13	Zinc	75
14	Cyanide	2.6
15	Asbestos	--
16	2,3,7,8-TCDD (Dioxin)	0.000000007
17	Acrolein	390
18	Acrylonitrile	0.33
19	***Benzene***	***1***
20	Bromoform	180
21	***Carbon Tetrachloride***	***0.5***
22	Chlorobenzene	10500
23	Chlorodibromomethane	17
24	Chloroethane	--
25	2-Chloroethyl vinyl ether	--
26	Chloroform	--
27	Dichlorobromomethane	23
28	***1,1-Dichloroethane***	***5***
29	***1,2-Dichloroethane***	***0.5***
30	1,1-Dichloroethylene	1.6
31	***1,2-Dichloropropane***	***5***
32	***1,3-Dichloropropylene***	***0.5***
33	***Ethylbenzene***	***300***
34	Methyl Bromide	2000
35	Methyl Chloride	--
36	Methylene Chloride	800
37	***1,1,2,2-Tetratchloroethane***	***1***
38	Tetratchloroethylene	4.43
39	***Toluene***	***150***
40	***1,2,-Trans-dichloroethylene***	***10***
41	***1,1,1-Trichloroethane***	***200***
42	***1,1,2-Trichloroethane***	***5***
43	***Trichloroethylene***	***5***
44	***Vinyl Chloride***	***0.5***
45	2-Chlorophenol	200
46	2,4-Dichlorophenol	395
47	2,4-Dimethylphenol	1150
48	2-Methy-4,6-Dinitrophenol	383
49	2,4-Dinitrophenol	7000
50	2-Nitrophenol	--
51	4-Nitrophenol	--
52	3-Methyl-4-Chlorophenol	--
53	***Pentachlorophenol***	***1***
54	Phenol	2,300,000
55	2,4,6-Trichlorophenol	3.3
56	Acenapthene	1,350
57	Acenapthylene	--
58	Anthracene	55,000
59	Benzidine	0.00027
60	Benzo (a) anthracene	0.025
61	Benzo (a) pyrene	0.025
62	Benzo (b) fluoranthene	0.025
63	Benzo (g,h,i) pyrylene	--
64	Benzo (k) fluorantene	0.025
65	Bis (2-Chloroethoxy) methane	--
66	Bis (2-Chloroethyl) ether	0.7
67	Bis (2-Chloroisopropyl) ether	85,000
68	Bis (2-ethyhexyl) phthalate	3.0
69	4-Bromophenyl phenyl ether	--
70	Butyl benzyl phthalate	2600
71	2- Chloronapthalene	2150
72	4-Chlrorphenyl phenyl ether	--
73	Chrysene	0.025
74	Dibenzo (a,h) anthracene	0.025
75	***1,2-Dichlorobenzene***	***600***

Table I-1. For DP004--Continued

	CONSTITUENT	µg/L
76	1,3-Dichlorobenzene	1,300
77	***1,4-Dichlorobenzene***	***5***
78	3,3-Dichlorobenzidine	0.039
79	Diethyl phthalate	60,000
80	Dimethyl phthalate	1,450,000
81	Di-N-butyl phthalate	6,000
82	2,4-Dinitrotoluene	4.6
83	2,6-Dinitrotoluene	--
84	Di-N-octyl phthalate	--
85	1,2-Diphenylhydrazine	0.27
86	Fluoranthene	185
87	Fluorene	7,000
88	Hexachlorobenzene	0.00039
89	Hexachlorobutadiene	25
90	***Hexachlorocyclopentadiene***	***50***
91	Hexachloroethane	4.5
92	Indeno (1,2,3-cd) pyrene	0.025
93	Isophorone	300
94	***Naphthalene***	***17***
95	Nitrobenzene	950
96	***N-Nitrosodimethylamine***	***0.01***
97	***N-Nitrosodi-N-propylamine***	***0.01***
98	N-Nitrosodiphenylamine	8
99	Phenantrene	--

	CONSTITUENT	µg/L
100	Pyrene	5,500
101	***1,2,4 -Trichlorobenzene***	***5***
102	Aldrin	0.00007
103	BHC Alpha	0.0065
104	BHC Beta	0.023
105	BHC Gamma	0.032
106	BHC Delta	--
107	Chlordane	0.0003
108	4,4-DDT	0.0003
109	4,4-DDE	0.0003
110	4,4-DDD	0.00042
111	Dieldrin	0.00007
112	Endosulfan Alpha	0.028
113	Endosulfan Beta	0.028
114	Endosulfan Sulfate	120
115	Endrin	0.018
116	Endrin Aldehyde	0.42
117	Heptachlor	0.00011
118	Heptachlor Epoxide	0.000055
119	PCB 1016	0.000085
120	PCB 1221	0.000085
125	PCB 1260	0.000085
126	Toxaphene	0.0001

Notes:

7. For constituents not shown italicized, the values shown in the Table are fifty percent of the most stringent applicable receiving water objectives (freshwater or human health (consumption of water and organisms) as specified for that pollutant in 40 CFR 131.38[3]).
8. For constituents shown bold and italicized, the values shown in the Table are based on the California Department of Public Health maximum contaminant levels (MCLs) or Notification Level. Notification Level based trigger is underlined.
9. For hardness dependent metals, the hardness value used is 130 mg/L as 5th percentile of effluent flows and for pentachlorophenol, the pH value used is 7.5 standard units.

[3] *See Federal Register/ Vol. 65, No. 97 / Thursday, May 18, 2000 / Rules and Regulations.*

ATTACHMENT J – STORMWATER POLLUTION PREVENTION PLAN REQUIREMENTS

1. *Implementation Schedule*

The storm water pollution prevention plan (SWPPP) shall be updated and implemented in a timely manner, but in no case later than October 30, 2009.

2. *Objectives*

The SWPPP has two major objectives: (a) to identify and evaluate sources of pollutants associated with industrial activities that may affect the quality of storm water discharges and authorized non-storm water discharges from the facility; and (b) to identify and implement site-specific best management practices (BMPs) to reduce or prevent pollutants associated with industrial activities in storm water discharges and authorized non-storm water discharges. BMPs may include a variety of pollution prevention measures or other low-cost pollution control measures. They are generally categorized as non-structural BMPs (activity schedules, prohibitions of practices, maintenance procedures, and other low-cost measures) and as structural BMPs (treatment measures, run-off controls, over-head coverage). To achieve these objectives, dischargers should consider the five phase process for SWPPP development and implementation as shown in Table A, below.

The SWPPP requirements are designed to be sufficiently flexible to meet the various needs of the facility. SWPPP requirements that are not applicable to the facility should not be included in the SWPPP.

A facility's SWPPP is a written document that shall contain a compliance activity schedule, a description of industrial activities and pollutant sources, descriptions of BMPs, drawings, maps, and relevant copies or references of parts of other plans. The SWPPP shall be revised whenever appropriate and shall be readily available for review by facility employees or Regional Water Board inspectors.

3. *Planning and Organization*

a. Pollution Prevention Team

The SWPPP shall identify a specific individual or individuals and their positions within the facility organization as members of a storm water pollution prevention team responsible for developing the SWPPP, assisting the facility manager in SWPPP implementation and revision, and conducting all monitoring program activities required in the Stormwater monitoring program of Order No. R8-2009-0021. The SWPPP shall clearly identify the storm water pollution prevention related responsibilities, duties, and activities of each team member.

b. Review Other Requirements and Existing Facility Plans

The SWPPP may incorporate or reference the appropriate elements of other regulatory requirements. The discharger shall review all local, state, and federal requirements that impact, complement, or are consistent with the requirements of Order No. R8-2009-0021. The discharger shall identify any existing facility plans that contain storm water pollutant control measures or relate to the requirements of Order No. R8-2009-0021. As examples, dischargers whose facilities are subject to Federal Spill Prevention Control and Countermeasures' requirements should already have instituted a plan to control spills of certain hazardous materials. Similarly, the discharger whose facilities are subject to air quality related permits and regulations may already have evaluated industrial activities that generate dust or particulates.

4. *Site Map*

The SWPPP shall include a site map. The site map shall be provided on an 8-1/2 x 11 inch or larger sheet and include notes, legends, and other data as appropriate to ensure that the site map is clear and understandable. If necessary, the discharger may provide the required information on multiple site maps. The following information shall be included on the site map:

a. The facility boundaries; the outline of all storm water drainage areas within the facility boundaries; portions of the drainage area impacted by run-on from surrounding areas; and direction of flow of each drainage area, on-site surface water bodies, and areas of soil erosion. The map shall also identify nearby water bodies (such as rivers, lakes, ponds) and municipal storm drain inlets where the facility's storm water discharges and authorized non-storm water discharges may be received.

b. The location of the storm water collection and conveyance system, associated points of discharge, and direction of flow. Include any structural control measures that affect storm water discharges, authorized non-storm water discharges, and run-on. Examples of structural control measures are catch basins, berms, detention ponds, secondary containment, oil/water separators, diversion barriers, etc.

c. An outline of all impervious areas of the facility, including paved areas, buildings, covered storage areas, or other roofed structures.

d. Locations where materials are directly exposed to precipitation and the locations where significant spills or leaks identified in Section 6.a.(4)., below, have occurred.

e. Areas of industrial activity. This shall include the locations of all storage areas and storage tanks, shipping and receiving areas, fueling areas, vehicle and equipment storage/maintenance areas, material handling and processing areas, waste treatment and disposal areas, dust or particulate generating areas,

cleaning and rinsing areas, and other areas of industrial activity which are potential pollutant sources.

5. *List of Significant Materials*

The SWPPP shall include a list of significant materials handled and stored at the site. For each material on the list, describe the locations where the material is being stored, received, shipped, and handled, as well as the typical quantities and frequency. Materials shall include raw materials, intermediate products, final or finished products, recycled materials, and waste or disposed materials.

6. *Description of Potential Pollutant Sources*

a. The SWPPP shall include a narrative description of the facility's industrial activities, as identified in Section 4.e., above, associated potential pollutant sources, and potential pollutants that could be discharged in storm water discharges or authorized non-storm water discharges. At a minimum, the following items related to a facility's industrial activities shall be considered:

1) Industrial Processes

Describe each industrial process, the type, characteristics, and quantity of significant materials used in or resulting from the process, and a description of the processes (manufacturing or treatment), cleaning, rinsing, recycling, disposal, or other activities related to the process. Where applicable, areas protected by containment structures and the corresponding containment capacity shall be described.

2) Material Handling and Storage Areas

Describe each handling and storage area, type, characteristics, and quantity of significant materials handled or stored, description of the shipping, receiving, and loading procedures, and the spill or leak prevention and response procedures. Where applicable, areas protected by containment structures and the corresponding containment capacity shall be described.

3) Dust and Particulate Generating Activities

Describe all industrial activities that generate dust or particulates that may be deposited within the facility's boundaries and identify their discharge locations; the characteristics of dust and particulate pollutants; the approximate quantity of dust and particulate pollutants that may be deposited within the facility boundaries; and a description of the primary areas of the facility where dust and particulate pollutants would settle.

4) Significant Spills and Leaks

Describe materials that have spilled or leaked in significant quantities in storm water discharges or non-storm water discharges. Include toxic chemicals (listed in 40 Code of Federal Regulations [CFR] Part 302) that have been discharged to storm water as reported on U.S. Environmental Protection Agency (U.S. EPA) Form R, and oil and hazardous substances in excess of reportable quantities (see 40 CFR, Parts 110, 117, and 302).

The description shall include the type, characteristics, and approximate quantity of the material spilled or leaked, the cleanup or remedial actions that have occurred or are planned, the approximate remaining quantity of materials that may be exposed to storm water or non-storm water discharges, and the preventative measures taken to ensure spills or leaks do not reoccur. Such list shall be updated as appropriate during the term of Order No. R8-2009-0021.

5) Non-Storm Water Discharges

The discharger shall investigate the facility to identify all non-storm water discharges and their sources. As part of this investigation, all drains (inlets and outlets) shall be evaluated to identify whether they connect to the storm drain system.

All non-storm water discharges shall be described. This shall include the source, quantity, frequency, and characteristics of the non-storm water discharges and associated drainage area.

Non-storm water discharges that contain significant quantities of pollutants or that do not meet the conditions of Order No. R8-2009-0021 are prohibited. (Examples of prohibited non-storm water discharges are contact and non-contact cooling water, boiler blowdown, rinse water, wash water, etc.). The SWPPP must include BMPs to prevent or reduce contact of non-storm water discharges with significant materials or equipment.

6) Soil Erosion

Describe the facility locations where soil erosion may occur as a result of industrial activity, storm water discharges associated with industrial activity, or authorized non-storm water discharges.

b. The SWPPP shall include a summary of all areas of industrial activities, potential pollutant sources, and potential pollutants. This information should be summarized similar to Table B below. The last column of Table B, "Control Practices", should be completed in accordance with Section 8., below.

7. *Assessment of Potential Pollutant Sources*

a. The SWPPP shall include a narrative assessment of all industrial activities and potential pollutant sources as described in Section 6., above, to determine:

1) Which areas of the facility are likely sources of pollutants in storm water discharges and authorized non-storm water discharges, and

2) Which pollutants are likely to be present in storm water discharges and authorized non-storm water discharges. The discharger shall consider and evaluate various factors when performing this assessment such as current storm water BMPs; quantities of significant materials handled, produced, stored, or disposed of; likelihood of exposure to storm water or authorized non-storm water discharges; history of spill or leaks; and run-on from outside sources.

b. The discharger shall summarize the areas of the facility that are likely sources of pollutants and the corresponding pollutants that are likely to be present in storm water discharges and authorized non-storm water discharges.

The discharger is required to develop and implement additional BMPs as appropriate and necessary to prevent or reduce pollutants associated with each pollutant source. The BMPs will be narratively described in Section 8., below.

8. *Storm Water Best Management Practices*

The SWPPP shall include a narrative description of the storm water BMPs to be implemented at the facility for each potential pollutant and its source identified in the site assessment phase (Sections 6. and 7., above). The BMPs shall be developed and implemented to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Each pollutant and its source may require one or more BMPs. Some BMPs may be implemented for multiple pollutants and their sources, while other BMPs will be implemented for a very specific pollutant and its source.

The description of the BMPs shall identify the BMPs as (1) existing BMPs, (2) existing BMPs to be revised and implemented, or (3) new BMPs to be implemented. The description shall also include a discussion on the effectiveness of each BMP to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. The SWPPP shall provide a summary of all BMPs implemented for each pollutant source. This information should be summarized similar to Table B.

The discharger shall consider the following BMPs for implementation at the facility:

a. Non-Structural BMPs: Non-structural BMPs generally consist of processes, prohibitions, procedures, schedule of activities, etc., that prevent pollutants associated with industrial activity from contacting with storm water discharges and authorized non-storm water discharges. They are considered low technology, cost-effective measures. The discharger should consider all possible non-structural BMPs options before considering additional structural BMPs (see Section 8.b., below). Below is a list of non-structural BMPs that should be considered:

1) Good Housekeeping: Good housekeeping generally consist of practical procedures to maintain a clean and orderly facility.

2) Preventive Maintenance: Preventive maintenance includes the regular inspection and maintenance of structural storm water controls (catch basins, oil/water separators, etc.) as well as other facility equipment and systems.

3) Spill Response: This includes spill clean-up procedures and necessary clean-up equipment based upon the quantities and locations of significant materials that may spill or leak.

4) Material Handling and Storage: This includes all procedures to minimize the potential for spills and leaks and to minimize exposure of significant materials to storm water and authorized non-storm water discharges.

5) Employee Training: This includes training of personnel who are responsible for (a) implementing activities identified in the SWPPP, (b) conducting inspections, sampling, and visual observations, and (c) managing storm water. Training should address topics such as spill response, good housekeeping, and material handling procedures, and actions necessary to implement all BMPs identified in the SWPPP. The SWPPP shall identify periodic dates for such training. Records shall be maintained of all training sessions held.

6) Waste Handling/Recycling: This includes the procedures or processes to handle, store, or dispose of waste materials or recyclable materials.

7) Record Keeping and Internal Reporting: This includes the procedures to ensure that all records of inspections, spills, maintenance activities, corrective actions, visual observations, etc., are developed, retained, and provided, as necessary, to the appropriate facility personnel.

8) Erosion Control and Site Stabilization: This includes a description of all sediment and erosion control activities. This may include the planting and maintenance of vegetation, diversion of run-on and runoff, placement of sandbags, silt screens, or other sediment control devices, etc.

9) Inspections: This includes, in addition to the preventative maintenance inspections identified above, an inspection schedule of all potential pollutant sources. Tracking and follow-up procedures shall be described to ensure adequate corrective actions are taken and SWPPPs are made.

10) Quality Assurance: This includes the procedures to ensure that all elements of the SWPPP and Monitoring Program are adequately conducted.

b. Structural BMPs: Where non-structural BMPs as identified in Section 8.a., above, are not effective, structural BMPs shall be considered. Structural BMPs generally consist of structural devices that reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Below is a list of structural BMPs that should be considered:

1) Overhead Coverage: This includes structures that provide horizontal coverage of materials, chemicals, and pollutant sources from contact with storm water and authorized non-storm water discharges.

2) Retention Ponds: This includes basins, ponds, surface impoundments, bermed areas, etc., that do not allow storm water to discharge from the facility.

3) Control Devices: This includes berms or other devices that channel or route run-on and runoff away from pollutant sources.

4) Secondary Containment Structures: This generally includes containment structures around storage tanks and other areas for the purpose of collecting any leaks or spills.

5) Treatment: This includes inlet controls, infiltration devices, oil/water separators, detention ponds, vegetative swales, etc., that reduce the pollutants in storm water discharges and authorized non-storm water discharges.

9. *Annual Comprehensive Site Compliance Evaluation*

The discharger shall conduct one comprehensive site compliance evaluation in each reporting period (July 1-June 30). Evaluations shall be conducted within 8-16 months of each other. The SWPPP shall be revised, as appropriate, and the revisions implemented within 90 days of the evaluation. Evaluations shall include the following:

a. A review of all visual observation records, inspection records, and sampling and analysis results.

b. A visual inspection of all potential pollutant sources for evidence of, or the potential for, pollutants entering the drainage system.

c. A review and evaluation of all BMPs (both structural and non-structural) to determine whether the BMPs are adequate, properly implemented and maintained, or whether additional BMPs are needed. A visual inspection of equipment needed to implement the SWPPP, such as spill response equipment, shall be included.

d. An evaluation report that includes, (1) identification of personnel performing the evaluation, (2) the date(s) of the evaluation, (3) necessary SWPPP revisions, (4) schedule, as required in Section 10.e, below, for implementing SWPPP revisions, (5) any incidents of non-compliance and the corrective actions taken, and (6) a certification that the discharger is in compliance with Order No. R8-2009-0021. If the above certification cannot be provided, explain in the evaluation report why the discharger is not in compliance with this order. The evaluation report shall be submitted as part of the annual report, retained for at least five years, and signed and certified in accordance with Attachment D, Standard Provision, Section V Reporting, Subsection B. Signatory and Certification Requirements of Order No. R8-2009-0021.

10. *SWPPP General Requirements*

a. The SWPPP shall be retained on site and made available upon request by a representative of the Regional Water Board and/or local storm water management agency (local agency) which receives the storm water discharges.

b. The Regional Water Board and/or local agency may notify the discharger when the SWPPP does not meet one or more of the minimum requirements of this section. As requested by the Regional Water Board and/or local agency, the discharger shall submit a SWPPP revision and implementation schedule that meets the minimum requirements of this section to the Regional Water Board and/or local agency that requested the SWPPP revisions. Within 14 days after implementing the required SWPPP revisions, the discharger shall provide written certification to the Regional Water Board and/or local agency that the revisions have been implemented.

c. The SWPPP shall be revised, as appropriate, and implemented prior to changes in industrial activities which (1) may significantly increase the quantities of pollutants in storm water discharge, (2) cause a new area of industrial activity at the facility to be exposed to storm water, or (3) begin an industrial activity which would introduce a new pollutant source at the facility.

d. The SWPPP shall be revised and implemented in a timely manner, but in no case more than 90 days after a discharger determines that the SWPPP is in violation of any requirement(s) of Order No. R8-2009-0021.

e. When any part of the SWPPP is infeasible to implement by the deadlines specified in Order No. R8-2009-0021, due to proposed significant structural changes, the discharger shall submit a report to the Regional Water Board prior to the applicable deadline that (1) describes the portion of the SWPPP that is infeasible to implement by the deadline, (2) provides justification for a time extension, (3) provides a schedule for completing and implementing that portion of the SWPPP, and (4) describes the BMPs that will be implemented in the interim period to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Such reports are subject to Regional Water Board approval and/or modifications. The discharger shall provide written notification to the Regional Water Board within 14 days after the SWPPP revisions are implemented.

f. The SWPPP shall be provided, upon request, to the Regional Water Board. The SWPPP is considered a report that shall be available to the public by the Regional Water Board under Section 308(b) of the Clean Water Act.

TABLE A

FIVE PHASES FOR DEVELOPING AND IMPLEMENTING INDUSTRIAL STORM WATER POLLUTION PREVENTION PLANS

PLANNING AND ORGANIZATION

*Form pollution prevention team
*Review other plans

ASSESSMENT PHASE

*Develop a site map
*Identify potential pollutant sources
*Inventory of materials and chemicals
*List significant spills and leaks
*Identify non-storm water discharges
*Assess pollutant risks

BEST MANAGEMENT PRACTICES IDENTIFICATION PHASE

*Non-structural BMPs
*Structural BMPs
*Select activity and site-specific BMPs

IMPLEMENTATION PHASE

*Train employees
*Implement BMPs
*Conduct record keeping and reporting

EVALUATION / MONITORING

*Conduct annual site evaluation
*Review monitoring information
*Evaluate BMPs
*Review and revise SWPPP

TABLE B

EXAMPLE

ASSESSMENT OF POTENTIAL POLLUTION SOURCES AND CORRESPONDING BEST MANAGEMENT PRACTICES SUMMARY

AREA	ACTIVITY	POLLUTANT SOURCE	POLLUTANT	BEST MANAGEMENT PRACTICES
Vehicle & equipment fueling	Fueling	Spills and leaks during delivery	Fuel oil	- Use spill and overflow protection - Minimize run-on of storm water into the fueling area - Cover fueling area - Use dry cleanup methods rather than hosing down area - Implement proper spill prevention control program - Implement adequate preventative maintenance program to prevent tank and line leaks - Inspect fueling areas regularly to detect problems before they occur - Train employees on proper fueling, cleanup, and spill response techniques.
		Spills caused by topping off fuel oil	Fuel oil	
		Hosing or washing down fuel area	Fuel oil	
		Leaking storage tanks	Fuel oil	
		Rainfall running off fueling areas, and rainfall running onto and off fueling area	Fuel oil	

ATTACHMENT K – STORMWATER MONITORING AND REPORTING REQUIREMENTS

1. *Implementation Schedule*

The discharger shall continue to implement their existing Stormwater monitoring program and implement any necessary revisions to their Stormwater monitoring program in a timely manner, but in no case later than December 30, 2009. The discharger may use the monitoring results conducted in accordance with their existing Stormwater monitoring program to satisfy the pollutant/parameter reduction requirements in Section 5.c., below, and Sampling and Analysis Exemptions and Reduction Certifications in Section 10, below.

2. Objectives

The objectives of the monitoring program are to:

a. Ensure that storm water discharges are in compliance with waste discharge requirements specified in Order No. R8-2009-0021.

b. Ensure practices at the facility to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges are evaluated and revised to meet changing conditions.

c. Aid in the implementation and revision of the SWPPP required by Attachment "J" Stormwater Pollution Prevention Plan of Order No. R8-2009-0021.

d. Measure the effectiveness of best management practices (BMPs) to prevent or reduce pollutants in storm water discharges and authorized non-storm water discharges. Much of the information necessary to develop the monitoring program, such as discharge locations, drainage areas, pollutant sources, etc., should be found in the Storm Water Pollution Prevention Plan (SWPPP). The facility's monitoring program shall be a written, site-specific document that shall be revised whenever appropriate and be readily available for review by employees or Regional Water Board inspectors.

3. *Non-Storm Water Discharge Visual Observations*

a. The discharger shall visually observe all drainage areas within their facility for the presence of unauthorized non-storm water discharges;

b. The discharger shall visually observe the facility's authorized non-storm water discharges and their sources;

c. The visual observations required above shall occur quarterly, during daylight hours, on days with no storm water discharges, and during scheduled facility operating hours[1]. Quarterly visual observations shall be conducted in each of the following periods: January-March, April-June, July-September, and October-December. The discharger shall conduct quarterly visual observations within 6-18 weeks of each other.

d. Visual observations shall document the presence of any discolorations, stains, odors, floating materials, etc., as well as the source of any discharge. Records shall be maintained of the visual observation dates, locations observed, observations, and response taken to eliminate unauthorized non-storm water discharges and to reduce or prevent pollutants from contacting non-storm water discharges. The SWPPP shall be revised, as necessary, and implemented in accordance with Attachment "J" Stormwater Pollution Prevention Plan Requirements of Order No. R8-2009-0021.

4. *Storm Water Discharge Visual Observations*

a. With the exception of those facilities described in Section 4.d., below, the discharger shall visually observe storm water discharges from one storm event per month during the wet season (October 1-May 30). These visual observations shall occur during the first hour of discharge and at all discharge locations. Visual observations of stored or contained storm water shall occur at the time of release.

b. Visual observations are only required of storm water discharges that occur during daylight hours that are preceded by at least three (3) working days[2] without storm water discharges and that occur during scheduled facility operating hours.

c. Visual observations shall document the presence of any floating and suspended material, oil and grease, discolorations, turbidity, odor, and source of any pollutants. Records shall be maintained of observation dates, locations observed, observations, and response taken to reduce or prevent pollutants in storm water discharges. The SWPPP shall be revised, as necessary, and implemented in accordance with Attachment "J" Stormwater Pollution Prevention Plan Requirements of Order No. R8-2009-0021.

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1 *"Scheduled facility operating hours" are the time periods when the facility is staffed to conduct any function related to industrial activity, but excluding time periods where only routine maintenance, emergency response, security, and/or janitorial services are performed.*

2 *Three (3) working days may be separated by non-working days such as weekends and holidays provided that no storm water discharges occur during the three (3) working days and the non-working days.*

d. The discharger with storm water containment facilities shall conduct monthly inspections of their containment areas to detect leaks and ensure maintenance of adequate freeboard. Records shall be maintained of the inspection dates, observations, and any response taken to eliminate leaks and to maintain adequate freeboard.

5. *Sampling and Analysis*

a. The discharger shall collect storm water samples during the first hour of discharge from (1) the first storm event of the wet season, and (2) at least one other storm event in the wet season. All storm water discharge locations shall be sampled. Sampling of stored or contained storm water shall occur at the time the stored or contained storm water is released. The discharger that does not collect samples from the first storm event of the wet season are still required to collect samples from two other storm events of the wet season and shall explain in the "Annual Stormwater Report" (see Section 12, below) why the first storm event was not sampled.

b. Sample collection is only required of storm water discharges that occur during scheduled facility operating hours and that are preceded by at least (3) three working days without storm water discharge.

c. The samples shall be analyzed for:

1) Total suspended solids (TSS) pH, specific conductance, and total organic carbon (TOC). Oil and grease (O&G) may be substituted for TOC;

2) Toxic chemicals and other pollutants that are likely to be present in storm water discharges in significant quantities. If these pollutants are not detected in significant quantities after two consecutive sampling events, the discharger may eliminate the pollutant from future sample analysis until the pollutant is likely to be present again;

3) The discharger is not required to analyze a parameter when either of the two following conditions are met: (a) the parameter has not been detected in significant quantities from the last two consecutive sampling events, or (b) the parameter is not likely to be present in storm water discharges and authorized non-storm water discharges in significant quantities based upon the discharger's evaluation of the facilities industrial activities, potential pollutant sources, and SWPPP; and

4) Other parameters as required by the Regional Water Board.

6. *Sample Storm Water Discharge Locations*

a. The discharger shall visually observe and collect samples of storm water discharges from all drainage areas that represent the quality and quantity of the facility's storm water discharges from the storm event.

b. If the facility's storm water discharges are commingled with run-on from surrounding areas, the discharger should identify other visual observation and sample collection locations that have not been commingled by run-on and that represent the quality and quantity of the facility's storm water discharges from the storm event.

c. If visual observation and sample collection locations are difficult to observe or sample (e.g., sheet flow, submerged outfalls), the discharger shall identify and collect samples from other locations that represent the quality and quantity of the facility's storm water discharges from the storm event.

d. The discharger that determines that the industrial activities and BMPs within two or more drainage areas are substantially identical may either (1) collect samples from a reduced number of substantially identical drainage areas, or (2) collect samples from each substantially identical drainage area and analyze a combined sample from each substantially identical drainage area. The discharger must document such a determination in the annual Stormwater report.

7. Visual Observation and Sample Collection Exceptions

The discharger is required to be prepared to collect samples and conduct visual observations at the beginning of the wet season (October 1) and throughout the wet season until the minimum requirements of Sections 4. and 5., above, are completed with the following exceptions:

a. The discharger is not required to collect a sample and conduct visual observations in accordance with Section 4 and Section 5, above, due to dangerous weather conditions, such as flooding, electrical storm, etc., when storm water discharges begin after scheduled facility operating hours or when storm water discharges are not preceded by three working days without discharge. Visual observations are only required during daylight hours. The discharger that does not collect the required samples or visual observations during a wet season due to these exceptions shall include an explanation in the "Annual Stormwater Report" why the sampling or visual observations could not be conducted.

b. The discharger may conduct visual observations and sample collection more than one hour after discharge begins if the discharger determines that the objectives of this section will be better satisfied. The discharger shall include an explanation in the "Annual Stormwater Report" why the visual observations and sample collection should be conducted after the first hour of discharge.

8. *Alternative Monitoring Procedures*

The discharger may propose an alternative monitoring program that meets Section 2, above, monitoring program objectives for approval by the Regional Water Board's Executive Officer. The discharger shall continue to comply with the monitoring requirements of this section and may not implement an alternative monitoring plan until the alternative monitoring plan is approved by the Regional Water Board's Executive Officer. Alternative monitoring plans are subject to modification by the Regional Water Board's Executive Officer.

9. Monitoring Methods

a. The discharger shall explain how the facility's monitoring program will satisfy the monitoring program objectives of Section 2., above. This shall include:

1) Rationale and description of the visual observation methods, location, and frequency;

2) Rationale and description of the sampling methods, location, and frequency; and

3) Identification of the analytical methods and corresponding method detection limits used to detect pollutants in storm water discharges. This shall include justification that the method detection limits are adequate to satisfy the objectives of the monitoring program.

b. All sampling and sample preservation shall be in accordance with the current edition of "Standard Methods for the Examination of Water and Wastewater" (American Public Health Association). All monitoring instruments and equipment (including the discharger's own field instruments for measuring pH and Electro-conductivity) shall be calibrated and maintained in accordance with manufacturers' specifications to ensure accurate measurements. All laboratory analyses must be conducted according to test procedures under 40 CFR Part 136, unless other test procedures have been specified in Order No. R8-2009-0021 or by the Regional Water Board's Executive Officer. All metals shall be reported as total recoverable metals or unless otherwise specified in Order No. R8-2009-0021. With the exception of analysis conducted by the discharger, all laboratory analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. The discharger may conduct their own sample analyses if the discharger has sufficient capability (qualified employees, laboratory equipment, etc.) to adequately perform the test procedures.

10. *Sampling and Analysis Exemptions and Reductions*

A discharger who qualifies for sampling and analysis exemptions, as described below in Section 10.a.(1) or who qualifies for reduced sampling and analysis, as described below in Section 10.b., must submit the appropriate certifications and required documentation to the Regional Water Board prior to the wet season (October 1) and certify as part of the annual Stormwater report submittal. A discharger that qualifies for either the Regional Water Board or local agency certification programs, as described below in Section 10.a.(2) and (3), shall submit certification and documentation in accordance with the requirements of those programs. The discharger who provides certification(s) in accordance with this section are still required to comply with all other monitoring program and reporting requirements. The discharger shall prepare and submit their certification(s) using forms and instructions provided by the State Water Board, Regional Water Board, or local agency or shall submit their information on a form that contains equivalent information. The discharger whose facility no longer meets the certification conditions must notify the Regional Water Board's Executive Officer (and local agency) within 30 days and immediately comply with Section 5., Sampling and Analysis requirements. Should a Regional Water Board (or local agency) determine that a certification does not meet the conditions set forth below, the discharger must immediately comply with the Section 5., Sampling and Analysis requirements.

a. Sampling and Analysis Exemptions

A discharger is not required to collect and analyze samples in accordance with Section 5., above, if the discharger meets all of the conditions of one of the following certification programs:

1) No Exposure Certification (NEC)

This exemption is designed primarily for those facilities where all industrial activities are conducted inside buildings and where all materials stored and handled are not exposed to storm water. To qualify for this exemption, the discharger must certify that their facilities meet all of the following conditions:

a) All prohibited non-storm water discharges have been eliminated or otherwise permitted.

b) All authorized non-storm water discharges have been identified and addressed in the SWPPP.

c) All areas of past exposure have been inspected and cleaned, as appropriate.

d) All significant materials related to industrial activity (including waste materials) are not exposed to storm water or authorized non-storm water discharges.

e) All industrial activities and industrial equipment are not exposed to storm water or authorized non-storm water discharges.

f) There is no exposure of storm water to significant materials associated with industrial activity through other direct or indirect pathways such as from industrial activities that generate dust and particulates.

g) There is periodic re-evaluation of the facility to ensure conditions (a), (b), (d), (e), and (f) above are continuously met. At a minimum, re-evaluation shall be conducted once a year.

2) Regional Water Board Certification Programs

The Regional Water Board may grant an exemption to the Section 5. Sampling and Analysis requirements if it determines a discharger has met the conditions set forth in a Regional Water Board certification program. Regional Water Board certification programs may include conditions to (a) exempt the discharger whose facilities infrequently discharge storm water to waters of the United States, and (b) exempt the discharger that demonstrate compliance with the terms and conditions of Order No. R8-2009-0021.

3) Local Agency Certifications

A local agency may develop a local agency certification program. Such programs must be approved by the Regional Water Board. An approved local agency program may either grant an exemption from Section 5. Sampling and Analysis requirements or reduce the frequency of sampling if it determines that a discharger has demonstrated compliance with the terms and conditions of the Industrial Activities Storm Water General Permit Order No. 97-03-DWQ which was adopted by the State Water Resources Control Board on April 17, 1997.

b. Sampling and Analysis Reduction

1) A discharger may reduce the number of sampling events required to be sampled for the remaining term of Order No. R8-2009-0021 if the discharger provides certification that the following conditions have been met:

a) The discharger has collected and analyzed samples from a minimum of six storm events from all required drainage areas;

b) All prohibited non-storm water discharges have been eliminated or otherwise permitted;

c) The discharger demonstrates compliance with the terms and conditions of the Order No. R8-2009-0021 for the previous two years (i.e., completed Annual Stormwater Reports, performed visual observations, implemented appropriate BMPs, etc.);

d) The discharger demonstrates that the facility's storm water discharges and authorized non-storm water discharges do not contain significant quantities of pollutants; and

e) Conditions (b), (c), and (d) above are expected to remain in effect for a minimum of one year after filing the certification.

2) Unless otherwise instructed by the Regional Water Board, the discharger shall collect and analyze samples from two additional storm events during the remaining term of Order No. R8-2009-0021 in accordance with Table A, below. The discharger shall collect samples of the first storm event of the wet season. The discharger that does not collect samples from the first storm event of the wet season shall collect samples from another storm event during the same wet season. The discharger that does not collect a sample in a required wet season shall collect the sample from another storm event in the next wet season. The discharger shall explain in the "Annual Stormwater Report" why the first storm event of a wet season was not sampled or a sample was not taken from any storm event in accordance with the Table A schedule, below.

Table A. REDUCED MONITORING SAMPLING SCHEDULE

Discharger Filing Sampling Reduction Certification By	Samples Shall be Collected and Analyzed in these wet seasons	
	Sample 1	Sample 2
Sept. 1, 2008	Oct. 1, 2008-May 31, 2009	Oct. 1, 2008-May 31, 2009
Sept. 1, 2009	Oct. 1, 2009-May 31, 2010	Oct. 1, 2009-May 31, 2010
Sept. 1, 2010	Oct. 1, 2010-May 31, 2011	Oct. 1, 2010-May 31, 2011
Sept. 1, 2011	Oct. 1, 2011-May 31, 2012	Oct. 1, 2011-May 31, 2012
Sept. 1, 2012	Oct. 1, 2012-May 31, 2013	Oct. 1, 2012-May 31, 2013
Sept. 1, 2013	Oct. 1, 2013-May 31, 2014	Oct. 1, 2013-May 31, 2014

11. Records

Records of all storm water monitoring information and copies of all reports (including the Annual Stormwater Reports) required by Order No. R8-2009-0021 shall be retained for a period of at least five years. These records shall include:

a. The date, place, and time of site inspections, sampling, visual observations, and/or measurements;

b. The individual(s) who performed the site inspections, sampling, visual observations, and or measurements;

c. Flow measurements or estimates;

d. The date and approximate time of analyses;

e. The individual(s) who performed the analyses;

f. Analytical results, method detection limits, and the analytical techniques or methods used;

g. Quality assurance/quality control records and results;

h. Non-storm water discharge inspections and visual observations and storm water discharge visual observation records (see Sections 3. and 4., above);

i. Visual observation and sample collection exception records (see Section 5.a, 6.d, 7, and 10.b.(2), above;

j. All calibration and maintenance records of on-site instruments used;

k. All Sampling and Analysis Exemption and Reduction certifications and supporting documentation (see Section 10);

l. The records of any corrective actions and follow-up activities that resulted from the visual observations.

12. Annual Report

The discharger shall submit an Annual Stormwater Report by July 1 of each year to the Executive Officer of the Regional Water Board and to the local agency (if requested). The report shall include a summary of visual observations and sampling results, an evaluation of the visual observation and sampling and analysis results, laboratory reports, the Annual Comprehensive Site Compliance Evaluation Report required in Section 9. of Attachment "J" of Order No. R8-2009-0021, an explanation of why a facility did not implement any activities required by Order No. R8-2009-0021 (if not already included in the Evaluation Report), and records specified in Section 11., above. The method detection limit of each analytical parameter shall be included. Analytical results that are less than the method detection limit shall be reported as "less than the method detection limit". The Annual Stormwater Report shall be signed and certified in accordance with Attachment D. Federal Standard Provisions, Section V-Reporting, Subsection B. Signatory and Certification requirements of Order No. R8-2009-0021. The discharger shall prepare and submit their Annual Stormwater Reports using the annual report forms provided by the State Water Board or Regional Water Board or shall submit their information on a form that contains equivalent information.

13. Watershed Monitoring Option

Regional Water Boards may approve proposals to substitute watershed monitoring for some or all of the requirements of this section if the Regional Water Board finds that the watershed monitoring will provide substantially similar monitoring information in evaluating discharger compliance with the requirements of Order No. R8-2009-0021.

ATTACHMENT L – CHINO BASIN MAXIMUM BENEFIT COMMITMENTS

Table 5-8a of Resolution No. R8-2004-0001

Chino Basin Maximum Benefit Commitments

Description of Commitment	Compliance Date – as soon as possible, but no later than
1. Surface Water Monitoring Program	
a. Submit Draft Monitoring Program to Regional Board	a. January 23, 2005 (complied)
b. Implement Monitoring Program	b. Within 30 days from date of Regional Board approval of monitoring plan
c. Quarterly data report submittal	c. April 15, July 15, October 15, January 15
d. Annual data report submittal	d. February 15th
2. Groundwater Monitoring Program	
a. Submit Draft Monitoring Program to Regional Board	a. January 23, 2005(complied)
b. Implement Monitoring Program	b. Within 30 days from date of Regional Board approval of monitoring plan
c. Annual data report submittal	c. February 15th
3. Chino Desalters	
a. Chino 1 desalter expansion to 10 MGD	a. Prior to recharge of recycled water
b. Chino 2 desalter at 10 MGD design	b. Recharge of recycled water allowed once award of contract and notice to proceed issued for construction of desalter treatment plant
4. Future desalters plan and schedule submittal	October 1, 2005 Implement plan and schedule upon Regional Board approval
5. Recharge facilities (17) built and in operation	June 30, 2005 (Partially complied)
6. IEUA wastewater quality improvement plan and schedule submittal	60 days after agency-wide 12 month running average effluent TDS quality equals or exceeds 545 mg/L for 3 consecutive months or agency-wide 12 month running average TIN equals or exceeds 8 mg/L in any month. Implement plan and schedule upon approval by Regional Board

Table 5-8a of Resolution No. R8-2004-0001

Chino Basin Maximum Benefit Commitments (cont.)

Description of Commitment	Compliance Date – as soon as possible, but no later than
7. Recycled water will be blended with other recharge sources so that the 5-year running average TDS and nitrate-nitrogen concentrations of water recharged are equal to or less than the "maximum benefit" water quality objectives for the affected Management Zone (Chino North or Cucamonga).	Compliance must be achieved by end of 5th year after initiation of recycled water recharge operations.
a. Submit a report that documents the location, amount of recharge, and TDS and nitrogen quality of stormwater recharge before the OBMP recharge improvements were constructed and what is projected to occur after the recharge improvements are completed	a. Prior to initiation of recycled water recharge
b. Submit documentation of amount, TDS and nitrogen quality of all sources of recharge and recharge locations. For stormwater recharge used for blending, submit documentation that the recharge is the result of CBW/IEUA enhanced recharge facilities.	b. Annually, by February 15th, after initiation of construction of basins/other facilities to support enhanced stormwater recharge.
8. Hydraulic Control Failure	
a. Plan and schedule to correct loss of hydraulic control	a. 60 days from Regional Board finding that hydraulic control is not being maintained
b. Achievement and maintenance of hydraulic control	b. In accordance with plan and schedule approved by Regional Board. The schedule shall assure that hydraulic control is achieved as soon as possible but no later than 180 days after loss of hydraulic control is identified.
c. Mitigation plan for temporary failure to achieve/maintain hydraulic control	c. By January 23, 2005(complied). Implement plan upon Regional Board determination that hydraulic control is not being maintained.
9. Ambient groundwater quality determination	July 1, 2005 and every 3 years thereafter

Appendix B

Plant Facilities Calculations

APPENDIX B - PLANT FACILITIES CALCULATIONS

CALCULATIONS FOLLOW FOR TABLES IN SECTION 4:

(Only those tables in Section 4 that have calculated or estimated values are shown herein. See Section 4 for other tables, references, and explanations.)

Table 4-2. Raw Wastewater Characteristics

Parameter	Units	Value	Reference
Annual Average Raw Influent Quality			
BOD-5 day	mg/L	451	IEUA, 2011-12
TSS	mg/L	390	IEUA, 2011-12
TOC	mg/L	246	IEUA, 2011-12
Ammonia-nitrogen	mg/L	34.1	IEUA, 2011-12
TKN	mg/L	31.7	IEUA, 2011-12
TIN	mg/L	53.3	IEUA, 2011-12
pH	units	7.1	IEUA, 2011-12
Winter temperature	degrees C	20	IEUA, 2011-12
Summer temperature	degrees C	25	IEUA, 2011-12
TDS	mg/L	538	IEUA, 2011-12
Annual Average Raw Influent Loadings			
BOD-5 day	lbs/day	42,879	calculated [1]
TSS	lbs/day	37,080	calculated [1]
Peak Month Average Raw Influent Quality			
BOD	mg/L	627	IEUA, 2011-12
TSS	mg/L	730	IEUA, 2011-12
TOC	mg/L	334	IEUA, 2011-12
Ammonia-nitrogen	mg/L	45.8	IEUA, 2011-12
TKN	mg/L	33.1	IEUA, 2011-12
TIN	mg/L	59.6	IEUA, 2011-12
pH	units	7.2	IEUA, 2011-12
TDS	mg/L	559	IEUA, 2011-12
Peak Month Average Raw Influent Loadings			
BOD-5 day	lbs/day	59,613	calculated [1]
TSS	lbs/day	69,405	calculated [1]

[1] For more information on calculated values, see comments in right margin.

Table 4-3. Screening Facilities Design Data

Parameter	Units	Value	Reference
Mechanical Bar Screens			
Number	units	2	CH2M-Hill, 1988
Channel width	feet	4.0	CH2M-Hill, 1988
Channel depth	feet	13.7	CH2M-Hill, 1988
Bar spacing	inches	0.5	CH2M-Hill, 1988
Peak flow capacity	mgd, each	20	CH2M-Hill, 1988
Total peak flow capacity	mgd	40	calculated [1]
Manual Bar Screen			
Number	units	1	CH2M-Hill, 1988
Channel width	feet	4.0	CH2M-Hill, 1988
Channel depth	feet	5.2	CH2M-Hill, 1988
Bar spacing	inches	1	CH2M-Hill, 1988
Peak flow capacity	mgd	40	CH2M-Hill, 1988

[1] For more information on calculated values, see comments in right margin.

Table 4-5. Flow Measurement Design Data

Parameter	Units	Value	Reference
Influent Parshall Flume			
Number	units	1	CH2M-Hill, 1988
Throat size	inches	48	IEUA, 2014
Maximum capacity	mgd	43.9	calculated [1]
Ultrasonic level sensor	units	1	HDR, 2005
Motor-operated Weir Gates	units	2	HDR, 2005
Ultrasonic Level Indicators on the Influent Diversion Structure	units	2	HDR, 2005

[1] For more information on calculated values, see comments in right margin.

Table 4-7. Primary Treatment Design Data

Parameter	Units	Value	Reference
Primary Clarifiers			
Number	units	2	CH2M-Hill, 1988
Diameter	feet	95	CH2M-Hill, 1988
Side water depth	feet	12	CH2M-Hill, 1988
Total volume	cu ft	170,117	calculated [1]
Surface area per clarifier	sq ft	7,088	calculated [1]
Total surface area, all units in service	sq ft	14,176	calculated [1]
Peak overflow rate, all units in service	gpd/sq ft	1,760	CH2M-Hill, 1988
Peak capacity per clarifier	mgd	12.5	calculated [1]
Total peak flow capacity, all units in service	mgd	25.0	calculated [1]
Total annual average flow capacity, all units in service	mgd	13.2	calculated [1]
Total annual average flow capacity, one unit out of service	mgd	6.6	calculated [1]
Detention Time at annual average flow, all units in service	hours	2.7	calculated [1]
BOD Removal	percent	30	CH2M-Hill, 1987
TSS Removal	percent	60	Ch2M-Hill, 1987

[1] For more information on calculated values, see comments in right margin.

Table 4-8. Chemical Facilities Serving Primary Treatment Design Data

Parameter	Units	Value	Reference
Ferric Chloride Storage and Feed Facilities			
Storage Tanks			
Number	units	1	IEUA, 2014
Total storage volume	gal	7,000	IEUA, 2014
Feed Pumps			
Number	units	2	IEUA, 2014
Ferric chloride dosage	mg/L	15	IEUA, 2014
Total ferric chloride use	lbs/day	1,426	calculated [1]
Polymer Storage and Feed Facilities (typically not used)			

[1] For more information on calculated values, see comments in right margin.

Table 4-11. Short-Term Emergency Storage & Pumping Design Criteria

Parameter	Units	Value	Reference
Emergency Storage			
Number of basins	units	1	CH2M-Hill, 1988
Volume	mil gal	9	CH2M-Hill, 1987
Volume as a percent of annual average flow	percent	79	calculated[1]
Retention time at annual average flow	hours	19	calculated[1]
Emergency Storage Return Pumping			
Number of pumps	units	1	IEUA, 2014
Type of pumps	type	Submersible	IEUA, 2014
Capacity per pump	mgd	4	IEUA, 2014

[1] For more information on calculated values, see comments in right margin.

Table 4-12. Secondary Treatment Design Criteria

Parameter	Units	Value	Reference
Influent Annual Average Flow	mgd	11.4	CH2M-Hill, 1988
Average influent BOD	mg/L	316	calculated [2]
Average influent TSS	mg/L	156	calculated [2]
Average influent Total Nitrogen	mg/L	43	calculated[2,4]
Peak month influent BOD	mg/L	439	calculated [2]
Peak month influent TSS	mg/L	292	calculated [2]
Peak month influent Total Nitrogen	mg/L	48	calculated[2,4]
Aeration Basin No. 1 [1]			
Anoxic zone			
Number of basins	units	1	IEUA, 2014
Length, each	feet	55	IEUA, 2014
Width, each	feet	50	CH2M-Hill, 1988
Side water depth	feet	21	CH2M-Hill, 1988
Total volume	mil gal	0.43	calculated[2]
Oxic zone			
Number of basins	units	1	IEUA, 2014
Length, each	feet	135	IEUA, 2014
Width, each	feet	50	CH2M-Hill, 1988
Side water depth	feet	21	Ch2M-Hill, 1988
Total volume	mil gal	1.06	calculated [2]
Average mixed liquor suspended solids	mg/L	3,800	IEUA, 2014
Aeration type	type	Flexible sheath	CBMWD, 1994
Aeration Basin Nos. 2 through 6			
Anoxic zone			
Number of basins	units	5	IEUA, 2014
Length, each	feet	77	IEUA, 2014
Width, each	feet	50	CH2M-Hill, 1988
Side water depth	feet	21	CH2M-Hill, 1988
Total volume	mil gal	3.02	calculated [2]
Number of anoxic mixers per basin	units	4	IEUA, 2014
Hydraulic retention time in anoxic zone at annual average flow	hours	6.4	calculated [2]

Parameter	Units	Value	Reference
Oxic (aeration) zone			
Number of basins	units	5	IEUA, 2014
Length, each	feet	113	IEUA, 2014
Width, each	feet	50	CH2M-Hill, 1988
Side water depth	feet	21	CH2M-Hill, 1988
Total volume	mil gal	4.44	calculated [2]
Average mixed liquor suspended solids	mg/L	3,800	IEUA, 2014
Dissolved oxygen level	mg/L	2.0	IEUA, 2014
Aeration type	type	Flexible sheath	CBMWD, 1994
Hydraulic retention time in oxic zone at annual average flow	hours	9.3	calculated [2]
Mixed Liquor Return Pumping			
Number of pumps	units	4	IEUA, 2014
Type	type	Low-head submersible, propeller	CH2M-Hill, 1987
Capacity, each	mgd	10.7	IEUA, 2014

[1] Aeration Basin No. 1 anoxic and oxic zone lengths are variable.
[2] For more information on calculated values, see comments in right margin.
[3] See Section 4.2 regarding design flows.
[4] Assume 20% total nitrogen removal by primary treatment.

Table 4-13. Secondary Clarifier Design Criteria

Parameter	Units	Value	Reference
Number	units	3	CH2M-Hill, 1988
Diameter, each	feet	120	CH2M-Hill, 1988
Side water depth	feet	15	CH2M-Hill, 1988
Surface area per clarifier	sq ft	11,310	calculated[1]
Total surface area	sq ft	33,929	calculated[1]
Volume per clarifier	gallons	1,269,100	calculated[1]
Total volume	gallons	3,807,400	calculated[1]
Average overflow rate, all units in service, initial design	gpd/sq ft	360	CH2M-Hill, 1988
Peak month overflow rate, all units in service, initial design	gpd/sq ft	460	CH2M-Hill, 1988
Detention time at Annual Average Flow, all units in service	hours	8.0	calculated[1]
Average solids loading rate	lbs/day/sq ft	11	CH2M-Hill, 1988
Peak month solids loading rate	lbs/day/sq ft	14	CH2M-Hill, 1988
Return Activated Sludge	mg/L	8,000	CH2M-Hill, 1987
Annual average flow capacity, all units in service, 2014 re-rated capacity	mgd	14	CH2M-Hill, 2014
Annual average flow capacity, one unit out of service, 2014 re-rated capacity	mgd	12	CH2M-Hill, 2014
Average overflow rate, all units in service, 2014 re-rated capacity	gpd/sq ft	413	calculated[1]
Average overflow rate, one unit out of service, 2014 re-rerated capacity	gpd/sq ft	530	calculated[1]
Peak overflow rate, all units in service, 2014 re-rated capacity	gpd/sq ft	784	calculated[1]

[1] For more information on calculated values, see comments in right margin.

Table 4-17. Coagulation / Flocculation Design Data

Parameter	Units	Value	Reference
Rapid Mix Chamber			
Number	units	1	CH2M-Hill, 1988
Length	feet	17.5	CH2M-Hill, 1988
Width	feet	9	CH2M-Hill, 1988
Side water depth	feet	11.6	CH2M-Hill, 1988
Total volume	cu ft	1,833	calculated [1]
Detention Time at annual average flow	minutes	2	calculated [1]
Coagulation / Flocculation Basin			
Number	units	1	CH2M-Hill, 1988
Length	feet	49	CH2M-Hill, 1988
Width	feet	18	CH2M-Hill, 1988
Side water depth	feet	7.6	CH2M-Hill, 1988
Total volume	cu ft	6,686	calculated [1]
Detention Time at annual average flow	minutes	6	calculated [1]
Filter-Aid Coagulant System			
Type	---	Aluminum sulfate and/or polymer	IEUA, 2014
Use	---	As-needed	IEUA, 2014
Feedpoint	---	Rapid mix chamber to flocculation	IEUA, 2014
Alum pumps	units	2	IUEA, 2014
Alum storage tank	number	1	IEUA, 2014
Polymer pumps	units	2	IEUA, 2014
Polymer storage tanks	number	2	IEUA, 2014

[1] For more information on calculated values, see comments at right margin.

Table 4-18. Tertiary Filtration Design Criteria

Parameter	Units	Value	Reference
Total number of filters	units	3	CH2M-Hill, 1988
Type	type	Shallow bed, continuous backwash	CH2M-Hill, 1988
Media	type	sand	CH2M-Hill, 1988
Depth	inches	16	CH2M-Hill, 1988
Length per filter	feet	100	CH2M-Hill, 1988
Width per filter	feet	16	CH2M-Hill, 1988
Surface area per filter	sq ft	1,600	calculated[1]
Total surface area, all filters in service	sq ft	4,800	calculated[1]
Firm surface area, one filter out for maintenance	sq ft	3,200	calculated[1]
Maximum filtration rate	gpm/sq ft	4.0	CDPH, 2010 and RWQCB, 2010
Maximum capacity, all filters in service [2]	mgd	27.6	calculated[1]
Filter backwash rate	gpm/sq ft	15	CH2M-Hill, 1988
Waste backwash pumping			
Number of pumps	units	3	CH2M-Hill, 1988
Type	type	Submersible, centrifugal	CH2M-Hill, 1988
Capacity per pump	gpm	950	CH2M-Hill, 1988
Total capacity	gpm	2,850	calculated[1]

[1] For more information on calculated values, see comments in right margin.
[2] See Section 4 regarding reliable capacity.

Table 4-20. Sodium Hypochlorite System Design Criteria

Parameter	Units	Value	Reference
Sodium hypochlorite concentration	percent	12.5	IEUA, 2014
Maximum dose @ average flow	mg/L	20	Parsons, 2003, IEUA, 2014
Days of storage	days	3	IEUA, 2014
Bulk Storage System			
Number of tanks	units	2	IEUA, 2014
Volume per tank	gallons	10,000	IEUA, 2014
Total volume	gallons	20,000	calculated[1]
Feed System			
Number of metering pumps	units	4	IEUA, 2014
Capacity per pump	gph	77	IEUA, 2014
Capacity			
Peak capacity at 10 mg/L feedrate, all units in service	mgd	88.6	calculated[1]
Annual average capacity at 15 mg/L feedrate, all units in service	mgd	59.1	calculated[1]
Annual average capacity at 15 mg/L feedrate, one pump out of service	mgd	44.3	calculated[1]

[1] For more information on calculated values, see comments in right margin.

Table 4-21. Chlorine Contact Tank Operating Parameters

Parameter	Units	Value	Reference
Number of tanks	units	1	CH2M-Hill, 1988
Length (per channel) (8 channels)	feet	115	CH2M-Hill, 1988, IEUA, 2014, CBMWD, 1998
Width per tank (8 channels)	feet	92.7	IEUA, 2014
Average side water depth	feet	13.25	IEUA, 2014
Total contact volume[1]	gallons	1,047,560	calculated[2]
Channel width	feet	11.6	IEUA, 2014
Effective length	feet	911.2	calculated[2]
Length : width	ratio	78 : 1	calculated[2]
Length : depth	ratio	69 : 1	calculated[2]
Required modal contact time	minutes	90	CCR, 2001
Required CT	mg-min/L	450	CCR, 2001
Peak capacity, at 89 minutes modal contact time, all units in service	mgd	15.61	SFE Global, 2004
PDWF capacity, at 90 minutes modal contact time, all units in service	mgd	15.4 [3]	calculated[2]

[1] Total volume of tank plus inlet chamber, less dechlorination chamber.
[2] For more information on calculated values, see comments in right margin.
[3] See Section 4 regarding reliable capacity.

Table 4-23. Dechlorination Design Criteria

Parameter	Units	Value	Reference
Average Sodium Bisulfite Dose	mg/L	7	Parsons, 2003
Average Sodium Bisulfite Feed Rate	lbs/day	648	calculated[1]
Average Sodium Bisulfite Use	gpd	155	calculated[1]
Maximum Sodium Bisulfite Dose	mg/L	20	IEUA, 2014
Maximum Sodium Bisulfite Feed Rate	lbs/day	1,851	calculated[1]
Maximum Sodium Bisulfite Use	gpd	443	calculated[1]
Sodium Bisulfite Storage			
Number of tanks	units	1	Lee & Ro, 2004
Volume per tank	gallons	5,500	IEUA, 2014
	gallons	11,000	IEUA, 2014
Sodium Bisulfite Feed Pumps			
Type	---	Diaphragm metering	Stantec, 2012
Total number of pumps	units	5	Stantec, 2012
Number of skid pumps	units	2	Stantec, 2012
Capacity per skid pump	gph	5.2	IEUA, 2014
Number of stand-alone pumps	units	2	Stantec, 2012
Capacity per stand-alone pump	gph	20.2	Stantec, 2012
Number of large pumps	units	1	Stantec, 2012
Capacity per large pump	gph	52	IEUA, 2014
Capacity			
Feed rate	gpd	2,467	calculated[1]
Peak capacity at 20 mg/L feedrate, all units in service	mgd	62.1	calculated[1]
Annual average capacity, all units in service	mgd	32.7	calculated[1]
Annual average capacity, largest pump out of service	mgd	16.2	calculated[1]

[1] For more information on calculated values, see comments in right margin.

Appendix C

Carbon Canyon Water Recycling Facility

Summary of Alarms

COUNT	CP	COMPOUND	BLOCK	TYPE	ALM TYPE	ALM TEXT	ALARM PRIORITY	ALARM GROUP	LOW LEVEL LIMIT	HIGH LEVEL LIMIT	COMMENTS
1	CP3030	SBS	SBS_AIN	AIN	BAD/OUT OF RANGE	I/O BAD	1	1	N/A	N/A	
2	CP3030	SBS	P1_SPEED_IND	AIN	BAD/OUT OF RANGE	I/O BAD	1	1	N/A	N/A	
3	CP3030	SBS	P2_SPEED_IND	AIN	BAD/OUT OF RANGE	I/O BAD	1	1	N/A	N/A	
4	CP3030	SBS	P3_SPEED_IND	AIN	BAD/OUT OF RANGE	I/O BAD	1	1	N/A	N/A	
5	CP3030	SBS	P1_PRES_IND	AIN	BAD/OUT OF RANGE	I/O BAD	1	1	N/A	N/A	
6	CP3030	SBS	P2_PRES_IND	AIN	BAD/OUT OF RANGE	I/O BAD	1	1	N/A	N/A	
7	CP3030	SBS	P3_PRES_IND	AIN	BAD/OUT OF RANGE	I/O BAD	1	1	N/A	N/A	
8	CP3030	SBS	FIT_5441	AIN	BAD/OUT OF RANGE	I/O BAD	1	1	N/A	N/A	
9	CP3030	SBS	FIT_5442	AIN	BAD/OUT OF RANGE	I/O BAD	5	5	N/A	N/A	
10	CP3030	SBS	FIT_5462	AIN	BAD/OUT OF RANGE	CREEK FLOW IOBAD	1	1	N/A	N/A	
11	CP3030	SBS	TANK1	AIN	BAD/OUT OF RANGE	I/O BAD	1	1	N/A	N/A	
12	CP3030	SBS	TANK2	AIN	BAD/OUT OF RANGE	I/O BAD	1	1	N/A	N/A	
13	CP3030	BLEACH	P1_PRES_IND	AIN	BAD DISABLED	BAD Disabled	5	1	N/A	N/A	
14	CP3030	BLEACH	P2_PRES_IND	AIN	BAD DISABLED	BAD Disabled	5	1	N/A	N/A	
15	CP3030	BLEACH	P3_PRES_IND	AIN	BAD DISABLED	BAD Disabled	5	1	N/A	N/A	
16	CP3030	BLEACH	P4_PRES_IND	AIN	BAD DISABLED	BAD Disabled	5	1	N/A	N/A	
17	CP3030	BLEACH	TANK1	AIN	BAD DISABLED	BAD Disabled	5	1	N/A	N/A	
18	CP3030	BLEACH	TANK2	AIN	BAD DISABLED	BAD Disabled	5	1	N/A	N/A	
19	CP3030	SHUTDN	CT_AVG	AIN	BAD DISABLED	BAD Disabled	5	1	N/A	N/A	
20	CP3030	SHUTDN	DT_AVG	AIN	BAD DISABLED	BAD Disabled	5	1	N/A	N/A	
21	CP3030	SHUTDN	FILTER_LOAD	AIN	BAD DISABLED	BAD Disabled	5	1	N/A	N/A	
22	CP3030	A_AIO	FIT_1452	AIN	BAD/OUT OF RANGE	I/O BAD	1	1	N/A	N/A	
23	CP3030	A_AIO	FI_0705	AIN	BAD/OUT OF RANGE	TRANS FAIL	1	1	N/A	N/A	
24	CP3030	A_AIO	AI_0667	AIN	BAD/OUT OF RANGE	TRANS FAIL	1	1	N/A	N/A	
25	CP3030	A_AIO	AI_0720	AIN	BAD/OUT OF RANGE	TRANS FAIL	1	1	N/A	N/A	
26	CP3030	A_AIO	AI_0725	AIN	BAD/OUT OF RANGE	TRANS FAIL	1	1	N/A	N/A	
27	CP3030	A_AIO	AI_0730	AIN	BAD/OUT OF RANGE	TRANS FAIL	1	1	N/A	N/A	
28	CP3030	A_AIO	HIGH_SO2_LIM	AIN	BAD DISABLED	BAD Disabled	5	1	N/A	N/A	
29	CP3030	A_AIO	AI_0767	AIN	BAD/OUT OF RANGE	TRANS FAIL	1	1	N/A	N/A	
30	CP3030	A_AIO	PH_14	AIN	BAD/OUT OF RANGE	I/O BAD	1	1	N/A	N/A	
31	CP3030	A_AIO	OUTFALL_EC	AIN	BAD/OUT OF RANGE	BAD OUTFALL EC	2	2	N/A	N/A	
32	CP3030	A_AIO	LI_1113A	AIN	BAD/OUT OF RANGE	TRANS FAIL	5	5	N/A	N/A	
33	CP3030	A_AIO	LI_1113B	AIN	BAD/OUT OF RANGE	TRANS FAIL	5	1	N/A	N/A	
34	CP3030	A_AIO	LI_1122	AIN	BAD/OUT OF RANGE	TRANS FAIL	5	1	N/A	N/A	
35	CP3030	A_AIO	PI_1221	AIN	BAD/OUT OF RANGE	TRANS FAIL	1	1	N/A	N/A	
36	CP3030	A_AIO	FI_1250	AIN	BAD/OUT OF RANGE	TRANS FAIL	1	1	N/A	N/A	
37	CP3030	A_AIO	LI_1250	AIN	BAD/OUT OF RANGE	TRANS FAIL	1	1	N/A	N/A	
38	CP3030	B_AIO	ZI_0520A	AIN	BAD/OUT OF RANGE	TRANS FAIL	5	1	N/A	N/A	
39	CP3030	B_AIO	ZI_0520B	AIN	BAD/OUT OF RANGE	TRANS FAIL	5	1	N/A	N/A	

COUNT	CP	COMPOUND	BLOCK	TYPE	ALM TYPE	ALM TEXT	ALARM PRIORITY	ALARM GROUP	LOW LEVEL LIMIT	HIGH LEVEL LIMIT	COMMENTS
40	CP3030	B_AIO	ZI_0520C	AIN	BAD/OUT OF RANGE	TRANS FAIL	5	1	N/A	N/A	
41	CP3030	B_AIO	FI_0520A	AIN	BAD/OUT OF RANGE	TRANS FAIL	1	1	N/A	N/A	
42	CP3030	B_AIO	FI_0520B	AIN	BAD/OUT OF RANGE	TRANS FAIL	1	1	N/A	N/A	
43	CP3030	B_AIO	FI_0520C	AIN	BAD/OUT OF RANGE	TRANS FAIL	1	3	N/A	N/A	
44	CP3030	B_AIO	FIC_0540	AIN	BAD/OUT OF RANGE	TRANS FAIL	5	1	N/A	N/A	
45	CP3030	B_AIO	BL1_AMP	AIN	BAD DISABLED	BAD Disabled	5	1	N/A	N/A	
46	CP3030	B_AIO	BL2_AMP	AIN	BAD DISABLED	BAD Disabled	5	1	N/A	N/A	
47	CP3030	B_AIO	BL3_AMP	AIN	BAD DISABLED	BAD Disabled	5	1	N/A	N/A	
48	CP3030	B_AIO	PI_1030	AIN	BAD/OUT OF RANGE	TRANS FAIL	5	1	N/A	N/A	
49	CP3030	B_AIO	FI_1040	AIN	BAD/OUT OF RANGE	TRANS FAIL	5	1	N/A	N/A	
50	CP3030	B_AIO	FI_2665	AIN	BAD/OUT OF RANGE	TRANS FAIL	5	1	N/A	N/A	
51	CP3030	ALUM	TURB_CNTRL	AIN	BAD DISABLED	BAD Disabled	5	5	N/A	N/A	
52	CP3030	RECLAIM	RECVLV_POS	AIN	BAD DISABLED	BAD Disabled	5	1	N/A	N/A	
53	CP3030	RECLAIM	RECVLV_TIME	AIN	BAD DISABLED	BAD Disabled	5	1	N/A	N/A	
54	CP3030	RECLAIM	PMPFLW	AIN	BAD DISABLED	BAD Disabled	5	1	N/A	N/A	
55	CP3030	RECLAIM	RESVFLW	AIN	BAD DISABLED	BAD Disabled	5	1	N/A	N/A	
56	CP3030	RECLAIM	RESVLVL	AIN	BAD/OUT OF RANGE	RECLAIM LEVEL BAD	1	1	N/A	N/A	
57	CP3030	RECLAIM	R1CL2	AIN	BAD DISABLED	BAD Disabled	5	1	N/A	N/A	
58	CP3030	RECLAIM	R2CL2	AIN	BAD DISABLED	BAD Disabled	5	1	N/A	N/A	
59	CP3030	RECLAIM	T1LVL	AIN	BAD DISABLED	BAD Disabled	5	1	N/A	N/A	
60	CP3030	RECLAIM	RP2_RECL_FLW	AIN	BAD DISABLED	BAD Disabled	5	1	N/A	N/A	
61	CP3031	INFLUENT	CCW_TOT_FLOW	AIN	BAD DISABLED	BAD Disabled	2	2	N/A	N/A	
62	CP3031	INFLUENT	CCW_FLOW_AV	AIN	BAD DISABLED	BAD Disabled	5	1	N/A	N/A	
63	CP3031	INFLUENT	INFL_LEVEL	AIN	BAD DISABLED	BAD Disabled	2	2	N/A	N/A	
64	CP3031	INFLUENT	RP5_FLOW	AIN	BAD DISABLED	BAD Disabled	2	2	N/A	N/A	
65	CP3031	INFLUENT	RP5_LEVEL	AIN	BAD DISABLED	BAD Disabled	2	2	N/A	N/A	
66	CP3031	INFLUENT	CCWRF_LEVEL	AIN	BAD DISABLED	BAD Disabled	2	2	N/A	N/A	
67	CP3031	C_AIO	LI_0310	AIN	BAD/OUT OF RANGE	TRANS FAIL	1	1	N/A	N/A	
68	CP3031	C_AIO	AI_0425A	AIN	BAD/OUT OF RANGE	AI_0425A BAD	5	3	N/A	N/A	
69	CP3031	C_AIO	AI_0425B	AIN	BAD/OUT OF RANGE	AI_0425B BAD	2	1	N/A	N/A	
70	CP3031	C_AIO	AI_0425C	AIN	BAD/OUT OF RANGE	AI_0425C BAD	2	1	N/A	N/A	
71	CP3031	C_AIO	AI_0425D	AIN	BAD/OUT OF RANGE	AI_0425D BAD	2	1	N/A	N/A	
72	CP3031	C_AIO	AI_0425E	AIN	BAD/OUT OF RANGE	AI_0425E BAD	2	1	N/A	N/A	
73	CP3031	C_AIO	AI_0425F	AIN	BAD/OUT OF RANGE	AI_0425F BAD	2	1	N/A	N/A	
74	CP3031	C_AIO	ZI_0430B	AIN	BAD/OUT OF RANGE	TRANS FAIL	5	1	N/A	N/A	
75	CP3031	C_AIO	ZI_0430C	AIN	BAD/OUT OF RANGE	TRANS FAIL	5	1	N/A	N/A	
76	CP3031	C_AIO	ZI_0430D	AIN	BAD/OUT OF RANGE	TRANS FAIL	5	1	N/A	N/A	
77	CP3031	C_AIO	ZI_0430E	AIN	BAD/OUT OF RANGE	TRANS FAIL	5	1	N/A	N/A	
78	CP3031	C_AIO	ZI_0430F	AIN	BAD/OUT OF RANGE	TRANS FAIL	5	1	N/A	N/A	

COUNT	CP	COMPOUND	BLOCK	TYPE	ALM TYPE	ALM TEXT	ALARM PRIORITY	ALARM GROUP	LOW LEVEL LIMIT	HIGH LEVEL LIMIT	COMMENTS
79	CP3031	C_AIO	AI_0430B	AIN	BAD/OUT OF RANGE	TRANS FAIL	5	1	N/A	N/A	
80	CP3031	C_AIO	AI_0430C	AIN	BAD/OUT OF RANGE	TRANS FAIL	5	1	N/A	N/A	
81	CP3031	C_AIO	AI_0430D	AIN	BAD/OUT OF RANGE	TRANS FAIL	5	1	N/A	N/A	
82	CP3031	C_AIO	AI_0430E	AIN	BAD/OUT OF RANGE	TRANS FAIL	5	1	N/A	N/A	
83	CP3031	C_AIO	AI_0430F	AIN	BAD/OUT OF RANGE	TRANS FAIL	5	1	N/A	N/A	
84	CP3031	D_AIO	APH_106	AIN	BAD DISABLED	BAD Disabled	5	1	N/A	N/A	
85	CP3031	D_AIO	LI_0105A	AIN	BAD/OUT OF RANGE	TRANS FAIL	5	1	N/A	N/A	
86	CP3031	D_AIO	LI_0105B	AIN	BAD/OUT OF RANGE	TRANS FAIL	5	1	N/A	N/A	
87	CP3031	D_AIO	FI_0150	AIN	BAD/OUT OF RANGE	FI_0150 BAD	1	1	N/A	N/A	
88	CP3031	D_AIO	FI_0250	AIN	BAD/OUT OF RANGE	TRANS FAIL	5	1	N/A	N/A	
89	CP3031	D_AIO	LI_1305	AIN	BAD/OUT OF RANGE	XMTR FAIL	5	1	N/A	N/A	
90	CP3031	D_AIO	LI_1305B	AIN	BAD DISABLED	BAD Disabled	5	1	N/A	N/A	
91	CP3031	D_AIO	FI_1320	AIN	BAD DISABLED	BAD Disabled	5	1	N/A	N/A	
92	CP3031	D_AIO	AI_0169	AIN	BAD/OUT OF RANGE	TRANS FAIL	2	2	N/A	N/A	
93	CP3031	D_AIO	SYS_TIME	AIN	BAD DISABLED	BAD Disabled	5	1	N/A	N/A	
94	CP3031	D_AIO	AI3165A	AIN	BAD/OUT OF RANGE	AI365 BAD	2	2	N/A	N/A	
95	CP3031	CP2ALMS	CCWRF_TIMER	AIN	BAD DISABLED	BAD Disabled	5	1	N/A	N/A	
96	CP3031	SLDGXFR	LEVEL_CNTRL	AIN	BAD DISABLED	BAD Disabled	5	1	N/A	N/A	
97	CP3031	ODOR_A	LI3115A	AIN	BAD DISABLED	BAD Disabled	5	1	N/A	N/A	
98	CP3031	ODOR_A	LI3115B	AIN	BAD DISABLED	BAD Disabled	5	1	N/A	N/A	
99	CP3030	RECLAIM	PUMPS_KW	AIN	BAD DISABLED	BAD Disabled	5	1	N/A	N/A	
100	CP3030	SBS	SBS_AIN	AIN	OUT OF RANGE	OUT OF RANGE	1	1	N/A	N/A	
101	CP3030	SBS	P1_SPEED_IND	AIN	OUT OF RANGE	OUT OF RANGE	1	1	N/A	N/A	
102	CP3030	SBS	P2_SPEED_IND	AIN	OUT OF RANGE	OUT OF RANGE	1	1	N/A	N/A	
103	CP3030	SBS	P3_SPEED_IND	AIN	OUT OF RANGE	OUT OF RANGE	1	1	N/A	N/A	
104	CP3030	SBS	P1_PRES_IND	AIN	OUT OF RANGE	OUT OF RANGE	1	1	N/A	N/A	
105	CP3030	SBS	P2_PRES_IND	AIN	OUT OF RANGE	OUT OF RANGE	1	1	N/A	N/A	
106	CP3030	SBS	P3_PRES_IND	AIN	OUT OF RANGE	OUT OF RANGE	1	1	N/A	N/A	
107	CP3030	SBS	FIT_5441	AIN	OUT OF RANGE	OUT OF RANGE	1	1	N/A	N/A	
108	CP3030	SBS	FIT_5442	AIN	OUT OF RANGE	OUT OF RANGE	5	5	N/A	N/A	
109	CP3030	SBS	FIT_5462	AIN	OUT OF RANGE	OUT OF RANGE	1	1	N/A	N/A	
110	CP3030	SBS	TANK1	AIN	OUT OF RANGE	OUT OF RANGE	1	1	N/A	N/A	
111	CP3030	SBS	TANK2	AIN	OUT OF RANGE	OUT OF RANGE	1	1	N/A	N/A	
112	CP3030	BLEACH	P1_PRES_IND	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
113	CP3030	BLEACH	P2_PRES_IND	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
114	CP3030	BLEACH	P3_PRES_IND	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
115	CP3030	BLEACH	P4_PRES_IND	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
116	CP3030	BLEACH	TANK1	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
117	CP3030	BLEACH	TANK2	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	

COUNT	CP	COMPOUND	BLOCK	TYPE	ALM TYPE	ALM TEXT	ALARM PRIORITY	ALARM GROUP	LOW LEVEL LIMIT	HIGH LEVEL LIMIT	COMMENTS
118	CP3030	SHUTDN	CT_AVG	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
119	CP3030	SHUTDN	DT_AVG	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
120	CP3030	SHUTDN	FILTER_LOAD	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
121	CP3030	A_AIO	FIT_1452	AIN	OUT OF RANGE	OUT OF RANGE	1	1	N/A	N/A	
122	CP3030	A_AIO	FI_0705	AIN	OUT OF RANGE	OUT OF RANGE	1	1	N/A	N/A	
123	CP3030	A_AIO	AI_0667	AIN	OUT OF RANGE DISABLED	OUT OF RANGE	1	1	N/A	N/A	
124	CP3030	A_AIO	AI_0720	AIN	OUT OF RANGE	OUT OF RANGE	1	1	N/A	N/A	
125	CP3030	A_AIO	AI_0725	AIN	OUT OF RANGE	OUT OF RANGE	1	1	N/A	N/A	
126	CP3030	A_AIO	AI_0730	AIN	OUT OF RANGE	OUT OF RANGE	1	1	N/A	N/A	
127	CP3030	A_AIO	HIGH_SO2_LIM	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
128	CP3030	A_AIO	AI_0767	AIN	OUT OF RANGE	OUT OF RANGE	1	1	N/A	N/A	
129	CP3030	A_AIO	PH_14	AIN	OUT OF RANGE	OUT OF RANGE	1	1	N/A	N/A	
130	CP3030	A_AIO	OUTFALL_EC	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
131	CP3030	A_AIO	LI_1122	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
132	CP3030	A_AIO	PI_1221	AIN	OUT OF RANGE	OUT OF RANGE	1	1	N/A	N/A	
133	CP3030	A_AIO	FI_1250	AIN	OUT OF RANGE	OUT OF RANGE	1	1	N/A	N/A	
134	CP3030	A_AIO	LI_1250	AIN	OUT OF RANGE	OUT OF RANGE	1	1	N/A	N/A	
135	CP3030	B_AIO	FI_0520A	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
136	CP3030	B_AIO	FI_0520B	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
137	CP3030	B_AIO	FI_0520C	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
138	CP3030	B_AIO	FIC_0540	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
139	CP3030	B_AIO	BL1_AMP	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
140	CP3030	B_AIO	BL2_AMP	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
141	CP3030	B_AIO	BL3_AMP	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
142	CP3030	B_AIO	PI_1030	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
143	CP3030	ALUM	TURB_CNTRL	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
144	CP3030	RECLAIM	RECVLV_POS	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
145	CP3030	RECLAIM	RECVLV_TIME	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
146	CP3030	RECLAIM	PMPFLW	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
147	CP3030	RECLAIM	RESVFLW	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
148	CP3030	RECLAIM	RESVLVL	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
149	CP3030	RECLAIM	R1CL2	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
150	CP3030	RECLAIM	R2CL2	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
151	CP3030	RECLAIM	T1LVL	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
152	CP3030	RECLAIM	RP2_RECL_FLW	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
153	CP3031	INFLUENT	CCW_TOT_FLOW	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
154	CP3031	INFLUENT	CCW_FLOW_AV	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
155	CP3031	INFLUENT	INFL_LEVEL	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
156	CP3031	INFLUENT	RP5_FLOW	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	

COUNT	CP	COMPOUND	BLOCK	TYPE	ALM TYPE	ALM TEXT	ALARM PRIORITY	ALARM GROUP	LOW LEVEL LIMIT	HIGH LEVEL LIMIT	COMMENTS
157	CP3031	INFLUENT	RP5_LEVEL	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
158	CP3031	INFLUENT	CCWRF_LEVEL	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
159	CP3031	C_AIO	LI_0310	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
160	CP3031	C_AIO	AI_0425A	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
161	CP3031	C_AIO	AI_0425B	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
162	CP3031	C_AIO	AI_0425C	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
163	CP3031	C_AIO	AI_0425D	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
164	CP3031	C_AIO	AI_0425E	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
165	CP3031	C_AIO	AI_0425F	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
166	CP3031	C_AIO	ZI_0430B	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
167	CP3031	C_AIO	ZI_0430C	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
168	CP3031	C_AIO	ZI_0430D	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
169	CP3031	C_AIO	ZI_0430E	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
170	CP3031	D_AIO	APH_106	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
171	CP3031	D_AIO	FI_0150	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
172	CP3031	D_AIO	LI_1305	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
173	CP3031	D_AIO	LI_1305B	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
174	CP3031	D_AIO	FI_1320	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
175	CP3031	D_AIO	AI_0169	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
176	CP3031	D_AIO	SYS_TIME	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
177	CP3031	CP2ALMS	CCWRF_TIMER	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
178	CP3031	SLDGXFR	LEVEL_CNTRL	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
179	CP3031	ODOR_A	LI3115A	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
180	CP3031	ODOR_A	LI3115B	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
181	CP3030	RECLAIM	PUMPS_KW	AIN	OUT OF RANGE DISABLED	Out of Range Disabled	DISABLED	DISABLED	N/A	N/A	
182	CP3030	SBS	SBS_AIN	AIN	HI&LO ALM	START PUMP & STOP PUMP	5	5	0.9	1.3	
183	CP3030	SBS	P1_PRES_IND	AIN	HI ALM	& HIGH PRESSURE	1	1	N/A	50	
184	CP3030	SBS	P2_PRES_IND	AIN	HI ALM	& HIGH PRESSURE	1	1	N/A	50	
185	CP3030	SBS	P3_PRES_IND	AIN	HI ALM	& HIGH PRESSURE	1	1	N/A	50	
186	CP3030	SBS	FIT_5462	AIN	HI ALM	LOW FLOW & HIGH FLOW	5	5	N/A	18.1	
187	CP3030	SBS	TANK1	AIN	LO ALM	SBS TANK1 SWITCHOVER &	2	2	2.9	N/A	
188	CP3030	SBS	TANK2	AIN	LO ALM	SBS TANK2 SWITCHOVER &	2	2	2.9	N/A	
189	CP3030	BLEACH	P1_PRES_IND	AIN	HI ALM	& HIGH PRESSURE	5	5	N/A	71	
190	CP3030	BLEACH	P2_PRES_IND	AIN	HI ALM	& HIGH PRESSURE	5	1	N/A	72	
191	CP3030	BLEACH	P3_PRES_IND	AIN	HI ALM	& HIGH PRESSURE	5	5	N/A	73	
192	CP3030	BLEACH	P4_PRES_IND	AIN	HI ALM	& HIGH PRESSURE	5	5	N/A	74	
193	CP3030	BLEACH	TANK1	AIN	LO ALM	BLEACH TANK1 SWITCHOVER &	5	5	3	N/A	
194	CP3030	BLEACH	TANK2	AIN	LO ALM	BLEACH TANK2 SWITCHOVER &	5	5	3	N/A	
195	CP3030	SHUTDN	CT_AVG	AIN	LO ALM	LOW HOURLY AVE. CT &	1	1	460	N/A	

COUNT	CP	COMPOUND	BLOCK	TYPE	ALM TYPE	ALM TEXT	ALARM PRIORITY	ALARM GROUP	LOW LEVEL LIMIT	HIGH LEVEL LIMIT	COMMENTS
196	CP3030	SHUTDN	DT_AVG	AIN	LO ALM	LOW HOURLY AVE. DT &	1	1	95	N/A	
197	CP3030	SHUTDN	FILTER_LOAD	AIN	HI ALM	& HIGH ALARM	1	1	N/A	2.45	
198	CP3030	A_AIO	FIT_1452	AIN	HI&LO ALM	&	5	3	50	50000	
199	CP3030	A_AIO	FI_0705	AIN	HI&LO ALM	EFFL. FLW LOW & EFFL. FLW HI	1	2	2	15.43	
200	CP3030	A_AIO	AI_0667	AIN	HI ALM	& HIGH TURB	1	1	N/A	3	
201	CP3030	A_AIO	AI_0720	AIN	HI&LO ALM	INITIAL CL2 RESIDUAL LOW & INITIAL CL2 RESIDUAL HIGH	1	1	4.8	9.5	
202	CP3030	A_AIO	AI_0725	AIN	HI&LO ALM	EFFLUENT CL2 RESIDUAL LOW & EFFLUENT CL2 RESID. HIGH	1	1	3.5	8.5	
203	CP3030	A_AIO	AI_0730	AIN	HI&LO ALM	& SBS HIGH BUMP	2	2	-1	4.5	
204	CP3030	A_AIO	HIGH_SO2_LIM	AIN	HI ALM	& HIGH SBS ALARM DISABLED	5	5	N/A	3600	
205	CP3030	A_AIO	AI_0767	AIN	HI&LO ALM	LOW TURBIDITY & HIGH ALARM	1	2	0.1	2	
206	CP3030	A_AIO	PH_14	AIN	HI&LO ALM	OUTFALL PH LOW & OUTFALL PH HIGH	1	2	6.44	8.5	
207	CP3030	A_AIO	OUTFALL_EC	AIN	HI&LO ALM	LOW EC & HIGH EC	2	2	400	1500	
208	CP3030	A_AIO	LI_1122	AIN	HI&LO ALM	&	5	1	0.25	10	
209	CP3030	A_AIO	PI_1221	AIN	HI&LO ALM	LOW & HIGH	1	1	40	110	
210	CP3030	A_AIO	FI_1250	AIN	HI&LO ALM	&	5	1	25	1600	
211	CP3030	A_AIO	LI_1250	AIN	LO ALM	LEVEL LOW/CLOSE REC. VLV. &	2	1	9.8	N/A	
212	CP3030	B_AIO	FI_0520A	AIN	LO ALM	LOW FLOW &	5	1	2	N/A	
213	CP3030	B_AIO	FI_0520B	AIN	LO ALM	LOW FLOW &	2	2	2	N/A	
214	CP3030	B_AIO	FI_0520C	AIN	LO ALM	LOW FLOW &	1	1	2	N/A	
215	CP3030	B_AIO	FIC_0540	AIN	HI&LO ALM	WAS FLOW LOW & WAS FLOW HIGH	1	2	20	500	
216	CP3030	B_AIO	BL1_AMP	AIN	HI ALM	& HIGH AMP	5	5	N/A	49	
217	CP3030	B_AIO	BL2_AMP	AIN	HI ALM	& HIGH AMP	5	5	N/A	52	
218	CP3030	B_AIO	BL3_AMP	AIN	HI ALM	& HIGH AMP	5	5	N/A	49	
219	CP3030	B_AIO	PI_1030	AIN	LO ALM	LOW PRESSURE &	1	1	10.1	N/A	
220	CP3030	ALUM	TURB_CNTRL	AIN	HI&LO ALM	ALUM P1 STOP & ALUM P1 START	5	5	1.5	4	
221	CP3030	RECLAIM	RECVLV_POS	AIN	LO ALM	RECLAIM VALVE CLOSED &	2	2	25	N/A	
222	CP3030	RECLAIM	RECVLV_TIME	AIN	HI ALM	& RECLAIM VALVE ALARM START	5	5	N/A	1.75	
223	CP3030	RECLAIM	PMPFLW	AIN	HI&LO ALM	&	5	3	800	10000	
224	CP3030	RECLAIM	RESVFLW	AIN	HI&LO ALM	&	5	3	500	10000	
225	CP3030	RECLAIM	RESVLVL	AIN	LO ALM	LAG1 SHUTDOWN &	2	2	14.5	N/A	
226	CP3030	RECLAIM	R1CL2	AIN	HI&LO ALM	MID CL2 RESIDUAL LOW & MID CL2 RESIDUAL HIGH	1	1	4.5	9	
227	CP3030	RECLAIM	R2CL2	AIN	HI&LO ALM	RECLAIM DISCHARGE CL2 LOW & RECLAIM DISCHARGE CL2 HIGH	2	1	1	7	
228	CP3030	RECLAIM	T1LVL	AIN	HI&LO ALM	BLEACH TANK LEVEL LOW &	5	1	2	100	
229	CP3030	RECLAIM	RP2_RECL_FLW	AIN	HI ALM	& HIGH FLOW	1	1	N/A	2500	
230	CP3031	INFLUENT	CCW_TOT_FLOW	AIN	HI ALM	& TOTAL FLOW HIGH	1	1	N/A	22	

COUNT	CP	COMPOUND	BLOCK	TYPE	ALM TYPE	ALM TEXT	ALARM PRIORITY	ALARM GROUP	LOW LEVEL LIMIT	HIGH LEVEL LIMIT	COMMENTS
231	CP3031	INFLUENT	CCW_FLOW_AV	AIN	HI&LO ALM	LOW DEVIATION & HIGH DEVIATION	5	5	:FLOW_SPT.RO02	:FLOW_SPT.RO01	
232	CP3031	INFLUENT	INFL_LEVEL	AIN	HI ALM	& HIGH LEVEL	1	1	N/A	7.3	
233	CP3031	INFLUENT	RP5_FLOW	AIN	HI ALM	& BYPASS FLOW HIGH	5	5	N/A	9.5	
234	CP3031	INFLUENT	RP5_LEVEL	AIN	HI ALM	& HIGH LEVEL	1	1	N/A	7.5	
235	CP3031	INFLUENT	CCWRF_LEVEL	AIN	HI ALM	& HIGH LEVEL	1	1	N/A	7.5	
236	CP3031	C_AIO	LI_0310	AIN	HI&LO ALM	& INFLUENT W.W. HI HI	5	1	0	6.1	
237	CP3031	C_AIO	AI_0425A	AIN	HI&LO ALM	AB 3 LOW D.O. &	5	3	0.4	3	
238	CP3031	C_AIO	AI_0425B	AIN	HI&LO ALM	D.O. LOW & D.O. HIGH	5	3	0.4	3	
239	CP3031	C_AIO	AI_0425C	AIN	HI&LO ALM	D.O. LOW & D.O. HIGH	5	3	0.4	3	
240	CP3031	C_AIO	AI_0425D	AIN	HI&LO ALM	D.O. LOW & D.O. HIGH	5	3	0.4	3	
241	CP3031	C_AIO	AI_0425E	AIN	HI&LO ALM	D.O. LOW & D.O. HIGH	5	3	0.4	3	
242	CP3031	C_AIO	AI_0425F	AIN	HI&LO ALM	D.O. LOW & D.O. HIGH	5	3	0.4	3	
243	CP3031	C_AIO	ZI_0430B	AIN	HI&LO ALM	&	5	1	-20	95	
244	CP3031	C_AIO	ZI_0430C	AIN	HI&LO ALM	&	5	1	0	95	
245	CP3031	C_AIO	ZI_0430D	AIN	HI&LO ALM	&	5	1	0	95	
246	CP3031	C_AIO	ZI_0430E	AIN	HI&LO ALM	&	5	1	0	95	
247	CP3031	D_AIO	APH_106	AIN	HI&LO ALM	INFLUENT PH LOW & INFLUENT PH HIGH	2	2	6.5	8.5	
248	CP3031	D_AIO	FI_0150	AIN	HI&LO ALM	& INFLUENT FLOW HIGH	1	1	0	18	
249	CP3031	D_AIO	LI_1305	AIN	HI&LO ALM	&	1	1	2	8.5	
250	CP3031	D_AIO	LI_1305B	AIN	HI&LO ALM	&	5	2	2	8.5	
251	CP3031	D_AIO	FI_1320	AIN	HI&LO ALM	&	5	1	0	1000	
252	CP3031	D_AIO	AI_0169	AIN	HI&LO ALM	LOW CONDUCTIVITY & HIGH CONDUCTIVITY	2	2	300	1800	
253	CP3031	D_AIO	SYS_TIME	AIN	HI ALM	& EC ALARM START	5	5	N/A	1.5	
254	CP3031	CP2ALMS	CCWRF_TIMER	AIN	HI&LO ALM	&	5	5	0	6	
255	CP3031	SLDGXFR	LEVEL_CNTRL	AIN	HI&LO ALM	PUMP STOP & PUMP START	5	5	2	3.5	
256	CP3031	ODOR_A	LI3115A	AIN	HI&LO ALM	SODIUM HYPOCHLORITE LEVEL LOW & SODIUM HYPOCHLORITE LEVEL HIGH	5	1	2.2	100	
257	CP3031	ODOR_A	LI3115B	AIN	HI&LO ALM	SODIUM HYDROXIDE LEVEL LOW & SODIUM HYDROXIDE LEVEL HIGH	5	1	0	100	
258	CP3030	RECLAIM	PUMPS_KW	AIN	HI&LO ALM	LOW KW HOLD VALUE TO TOTALIZER &	5	5	10	1000	
259	CP3030	SBS	P1_PRES_IND	AIN	HIHI ALM	& P1 HIGH PRESSURE	1	1	N/A	30	
260	CP3030	SBS	P2_PRES_IND	AIN	HIHI ALM	& P2 HIGH PRESSURE	1	1	N/A	30	
261	CP3030	SBS	P3_PRES_IND	AIN	HIHI ALM	& P3 HIGH PRESSURE	1	1	N/A	30	
262	CP3030	SBS	TANK1	AIN	HIHI&LOLO ALM	SBS TANK1 LOW LEVEL & SBS TANK1 HIGH LEVEL	1	1	2.6	7.5	

COUNT	CP	COMPOUND	BLOCK	TYPE	ALM TYPE	ALM TEXT	ALARM PRIORITY	ALARM GROUP	LOW LEVEL LIMIT	HIGH LEVEL LIMIT	COMMENTS
263	CP3030	SBS	TANK2	AIN	HIHI&LOLO ALM	SBS TANK2 LOW LEVEL & SBS TANK2 HIGH LEVEL	1	1	2.8	7.5	
264	CP3030	BLEACH	TANK1	AIN	HIHI&LOLO ALM	BLEACH TANK1 LO LEVEL & BLEACH TANK1 HI LEVEL	5	5	2.8	7	
265	CP3030	BLEACH	TANK2	AIN	HIHI&LOLO ALM	BLEACH TANK2 LO LEVEL & BLEACH TANK2 HI LEVEL	5	5	2.8	7	
266	CP3030	SHUTDN	FILTER_LOAD	AIN	HIHI ALM	& WARNING FILTER LOAD HI	1	1	N/A	2.2	
267	CP3030	A_AIO	FI_0705	AIN	HIHI ALM	& EFFL. FLW HI HI	1	2	N/A	15.43	
268	CP3030	A_AIO	AI_0667	AIN	LOLO ALM	LOW TURB &	2	2	0.5	N/A	
269	CP3030	A_AIO	AI_0730	AIN	HIHI&LOLO ALM	&	5	3	0	5.1	
270	CP3030	A_AIO	HIGH_SO2_LIM	AIN	HIHI ALM	& HIGH SBS ALARM ENABLED	5	5	N/A	21600	
271	CP3030	A_AIO	LI_1250	AIN	LOLO ALM	W3 LEVEL LOW &	1	1	8.8	N/A	
272	CP3030	ALUM	TURB_CNTRL	AIN	HIHI&LOLO ALM	ALUM P2 STOP & ALUM P2 START	5	5	1.5	4	
273	CP3030	RECLAIM	RECVLV_TIME	AIN	HIHI ALM	& RECLAIM VALVE ALARM STOP	5	5	N/A	7.5	
274	CP3030	RECLAIM	RESVLVL	AIN	LOLO ALM	LAG2 SHUTDOWN &	2	2	15	N/A	
275	CP3031	D_AIO	SYS_TIME	AIN	HIHI ALM	& EC ALARM STOP	5	5	N/A	7	
276	CP3031	CP2ALMS	CCWRF_TIMER	AIN	HIHI ALM	&	5	5	N/A	16	
277	CP3030	SBS	P1_FAIL	CIN	BAD DISABLED	FAIL	5	1	N/A	N/A	
278	CP3030	SBS	P2_FAIL	CIN	BAD DISABLED	FAIL	5	1	N/A	N/A	
279	CP3030	SBS	P3_FAIL	CIN	BAD DISABLED	FAIL	5	1	N/A	N/A	
280	CP3030	SBS	LAH_5445	CIN	BAD DISABLED	FAIL	5	1	N/A	N/A	
281	CP3030	SBS	LAH_5447	CIN	BAD DISABLED	FAIL	5	1	N/A	N/A	
282	CP3030	BLEACH	WTR_CHP_FAIL	CIN	BAD DISABLED	FAIL	5	1	N/A	N/A	
283	CP3030	BLEACH	P1_FAIL	CIN	BAD DISABLED	FAIL	5	1	N/A	N/A	
284	CP3030	BLEACH	P2_FAIL	CIN	BAD DISABLED	FAIL	5	1	N/A	N/A	
285	CP3030	BLEACH	P3_FAIL	CIN	BAD DISABLED	FAIL	5	1	N/A	N/A	
286	CP3030	BLEACH	P4_FAIL	CIN	BAD DISABLED	FAIL	5	1	N/A	N/A	
287	CP3030	BLEACH	LAH_5443	CIN	BAD DISABLED	FAIL	5	1	N/A	N/A	
288	CP3030	BLEACH	LAH_5444	CIN	BAD DISABLED	FAIL	5	1	N/A	N/A	
289	CP3030	BLEACH	LAH_5446	CIN	BAD DISABLED	FAIL	5	1	N/A	N/A	
290	CP3031	PAGER	TEST_ALARM	CIN	BAD DISABLED	FAIL	5	1	N/A	N/A	
291	CP3030	BLEACH	BLCH_MTR1	MTR	BAD ENABLED		5	1	N/A	N/A	
292	CP3030	BLEACH	BLCH_MTR2	MTR	BAD ENABLED		5	1	N/A	N/A	
293	CP3030	RECLAIM	P1MTR	MTR	BAD ENABLED		5	1	N/A	N/A	
294	CP3030	RECLAIM	P2MTR	MTR	BAD ENABLED		5	1	N/A	N/A	
295	CP3030	RECLAIM	P3MTR	MTR	BAD ENABLED		5	2	N/A	N/A	
296	CP3030	RECLAIM	P4MTR	MTR	BAD ENABLED		5	1	N/A	N/A	
297	CP3031	PRELIM	BAR1	MTR	BAD ENABLED	BAD I/O F08142-25	5	1	N/A	N/A	
298	CP3031	PRELIM	BAR2	MTR	BAD ENABLED	BAD I/O F08142-26	5	1	N/A	N/A	
299	CP3031	SPR	PUMP_2	MTR	BAD ENABLED	BAD I/O F08133-32	5	1	N/A	N/A	

COUNT	CP	COMPOUND	BLOCK	TYPE	ALM TYPE	ALM TEXT	ALARM PRIORITY	ALARM GROUP	LOW LEVEL LIMIT	HIGH LEVEL LIMIT	COMMENTS
300	CP3031	SLDGXFR	PUMP1	MTR	BAD ENABLED	PUMP1 I/O BAD	1	1	N/A	N/A	
301	CP3031	SLDGXFR	PUMP2	MTR	BAD ENABLED	PUMP2 I/O BAD	1	1	N/A	N/A	
302	CP3030	SBS	P1_START	GDEV	BAD ENABLED	I/O BAD	1	1	N/A	N/A	
303	CP3030	SBS	P2_START	GDEV	BAD ENABLED	I/O BAD	1	1	N/A	N/A	
304	CP3030	SBS	P3_START	GDEV	BAD ENABLED	1	1	1	N/A	N/A	
305	CP3030	SBS	P1_FAIL	CIN	DIGITAL ENABLED	SBS PUMP1 DIAPHRAGM FAIL	1	1	N/A	N/A	
306	CP3030	SBS	P2_FAIL	CIN	DIGITAL ENABLED	SBS PUMP2 DIAPHRAGM FAIL	1	1	N/A	N/A	
307	CP3030	SBS	P3_FAIL	CIN	DIGITAL ENABLED	SBS PUMP3 DIAPHRAGM FAIL	1	1	N/A	N/A	
308	CP3030	SBS	LAH_5445	CIN	DIGITAL ENABLED	SBS PIPE TRENCH LEVEL HIGH ALARM	1	1	N/A	N/A	
309	CP3030	SBS	LAH_5447	CIN	DIGITAL ENABLED	SBS SUMP LEVEL HIGH ALARM	1	1	N/A	N/A	
310	CP3030	BLEACH	WTR_CHP_FAIL	CIN	DIGITAL ENABLED	WATER CHAMP FAIL	2	1	N/A	N/A	
311	CP3030	BLEACH	P1_FAIL	CIN	DIGITAL ENABLED	BLEACH PUMP1 DIAPHRAGM FAIL	2	2	N/A	N/A	
312	CP3030	BLEACH	P2_FAIL	CIN	DIGITAL ENABLED	BLEACH PUMP2 DIAPHRAGM FAIL	2	2	N/A	N/A	
313	CP3030	BLEACH	P3_FAIL	CIN	DIGITAL ENABLED	BLEACH PUMP3 DIAPHRAGM FAIL	2	2	N/A	N/A	
314	CP3030	BLEACH	P4_FAIL	CIN	DIGITAL ENABLED	BLEACH PUMP4 DIAPHRAGM FAIL	2	2	N/A	N/A	
315	CP3030	BLEACH	LAH_5443	CIN	DIGITAL ENABLED	BLEACH/SBS PIPE PIPE LEAK ALARM	5	2	N/A	N/A	
316	CP3030	BLEACH	LAH_5444	CIN	DIGITAL ENABLED	BLEACH PIPE TRENCH HIGH LEVEL	5	2	N/A	N/A	
317	CP3030	BLEACH	LAH_5446	CIN	DIGITAL ENABLED	BLEACH SUMP HIGH LEVEL	2	2	N/A	N/A	
318	CP3031	PAGER	TEST_ALARM	CIN	DIGITAL ENABLED	CCWRF PAGER TEST NORMAL	1	1	N/A	N/A	
319	CP3030	BLEACH	BLCH_MTR1	MTR	DIGITAL ENABLED		1	1	N/A	N/A	
320	CP3030	BLEACH	BLCH_MTR2	MTR	DIGITAL ENABLED		1	1	N/A	N/A	
321	CP3030	SLUDGE	WASMTR_1	MTR	DIGITAL ENABLED	WAS PUMP 1 FAIL	5	1	N/A	N/A	
322	CP3030	SLUDGE	WASMTR_2	MTR	DIGITAL ENABLED	WAS PUMP 2 FAIL	5	1	N/A	N/A	
323	CP3030	POLYMER	MIXER1	MTR	DIGITAL ENABLED	MIXER 1 FAIL	5	1	N/A	N/A	
324	CP3030	POLYMER	MIXER2	MTR	DIGITAL ENABLED	MIXER 2 FAIL	5	1	N/A	N/A	
325	CP3030	POLYMER	PLYPMP2	MTR	DIGITAL ENABLED	SOL PUMP 2 FAIL	5	1	N/A	N/A	
326	CP3030	ALUM	ALMMTR_1	MTR	DIGITAL ENABLED	ALUM PUMP 1 FAIL	5	1	N/A	N/A	
327	CP3030	ALUM	ALMMTR_2	MTR	DIGITAL ENABLED	ALUM PUMP 2 FAIL	5	1	N/A	N/A	
328	CP3030	WATER	PUMP1	MTR	DIGITAL ENABLED	WTR PMP1 FAIL	5	1	N/A	N/A	
329	CP3030	WATER	PUMP2	MTR	DIGITAL ENABLED	WTR PMP2 FAIL	5	1	N/A	N/A	
330	CP3030	WATER	PUMP3	MTR	DIGITAL ENABLED	WTR PMP3 FAIL	5	1	N/A	N/A	
331	CP3030	WATER	PUMP4	MTR	DIGITAL ENABLED	WTR PMP4 FAIL	5	1	N/A	N/A	
332	CP3030	RECLAIM	P1MTR	MTR	DIGITAL ENABLED		2	1	N/A	N/A	
333	CP3030	RECLAIM	P2MTR	MTR	DIGITAL ENABLED		1	1	N/A	N/A	
334	CP3030	RECLAIM	P3MTR	MTR	DIGITAL ENABLED		1	2	N/A	N/A	
335	CP3030	RECLAIM	P4MTR	MTR	DIGITAL ENABLED		1	1	N/A	N/A	
336	CP3030	RECLAIM	MP1MTR	MTR	DIGITAL ENABLED		5	1	N/A	N/A	
337	CP3030	RECLAIM	MP2MTR	MTR	DIGITAL ENABLED		5	1	N/A	N/A	

COUNT	CP	COMPOUND	BLOCK	TYPE	ALM TYPE	ALM TEXT	ALARM PRIORITY	ALARM GROUP	LOW LEVEL LIMIT	HIGH LEVEL LIMIT	COMMENTS
338	CP3031	PRELIM	BAR1	MTR	DIGITAL ENABLED	BARSCREEN 1 FAILURE	1	1	N/A	N/A	
339	CP3031	PRELIM	BAR2	MTR	DIGITAL ENABLED	BARSCREEN 2 FAILURE	1	1	N/A	N/A	
340	CP3031	PRELIM	CONVEYOR	MTR	DIGITAL ENABLED	CONVEYOR FAILURE	5	1	N/A	N/A	
341	CP3031	GRIT	GRITPMP1	MTR	DIGITAL ENABLED	GRIT PUMP 1 FAIL	5	1	N/A	N/A	
342	CP3031	GRIT	GRITPMP2	MTR	DIGITAL ENABLED	GRIT PUMP 2 FAIL	5	1	N/A	N/A	
343	CP3031	GRIT	CLASS1	MTR	DIGITAL ENABLED	CLASSIFIER 1 FAIL	3	1	N/A	N/A	
344	CP3031	GRIT	CLASS2	MTR	DIGITAL ENABLED	CLASSIFIER 2 FAIL	5	1	N/A	N/A	
345	CP3031	GRIT	GRITDRV	MTR	DIGITAL ENABLED	GRIT DRIVE FAIL	5	1	N/A	N/A	
346	CP3031	PRISLDG	PSMTR_1	MTR	DIGITAL ENABLED	PS PUMP 1 FAIL	5	1	N/A	N/A	
347	CP3031	PRISLDG	PSMTR_2	MTR	DIGITAL ENABLED	PS PUMP 2 FAIL	5	1	N/A	N/A	
348	CP3031	PRISLDG	PSMTR_3	MTR	DIGITAL ENABLED	PS PUMP 3 FAIL	5	1	N/A	N/A	
349	CP3031	PEPUMPS	PE_PMP1	MTR	DIGITAL ENABLED		5	1	N/A	N/A	
350	CP3031	PEPUMPS	PE_PMP2	MTR	DIGITAL ENABLED		5	1	N/A	N/A	
351	CP3031	PEPUMPS	RAS_PMP	MTR	DIGITAL ENABLED		5	1	N/A	N/A	
352	CP3031	PRI_EFF	PUMP_1	MTR	DIGITAL ENABLED	PE PUMP 1 FAIL	5	1	N/A	N/A	
353	CP3031	PRI_EFF	PUMP_2	MTR	DIGITAL ENABLED	PE PUMP 2 FAIL	5	1	N/A	N/A	
354	CP3031	PRI_EFF	PUMP_3	MTR	DIGITAL ENABLED	PE PUMP 3 FAIL	5	1	N/A	N/A	
355	CP3031	SPR	PUMP_1	MTR	DIGITAL ENABLED	RAS W.W PUMP FAIL	5	1	N/A	N/A	
356	CP3031	SPR	PUMP_2	MTR	DIGITAL ENABLED	SPR PUMP 1 FAIL	1	2	N/A	N/A	
357	CP3031	MIXLQR	PUMP_1	MTR	DIGITAL ENABLED	MLR PUMP 1 FAIL	5	1	N/A	N/A	
358	CP3031	MIXLQR	PUMP_2	MTR	DIGITAL ENABLED	MLR PUMP 2 FAIL	5	1	N/A	N/A	
359	CP3031	MIXLQR	PUMP_3	MTR	DIGITAL ENABLED	MLR PUMP 3 FAIL	5	1	N/A	N/A	
360	CP3031	MIXLQR	PUMP_4	MTR	DIGITAL ENABLED	MLR PUMP 4 FAIL	5	1	N/A	N/A	
361	CP3031	SLDGXFR	PUMP1	MTR	DIGITAL ENABLED	SLDGXFR PMP1 FAIL	1	1	N/A	N/A	
362	CP3031	SLDGXFR	PUMP2	MTR	DIGITAL ENABLED	SLDGXFR PMP2 FAIL	1	1	N/A	N/A	
363	CP3030	POLYMER	MUVLV1	VLV	DIGITAL ENABLED	WTR VLV2 FAIL	5	1	N/A	N/A	
364	CP3030	POLYMER	MUVLV2	VLV	DIGITAL ENABLED	WTR VLV2 FAIL	5	1	N/A	N/A	
365	CP3030	POLYMER	W3VLV	VLV	DIGITAL ENABLED	W3 VALVE FAIL	5	1	N/A	N/A	
366	CP3030	ALUM	W3VLV	VLV	DIGITAL ENABLED		5	1	N/A	N/A	
367	CP3031	GRIT	AIRSOL	VLV	DIGITAL ENABLED		5	1	N/A	N/A	
368	CP3031	PEPUMPS	RASGATE	VLV	DIGITAL ENABLED		5	1	N/A	N/A	
369	CP3031	PRI_EFF	GATE_1	VLV	DIGITAL ENABLED	PE GATE 1 FAIL	5	1	N/A	N/A	
370	CP3031	PRI_EFF	GATE_2	VLV	DIGITAL ENABLED	PE GATE 2 FAIL	5	1	N/A	N/A	
371	CP3031	PRI_EFF	GATE_3	VLV	DIGITAL ENABLED	PE GATE 3 FAIL	5	1	N/A	N/A	
372	CP3030	SBS	P1_START	GDEV	DIGITAL ENABLED	SBS PUMP #1 FAIL	1	1	N/A	N/A	
373	CP3030	SBS	P2_START	GDEV	DIGITAL ENABLED	SBS PUMP #2 FAIL	1	1	N/A	N/A	
374	CP3030	SBS	P3_START	GDEV	DIGITAL ENABLED	SBS PUMP #3 FAIL	1	1	N/A	N/A	
375	CP3030	SBS	TANK1_VALVE	GDEV	DIGITAL ENABLED	FAIL	5	5	N/A	N/A	
376	CP3030	SBS	TANK2_VALVE	GDEV	DIGITAL ENABLED	FAIL	5	5	N/A	N/A	

COUNT	CP	COMPOUND	BLOCK	TYPE	ALM TYPE	ALM TEXT	ALARM PRIORITY	ALARM GROUP	LOW LEVEL LIMIT	HIGH LEVEL LIMIT	COMMENTS
377	CP3030	BLEACH	P1_START	GDEV	DIGITAL ENABLED	FAIL	5	5	N/A	N/A	
378	CP3030	BLEACH	P2_START	GDEV	DIGITAL ENABLED	FAIL	5	5	N/A	N/A	
379	CP3030	BLEACH	P3_START	GDEV	DIGITAL ENABLED	FAIL	5	5	N/A	N/A	
380	CP3030	BLEACH	P4_START	GDEV	DIGITAL ENABLED	FAIL	5	5	N/A	N/A	
381	CP3030	BLEACH	TANK1_VALVE	GDEV	DIGITAL ENABLED	FAIL	5	5	N/A	N/A	
382	CP3030	BLEACH	TANK2_VALVE	GDEV	DIGITAL ENABLED	FAIL	5	5	N/A	N/A	
383	CP3030	SBS	SBS_ALARMS1	BLNALM	DIGITAL ENABLED	SBS TANK1 VALVE1 FAILED TO OPENED	1	1	N/A	N/A	
384	CP3030	SHUTDN	CT_ALARM	BLNALM	DIGITAL ENABLED	CT/DT/FL SHUTDOWN DISABLE	1	1	N/A	N/A	
385	CP3030	CP1ALMS	EFF_FILTER1	BLNALM	DIGITAL ENABLED	FILTER #1 FILTER #1 IN BACKWASH	3	2	N/A	N/A	
386	CP3030	CP1ALMS	EFF_FILTER2	BLNALM	DIGITAL ENABLED	FILTER #1 TIME FILTER #1 BACKWASH FAIL	1	1	N/A	N/A	
387	CP3030	CP1ALMS	SEC_CLAR1	BLNALM	DIGITAL ENABLED	LALL_0515B SEC. SCUM PIT 2 LOW-LOW LEVEL	1	1	N/A	N/A	
388	CP3030	CP1ALMS	SEC_CLAR2	BLNALM	DIGITAL ENABLED	PAH_0571C SEC SCUM PUMP 3 DISCH PRESS	1	1	N/A	N/A	
389	CP3030	CP1ALMS	SEC_CLAR3	BLNALM	DIGITAL ENABLED	PAH_0572A WAS PUMP 1 DISCH PRESSURE	1	1	N/A	N/A	
390	CP3030	CP1ALMS	AERA_BLWRS1	BLNALM	DIGITAL ENABLED	UA_1071A AERATION BLOWER 1 TROUBLE ALARM	1	1	N/A	N/A	
391	CP3030	CP1ALMS	PRI_EFF1	BLNALM	DIGITAL ENABLED	LAH_0468 SODA ASH STORAGE SILO HIGH LEVEL	1	1	N/A	N/A	
392	CP3030	CP1ALMS	MISC_SYS1	BLNALM	DIGITAL ENABLED	PALL_2615 AIR LOW-LOW PRESSURE	2	1	N/A	N/A	
393	CP3030	CP1ALMS	SULFON1	BLNALM	DIGITAL ENABLED	FAL_0917 W3 TO SULFONATION FLOW LOW	5	1	N/A	N/A	
394	CP3030	CP1ALMS	CHEM_SYS1	BLNALM	DIGITAL ENABLED	LALL_1113A POLYMER DAY TANK 1 LO-LO LEVEL	1	1	N/A	N/A	
395	CP3030	CP1ALMS	CHEM_SYS2	BLNALM	DIGITAL ENABLED	UA_1173B ALUM PUMP 2 FAIL	1	1	N/A	N/A	
396	CP3030	CP1ALMS	CHEM_SYS3	BLNALM	DIGITAL ENABLED	UA_1132B POLYMER FEEDER 2 FAIL	1	1	N/A	N/A	
397	CP3030	CP1ALMS	CHLOR_CONT1	BLNALM	DIGITAL ENABLED	PAH_1205 NO. 3 WATER PRESSURE HIGH	1	1	N/A	N/A	
398	CP3030	CP1ALMS	CHLOR_CONT2	BLNALM	DIGITAL ENABLED	LAH_0779 DEWATERING WETWELL LEVEL HIGH	1	1	N/A	N/A	
399	CP3030	RECLAIM	ALARMS	BLNALM	DIGITAL ENABLED	RECLAIM:DI1.CIN_1 Fault	1	1	N/A	N/A	
400	CP3030	RECLAIM	ALARMS2	BLNALM	DIGITAL ENABLED	RECLAIM:DI2.CIN_8 Fault	2	1	N/A	N/A	
401	CP3030	A_STATUS	BL1	BLNALM	DIGITAL ENABLED	HS_1112A_AU POLYMER MIXER 1 AUTO	5	1	N/A	N/A	
402	CP3030	A_STATUS	BL2	BLNALM	DIGITAL ENABLED	SCU_1173B_RM ALUM PUMP 2 REMOTE	5	1	N/A	N/A	
403	CP3030	A_STATUS	BL3	BLNALM	DIGITAL ENABLED	HS_1171A_RM HEAT POLYMER PUMP 1 REMOTE	5	1	N/A	N/A	
404	CP3030	A_STATUS	BL4	BLNALM	DIGITAL ENABLED	HS_1172B_AU POLYMER SOLUTION PUMP 2 AUTO	5	1	N/A	N/A	

COUNT	CP	COMPOUND	BLOCK	TYPE	ALM TYPE	ALM TEXT	ALARM PRIORITY	ALARM GROUP	LOW LEVEL LIMIT	HIGH LEVEL LIMIT	COMMENTS
405	CP3030	A_STATUS	BL5	BLNALM	DIGITAL ENABLED	0 Fault	5	1	N/A	N/A	
406	CP3030	A_STATUS	BL6	BLNALM	DIGITAL ENABLED	QL_1271C #3 WATER PUMP 3 RUNNING	5	1	N/A	N/A	
407	CP3030	A_STATUS	BL7	BLNALM	DIGITAL ENABLED	QL_2671A AIR COMPRESSOR 1 RUNNING	5	1	N/A	N/A	
408	CP3030	A_STATUS	BL8	BLNALM	DIGITAL ENABLED	CP_0620A_BW FILTER 1 IN BACKWASH	5	1	N/A	N/A	
409	CP3030	A_STATUS	BL9	BLNALM	DIGITAL ENABLED	HS_0816B_SB MISC. USES CHLORINATOR STANDBY	5	1	N/A	N/A	
410	CP3030	B_STATUS	BL1	BLNALM	DIGITAL ENABLED	HS_0572A_AU WAS PUMP 1 AUTO	5	1	N/A	N/A	
411	CP3030	B_STATUS	BL2	BLNALM	DIGITAL ENABLED	QL_1071B AERATION BLOWER 2 RUNNING	5	1	N/A	N/A	
412	CP3030	B_STATUS	BL3	BLNALM	DIGITAL ENABLED	HS_0572A_RM WAS PUMP 1 REMOTE	5	1	N/A	N/A	
413	CP3030	B_STATUS	BL4	BLNALM	DIGITAL ENABLED	QL_0512B SCUM COLLECTOR 2 ON	5	1	N/A	N/A	
414	CP3031	INFLUENT	INFL_ALARM1	BLNALM	DIGITAL ENABLED	RP5 INFLUENT RP5 INFL. PUMPS FAIL	1	1	N/A	N/A	
415	CP3031	DS1	TSTALARM	BLNALM	DIGITAL ENABLED	:DS1_CALC.BO02 Fault	5	5	N/A	N/A	
416	CP3031	D_ALM	BL5	BLNALM	DIGITAL ENABLED	INFLUENT PH INFLUENT PH HI/LO	2	2	N/A	N/A	
417	CP3031	D_ALM	BL6	BLNALM	DIGITAL ENABLED	PF_OPLCP POWER FAILURE	5	1	N/A	N/A	
418	CP3031	CP2ALMS	AERATION1	BLNALM	DIGITAL ENABLED	LALL_0460A SOLIDS PROCESS BASIN A LO-LO LVL	1	1	N/A	N/A	
419	CP3031	CP2ALMS	AERATION2	BLNALM	DIGITAL ENABLED	PAH_0472C MLR PUMP 3 DISCH PRESSURE	1	1	N/A	N/A	
420	CP3031	CP2ALMS	PRI_EFF1	BLNALM	DIGITAL ENABLED	LAH_0305 P.E. CHANL. OVERFLOW TO POND	1	1	N/A	N/A	
421	CP3031	CP2ALMS	PRI_EFF2	BLNALM	DIGITAL ENABLED	C_DIO:DI7.CIN_9 Fault	1	1	N/A	N/A	
422	CP3031	CP2ALMS	SLDG_XFER1	BLNALM	DIGITAL ENABLED	UA_1371B SLUDGE TRANS PUMP 2 VALVE FAIL	1	1	N/A	N/A	
423	CP3031	CP2ALMS	PRI_CLAR1	BLNALM	DIGITAL ENABLED	NAH_0210A PRI CLARIFIER 1 HIGH TORQUE	1	1	N/A	N/A	
424	CP3031	CP2ALMS	PRI_CLAR2	BLNALM	DIGITAL ENABLED	UA_0265 PRIMARY SAMPLER TROUBLE	1	1	N/A	N/A	
425	CP3031	CP2ALMS	PRE_TREAT1	BLNALM	DIGITAL ENABLED	LAHH_0105 UPSTREAM BARSCREEN LEVEL ALARM	1	1	N/A	N/A	
426	CP3031	CP2ALMS	PRE_TREAT2	BLNALM	DIGITAL ENABLED	PAH_0171B DISCHARGE PRESSURE 2 HIGH	1	1	N/A	N/A	
427	CP3031	CP2ALMS	PRE_TREAT3	BLNALM	DIGITAL ENABLED	AL_132A CLASSIFIER #1 FAILURE	1	1	N/A	N/A	
428	CP3031	CP2ALMS	SCE_ALARM	BLNALM	DIGITAL ENABLED	SCE/RTU SCE REQUEST SHUTDOWN	1	1	N/A	N/A	
429	CP3031	RP2	ALARMS1	BLNALM	DIGITAL ENABLED	CCWRF/RP2 CCWRF/RP2 TELEMETRY FAIL	1	1	N/A	N/A	
430	CP3031	ODOR_D	SYS_A	BLNALM	DIGITAL ENABLED	COMMON ALARM FAIL	5	1	N/A	N/A	
431	CP3031	ODOR_D	SYS_B	BLNALM	DIGITAL ENABLED	COMMON ALARM FAIL	5	1	N/A	N/A	
432	CP3031	ODOR_D	SYS_C	BLNALM	DIGITAL ENABLED	COMMON ALARM FAIL	5	1	N/A	N/A	

COUNT	CP	COMPOUND	BLOCK	TYPE	ALM TYPE	ALM TEXT	ALARM PRIORITY	ALARM GROUP	LOW LEVEL LIMIT	HIGH LEVEL LIMIT	COMMENTS
433	CP3031	C_STATUS	BL1	BLNALM	DIGITAL ENABLED	HS_0420C3 BASIN 3 MIXERS	5	1	N/A	N/A	
434	CP3031	C_STATUS	BL2	BLNALM	DIGITAL ENABLED	HS_0420D5 BASIN 4 MIXERS	5	1	N/A	N/A	
435	CP3031	C_STATUS	BL3	BLNALM	DIGITAL ENABLED	HS_0381A_AU PRI. EFFLUENT GATE 1 AUTO	5	1	N/A	N/A	
436	CP3031	C_STATUS	BL4	BLNALM	DIGITAL ENABLED	HS_0430E_AU BASIN 5 AUTO	5	1	N/A	N/A	
437	CP3031	C_STATUS	BL5	BLNALM	DIGITAL ENABLED	HS_0471B_AU SPR PUMP 2 AUTO	5	1	N/A	N/A	
438	CP3031	C_STATUS	BL6	BLNALM	DIGITAL ENABLED	HS_0421A PE DISTRIBUTION CHANNEL MIXERS	5	1	N/A	N/A	
439	CP3031	C_STATUS	BL7	BLNALM	DIGITAL ENABLED	HS_0430D_AU BASIN 4 AUTO	5	1	N/A	N/A	
440	CP3031	C_STATUS	BL8	BLNALM	DIGITAL ENABLED	HS_0371C_AU PRI EFFLUENT PUMP 3 AUTO	5	1	N/A	N/A	
441	CP3031	C_STATUS	BL9	BLNALM	DIGITAL ENABLED	HS_0472C_LD MLR PUMP 3 LEAD	5	1	N/A	N/A	
442	CP3031	C_STATUS	BL10	BLNALM	DIGITAL ENABLED	HS_0472C_RM MLR PUMP 3 REMOTE	5	1	N/A	N/A	
443	CP3031	C_STATUS	BL11	BLNALM	DIGITAL ENABLED	HS_0420A4 BASIN 1 MIXERS	5	1	N/A	N/A	
444	CP3031	C_STATUS	BL12	BLNALM	DIGITAL ENABLED	HS_0420A12 BASIN 1 MIXERS	5	1	N/A	N/A	
445	CP3031	C_STATUS	BL13	BLNALM	DIGITAL ENABLED	HS_0420B3 BASIN 2 MIXERS	5	1	N/A	N/A	
446	CP3031	D_STATUS	BL1	BLNALM	DIGITAL ENABLED	CP_0110A_RM BARSCREEN 1 CONTROLLER REMOTE	5	1	N/A	N/A	
447	CP3031	D_STATUS	BL2	BLNALM	DIGITAL ENABLED	HS_0110_IN INITIATE SCREENINGS SYSTEM	5	1	N/A	N/A	
448	CP3031	D_STATUS	BL3	BLNALM	DIGITAL ENABLED	HS_0171B_AU GRIT PUMP 2 AUTO	5	1	N/A	N/A	
449	CP3031	D_STATUS	BL4	BLNALM	DIGITAL ENABLED	HS_1371B_RM SLUDGE TRANSFER PUMP 2 REMOTE	5	1	N/A	N/A	
450	CP3031	D_STATUS	BL5	BLNALM	DIGITAL ENABLED	HS_0272B_RM PRI SLUDGE PUMP 2 REMOTE	5	1	N/A	N/A	
451	CP3031	D_STATUS	BL6	BLNALM	DIGITAL ENABLED	HS_1305A2_SL SELECT SLUDGE PIT 2 ALARM	5	1	N/A	N/A	
452	CP3031	D_STATUS	BL7	BLNALM	DIGITAL ENABLED	CP_1310B_RM SLUDGE GRINDER 2 REMOTE	5	1	N/A	N/A	
453	CP3031	D_STATUS	BL8	BLNALM	DIGITAL ENABLED	HS_0132A_RM CLASSIFIER 1 REMOTE	5	1	N/A	N/A	
454	CP3031	D_STATUS	BL9	BLNALM	DIGITAL ENABLED	HS_0140A_AU GRIT CHAMBER AUTO	5	1	N/A	N/A	
455	CP3031	TIME_SYNC	SYNC_ALARM	BLNALM	DIGITAL ENABLED	TS_ALARM DE-SYNC	5	1	N/A	N/A	
456	CP3030	CP1ALMS	EFF_FILTER3	BLNALM	DIGITAL ENABLED	FITER #1 BACKWASH FILTER #1 BACKWASH IN MANUAL	2	2	N/A	N/A	
457	CP3030	SBS	SBS_ALARMS1	BLNALM	DIGITAL ENABLED	SBS TANK2 VALVE2 FAILED TO OPENED	1	1	N/A	N/A	
458	CP3030	SHUTDN	CT_ALARM	BLNALM	DIGITAL ENABLED	PE_PUMPS FROM CT/DT PE PUMPS @ 50% SPEED	1	2	N/A	N/A	
459	CP3030	CP1ALMS	EFF_FILTER1	BLNALM	DIGITAL ENABLED	UA_0620B FILTER 2 TROUBLE	1	1	N/A	N/A	
460	CP3030	CP1ALMS	EFF_FILTER2	BLNALM	DIGITAL ENABLED	FILTER #2 TIME FILTER #2 BACKWASH FAIL	1	1	N/A	N/A	

COUNT	CP	COMPOUND	BLOCK	TYPE	ALM TYPE	ALM TEXT	ALARM PRIORITY	ALARM GROUP	LOW LEVEL LIMIT	HIGH LEVEL LIMIT	COMMENTS
461	CP3030	CP1ALMS	SEC_CLAR2	BLNALM	DIGITAL ENABLED	NAH_0510A CLARIFIER 1 HIGH TORQUE	1	1	N/A	N/A	
462	CP3030	CP1ALMS	SEC_CLAR3	BLNALM	DIGITAL ENABLED	PAH_0572B WAS PUMP 2 DISCH PRESSURE	1	1	N/A	N/A	
463	CP3030	CP1ALMS	AERA_BLWRS1	BLNALM	DIGITAL ENABLED	UA_1071B AERATION BLOWER 2 TROUBLE ALARM	1	1	N/A	N/A	
464	CP3030	CP1ALMS	PRI_EFF1	BLNALM	DIGITAL ENABLED	LALL_0468 SODA ASH STORAGE SILO LO-LO LVL	1	1	N/A	N/A	
465	CP3030	CP1ALMS	MISC_SYS1	BLNALM	DIGITAL ENABLED	UA_2630 SCRUBBER FAIL	1	1	N/A	N/A	
466	CP3030	CP1ALMS	SULFON1	BLNALM	DIGITAL ENABLED	AAH_0930 SO2 LEAK	5	1	N/A	N/A	
467	CP3030	CP1ALMS	CHEM_SYS1	BLNALM	DIGITAL ENABLED	LAL_1113A POLYMER DAY TANK 1 LOW LEVEL	1	1	N/A	N/A	
468	CP3030	CP1ALMS	CHEM_SYS2	BLNALM	DIGITAL ENABLED	ALH_1179 SUMP PUMP SYSTEM HIGH LEVEL	1	1	N/A	N/A	
469	CP3030	CP1ALMS	CHEM_SYS3	BLNALM	DIGITAL ENABLED	12KV CNTRL VOLTAGE 12KV BATTERY FAIL	1	1	N/A	N/A	
470	CP3030	RECLAIM	ALARMS	BLNALM	DIGITAL ENABLED	RECLAIM:DI1.CIN_4 Fault	1	1	N/A	N/A	
471	CP3030	A_STATUS	BL1	BLNALM	DIGITAL ENABLED	HS_1112B_AU POLYMER MIXER 2 AUTO	5	1	N/A	N/A	
472	CP3030	A_STATUS	BL2	BLNALM	DIGITAL ENABLED	QL_1173B ALUM PUMP 2 RUNNING	5	1	N/A	N/A	
473	CP3030	A_STATUS	BL3	BLNALM	DIGITAL ENABLED	QL_1171A HEAT POLYMER PUMP 1 ON	5	1	N/A	N/A	
474	CP3030	A_STATUS	BL4	BLNALM	DIGITAL ENABLED	QL_1172B POLYMER SOLUTION PUMP 2 ON	5	1	N/A	N/A	
475	CP3030	A_STATUS	BL5	BLNALM	DIGITAL ENABLED	HS_1171A NEAT POLYMER PUMP 1 AUTO	5	1	N/A	N/A	
476	CP3030	A_STATUS	BL6	BLNALM	DIGITAL ENABLED	HS_1271C_AU #3 WATER PUMP 3 AUTO	5	1	N/A	N/A	
477	CP3030	A_STATUS	BL7	BLNALM	DIGITAL ENABLED	HS_2671B_AU AIR COMPRESSOR 2 AUTO	5	1	N/A	N/A	
478	CP3030	A_STATUS	BL8	BLNALM	DIGITAL ENABLED	QL_0620B FILTER 2 ON	5	1	N/A	N/A	
479	CP3030	A_STATUS	BL9	BLNALM	DIGITAL ENABLED	QL_1132A POLYMER FEEDER PUMP 1 RUNNING	5	1	N/A	N/A	
480	CP3030	B_STATUS	BL1	BLNALM	DIGITAL ENABLED	QL_0572A WAS PUMP 1 ON	5	1	N/A	N/A	
481	CP3030	B_STATUS	BL2	BLNALM	DIGITAL ENABLED	QL_1071C AERATION BLOWER 3 RUNNING	5	1	N/A	N/A	
482	CP3030	B_STATUS	BL3	BLNALM	DIGITAL ENABLED	QL_1071D AERATION BLOWER 4 RUNNING	5	1	N/A	N/A	
483	CP3030	B_STATUS	BL4	BLNALM	DIGITAL ENABLED	QL_0512C SCUM COLLECTOR 3 ON	5	1	N/A	N/A	
484	CP3031	INFLUENT	INFL_ALARM1	BLNALM	DIGITAL ENABLED	CCWRF INFLUENT INFLUENT LEVEL HI	1	1	N/A	N/A	
485	CP3031	DS1	TSTALARM	BLNALM	DIGITAL ENABLED	:DS1_CALC.BI01 Fault	5	5	N/A	N/A	
486	CP3031	D_ALM	BL6	BLNALM	DIGITAL ENABLED	LCP_3 LCP 3 IN ALARM	5	1	N/A	N/A	
487	CP3031	CP2ALMS	AERATION1	BLNALM	DIGITAL ENABLED	LAHH_0460A SOLIDS PROCESS BASIN A HI-HI LV	1	1	N/A	N/A	

COUNT	CP	COMPOUND	BLOCK	TYPE	ALM TYPE	ALM TEXT	ALARM PRIORITY	ALARM GROUP	LOW LEVEL LIMIT	HIGH LEVEL LIMIT	COMMENTS
488	CP3031	CP2ALMS	AERATION2	BLNALM	DIGITAL ENABLED	PAH_0472D MLR PUMP 4 DISCH PRESSURE	1	1	N/A	N/A	
489	CP3031	CP2ALMS	PRI_EFF1	BLNALM	DIGITAL ENABLED	C_DIO:DI7.CIN_2 Fault	1	1	N/A	N/A	
490	CP3031	CP2ALMS	PRI_EFF2	BLNALM	DIGITAL ENABLED	C_DIO:DI7.CIN_12 Fault	1	1	N/A	N/A	
491	CP3031	CP2ALMS	SLDG_XFER1	BLNALM	DIGITAL ENABLED	LAHH_1305 SELECTED SLUDGE PIT LEVEL HI-HI	1	1	N/A	N/A	
492	CP3031	CP2ALMS	PRI_CLAR1	BLNALM	DIGITAL ENABLED	NAHH_0210A PRI CLARIFIER 1 HI-HI TORQUE	1	1	N/A	N/A	
493	CP3031	CP2ALMS	PRI_CLAR2	BLNALM	DIGITAL ENABLED	PAH_0271A PRI SCUM PUMP 1 DISCH PRESS HIGH	2	1	N/A	N/A	
494	CP3031	CP2ALMS	PRE_TREAT1	BLNALM	DIGITAL ENABLED	XA_0110A BARSCREEN 1 SYSTEM FAIL	1	1	N/A	N/A	
495	CP3031	CP2ALMS	PRE_TREAT2	BLNALM	DIGITAL ENABLED	AAH_0169 INFLUENT CONDUCTIVITY HIGH	1	1	N/A	N/A	
496	CP3031	CP2ALMS	PRE_TREAT3	BLNALM	DIGITAL ENABLED	AL_132B CLASSIFIER #2 FAILURE	1	1	N/A	N/A	
497	CP3031	CP2ALMS	SCE_ALARM	BLNALM	DIGITAL ENABLED	SCE/RTU SCE TIMER TRIPPED	1	1	N/A	N/A	
498	CP3031	RP2	ALARMS1	BLNALM	DIGITAL ENABLED	RP-2 SYSTEM RP-2 SYS ALARM	1	3	N/A	N/A	
499	CP3031	ODOR_D	SYS_A	BLNALM	DIGITAL ENABLED	AIR_PRESSURE LOW	5	1	N/A	N/A	
500	CP3031	ODOR_D	SYS_B	BLNALM	DIGITAL ENABLED	AIR_PRESSURE LOW	5	1	N/A	N/A	
501	CP3031	ODOR_D	SYS_C	BLNALM	DIGITAL ENABLED	AIR_PRESSURE LOW	5	1	N/A	N/A	
502	CP3031	C_STATUS	BL1	BLNALM	DIGITAL ENABLED	HS_0420C4 BASIN 3 MIXERS	5	1	N/A	N/A	
503	CP3031	C_STATUS	BL2	BLNALM	DIGITAL ENABLED	HS_0420D6 BASIN 4 MIXERS	5	1	N/A	N/A	
504	CP3031	C_STATUS	BL3	BLNALM	DIGITAL ENABLED	QL_0381A PRI. EFFLUENT GATE 1 OPEN/CLS	5	1	N/A	N/A	
505	CP3031	C_STATUS	BL4	BLNALM	DIGITAL ENABLED	HS_0430E_RM BASIN 5 REMOTE	5	1	N/A	N/A	
506	CP3031	C_STATUS	BL5	BLNALM	DIGITAL ENABLED	QL_0471B SPR PUMP 2 ON	5	1	N/A	N/A	
507	CP3031	C_STATUS	BL6	BLNALM	DIGITAL ENABLED	HS_0421B PE DISTRIBUTION CHANNEL MIXERS	5	1	N/A	N/A	
508	CP3031	C_STATUS	BL7	BLNALM	DIGITAL ENABLED	HS_0430D_RM BASIN 4 REMOTE	5	1	N/A	N/A	
509	CP3031	C_STATUS	BL8	BLNALM	DIGITAL ENABLED	QL_0371C PRI EFFLUENT PUMP 3 ON	5	1	N/A	N/A	
510	CP3031	C_STATUS	BL9	BLNALM	DIGITAL ENABLED	HS_0472D_LD MLR PUMP 4 LEAD	5	1	N/A	N/A	
511	CP3031	C_STATUS	BL10	BLNALM	DIGITAL ENABLED	HS_0472C_AU MLR PUMP 3 AUTO	5	1	N/A	N/A	
512	CP3031	C_STATUS	BL11	BLNALM	DIGITAL ENABLED	HS_0420A5 BASIN 1 MIXERS	5	1	N/A	N/A	
513	CP3031	C_STATUS	BL12	BLNALM	DIGITAL ENABLED	HS_0420A13 BASIN 1 MIXERS	5	1	N/A	N/A	
514	CP3031	C_STATUS	BL13	BLNALM	DIGITAL ENABLED	HS_0420B4 BASIN 2 MIXERS	5	1	N/A	N/A	
515	CP3031	D_STATUS	BL1	BLNALM	DIGITAL ENABLED	QL_0110A BARSCREEN 1 ON	5	1	N/A	N/A	
516	CP3031	D_STATUS	BL2	BLNALM	DIGITAL ENABLED	HS_0110_ST STOP SCREENINGS SYSTEM	5	1	N/A	N/A	
517	CP3031	D_STATUS	BL3	BLNALM	DIGITAL ENABLED	HS_0171B_RM GRIT PUMP 2 REMOTE	5	1	N/A	N/A	
518	CP3031	D_STATUS	BL4	BLNALM	DIGITAL ENABLED	QL_0271A PRI SCUM PUMP 1 ON	5	1	N/A	N/A	
519	CP3031	D_STATUS	BL5	BLNALM	DIGITAL ENABLED	QL_0272B PRI SLUDGE PUMP 2 ON	5	1	N/A	N/A	

COUNT	CP	COMPOUND	BLOCK	TYPE	ALM TYPE	ALM TEXT	ALARM PRIORITY	ALARM GROUP	LOW LEVEL LIMIT	HIGH LEVEL LIMIT	COMMENTS
520	CP3031	D_STATUS	BL6	BLNALM	DIGITAL ENABLED	HS_1305B1_SL SELECT SLUDGE PIT 1	5	1	N/A	N/A	
521	CP3031	D_STATUS	BL7	BLNALM	DIGITAL ENABLED	QL_1371A SLUDGE TRANSFER PUMP 1 RUNNING	5	1	N/A	N/A	
522	CP3031	D_STATUS	BL8	BLNALM	DIGITAL ENABLED	HS_0132A_AU CLASSIFIER 1 AUTO	5	1	N/A	N/A	
523	CP3031	TIME_SYNC	SYNC_ALARM	BLNALM	DIGITAL ENABLED	TS_HEALTH STOPPED	1	1	N/A	N/A	
524	CP3030	CP1ALMS	EFF_FILTER3	BLNALM	DIGITAL ENABLED	FILTER #2 BACKWASH FILTER #2 BACKWASH IN MANUAL	2	2	N/A	N/A	
525	CP3030	SBS	SBS_ALARMS1	BLNALM	DIGITAL ENABLED	SBS PUMP1 SBS P1 FAILED TO START	1	1	N/A	N/A	
526	CP3030	SHUTDN	CT_ALARM	BLNALM	DIGITAL ENABLED	CT/DT OVERRIDE SHUTDOWN DISABLED	2	2	N/A	N/A	
527	CP3030	CP1ALMS	EFF_FILTER1	BLNALM	DIGITAL ENABLED	UA_0620C FILTER 3 TROUBLE	1	1	N/A	N/A	
528	CP3030	CP1ALMS	EFF_FILTER2	BLNALM	DIGITAL ENABLED	FILTER #3 TIME FILTER #3 BACKWASH FAIL	1	1	N/A	N/A	
529	CP3030	CP1ALMS	SEC_CLAR1	BLNALM	DIGITAL ENABLED	UA_0565 SECONDARY SAMPLER TROUBLE	1	1	N/A	N/A	
530	CP3030	CP1ALMS	SEC_CLAR2	BLNALM	DIGITAL ENABLED	NAHH_0510A CLARIFIER 1 TORQUE SHUTDOWN	1	1	N/A	N/A	
531	CP3030	CP1ALMS	SEC_CLAR3	BLNALM	DIGITAL ENABLED	LAH_0579 SUMP PUMP SYSTEM LEVEL HIGH	1	1	N/A	N/A	
532	CP3030	CP1ALMS	AERA_BLWRS1	BLNALM	DIGITAL ENABLED	UA_1071C AERATION BLOWER 3 TROUBLE ALARM	1	1	N/A	N/A	
533	CP3030	CP1ALMS	PRI_EFF1	BLNALM	DIGITAL ENABLED	GENERATOR PEAK SHAVER GEN. FAIL/STOP	:TIME_DELAY.MA	1	N/A	N/A	
534	CP3030	CP1ALMS	MISC_SYS1	BLNALM	DIGITAL ENABLED	FAL_2636 SCRUBBER INLET AIR FLOW LOW	1	1	N/A	N/A	
535	CP3030	CP1ALMS	CHEM_SYS1	BLNALM	DIGITAL ENABLED	LAHH_1113A POLYMER DAY TANK 1 HI-HI LEVEL	1	1	N/A	N/A	
536	CP3030	CP1ALMS	CHLOR_CONT1	BLNALM	DIGITAL ENABLED	PAL_1221 HYDROPNEUMATIC TANK LOW PRESSURE	1	1	N/A	N/A	
537	CP3030	RECLAIM	ALARMS	BLNALM	DIGITAL ENABLED	RECLAIM:DI1.CIN_7 Fault	1	1	N/A	N/A	
538	CP3030	A_STATUS	BL1	BLNALM	DIGITAL ENABLED	QL_1112A POLYMER MIXER 1 ON	5	1	N/A	N/A	
539	CP3030	A_STATUS	BL2	BLNALM	DIGITAL ENABLED	HS_1173B_AU ALUM PUMP 2 AUTO	5	1	N/A	N/A	
540	CP3030	A_STATUS	BL3	BLNALM	DIGITAL ENABLED	HS_1171B_RM HEAT POLYMER PUMP 2 REMOTE	5	1	N/A	N/A	
541	CP3030	A_STATUS	BL4	BLNALM	DIGITAL ENABLED	SCU_1173A_RM ALUM PUMP 1 REMOTE	5	1	N/A	N/A	
542	CP3030	A_STATUS	BL5	BLNALM	DIGITAL ENABLED	HS_1171B NEAT POLYMER PUMP 2 AUTO	5	1	N/A	N/A	
543	CP3030	A_STATUS	BL6	BLNALM	DIGITAL ENABLED	HS_1271D_RM #3 WATER PUMP 4 REMOTE	5	1	N/A	N/A	
544	CP3030	A_STATUS	BL7	BLNALM	DIGITAL ENABLED	HS_1124_AU ALUM W3 MAKE-UP VALVE AUTO	5	1	N/A	N/A	

COUNT	CP	COMPOUND	BLOCK	TYPE	ALM TYPE	ALM TEXT	ALARM PRIORITY	ALARM GROUP	LOW LEVEL LIMIT	HIGH LEVEL LIMIT	COMMENTS
545	CP3030	A_STATUS	BL8	BLNALM	DIGITAL ENABLED	CP_0620B_BW FILTER 2 IN BACKWASH	5	1	N/A	N/A	
546	CP3030	A_STATUS	BL9	BLNALM	DIGITAL ENABLED	M_1132A_AU POLYMER FEEDER 1 AUTO	5	1	N/A	N/A	
547	CP3030	B_STATUS	BL1	BLNALM	DIGITAL ENABLED	HS_0572B_RM WAS PUMP 2 REMOTE	5	1	N/A	N/A	
548	CP3030	B_STATUS	BL2	BLNALM	DIGITAL ENABLED	QL_0571A SEC SCUM PUMP 1 ON	5	1	N/A	N/A	
549	CP3030	B_STATUS	BL3	BLNALM	DIGITAL ENABLED	QL_2660 ENGINE GENERATOR ON	5	1	N/A	N/A	
550	CP3031	INFLUENT	INFL_ALARM1	BLNALM	DIGITAL ENABLED	RP5 FLOW BYPASS FLOW HI	1	1	N/A	N/A	
551	CP3031	D_ALM	BL6	BLNALM	DIGITAL ENABLED	RP2/CCWRF RP2/CCWRF TELEMETRY FAILURE	5	1	N/A	N/A	
552	CP3031	CP2ALMS	AERATION1	BLNALM	DIGITAL ENABLED	LALL_0460B SOLIDS PROCESS BASIN B LO-LO LVL	1	1	N/A	N/A	
553	CP3031	CP2ALMS	PRI_EFF1	BLNALM	DIGITAL ENABLED	LAHH_0315 INFLUENT WET WELL LEVEL HI-HI	1	1	N/A	N/A	
554	CP3031	CP2ALMS	PRI_EFF2	BLNALM	DIGITAL ENABLED	C_DIO:DI7.CIN_14 Fault	1	1	N/A	N/A	
555	CP3031	CP2ALMS	SLDG_XFER1	BLNALM	DIGITAL ENABLED	UA_1310A SLUDGE GRINDER 1 FAIL	5	1	N/A	N/A	
556	CP3031	CP2ALMS	PRI_CLAR1	BLNALM	DIGITAL ENABLED	NAH_0210B PRI CLARIFIER 2 HIGH TORQUE	1	1	N/A	N/A	
557	CP3031	CP2ALMS	PRI_CLAR2	BLNALM	DIGITAL ENABLED	PAH_0271B PRI SCUM PUMP 2 DISCH PRESS HIGH	2	1	N/A	N/A	
558	CP3031	CP2ALMS	PRE_TREAT1	BLNALM	DIGITAL ENABLED	XA_0110B BARSCREEN 2 SYSTEM FAIL	1	1	N/A	N/A	
559	CP3031	CP2ALMS	PRE_TREAT2	BLNALM	DIGITAL ENABLED	XA_0120 SCREENINGS CONVEYOR FAIL	1	1	N/A	N/A	
560	CP3031	CP2ALMS	PRE_TREAT3	BLNALM	DIGITAL ENABLED	D_DIO:DI3.CIN_2 Fault	1	5	N/A	N/A	
561	CP3031	RP2	ALARMS1	BLNALM	DIGITAL ENABLED	RP-2 PROCESS PRIORITY 1 ALARM	1	3	N/A	N/A	
562	CP3031	ODOR_D	SYS_A	BLNALM	DIGITAL ENABLED	H2O_PRESSURE LOW	5	1	N/A	N/A	
563	CP3031	ODOR_D	SYS_B	BLNALM	DIGITAL ENABLED	H2O_PRESSURE LOW	5	1	N/A	N/A	
564	CP3031	ODOR_D	SYS_C	BLNALM	DIGITAL ENABLED	H2O_PRESSURE LOW	5	1	N/A	N/A	
565	CP3031	C_STATUS	BL1	BLNALM	DIGITAL ENABLED	HS_0420C5 BASIN 3 MIXERS	5	1	N/A	N/A	
566	CP3031	C_STATUS	BL2	BLNALM	DIGITAL ENABLED	HS_0420E1 BASIN 5 MIXERS	5	1	N/A	N/A	
567	CP3031	C_STATUS	BL3	BLNALM	DIGITAL ENABLED	HS_0381A_RM PRI. EFFLUENT GATE 1 REMOTE	5	1	N/A	N/A	
568	CP3031	C_STATUS	BL4	BLNALM	DIGITAL ENABLED	HS_0430F_AU BASIN 6 AUTO	5	1	N/A	N/A	
569	CP3031	C_STATUS	BL5	BLNALM	DIGITAL ENABLED	HS_0420F1 BASIN 6 MIXERS	5	1	N/A	N/A	
570	CP3031	C_STATUS	BL6	BLNALM	DIGITAL ENABLED	HS_0421C PE DISTRIBUTION CHANNEL MIXERS	5	1	N/A	N/A	
571	CP3031	C_STATUS	BL7	BLNALM	DIGITAL ENABLED	HS_0371A_AU PRI EFFLUENT PUMP 1 AUTO	5	1	N/A	N/A	
572	CP3031	C_STATUS	BL8	BLNALM	DIGITAL ENABLED	HS_0371C_RM PRI EFFLUENT PUMP 3 REMOTE	5	1	N/A	N/A	
573	CP3031	C_STATUS	BL9	BLNALM	DIGITAL ENABLED	HS_0472A_RM MLR PUMP 1 REMOTE	5	1	N/A	N/A	

COUNT	CP	COMPOUND	BLOCK	TYPE	ALM TYPE	ALM TEXT	ALARM PRIORITY	ALARM GROUP	LOW LEVEL LIMIT	HIGH LEVEL LIMIT	COMMENTS
574	CP3031	C_STATUS	BL10	BLNALM	DIGITAL ENABLED	QL_0472C MLR PUMP 3 ON	5	1	N/A	N/A	
575	CP3031	C_STATUS	BL11	BLNALM	DIGITAL ENABLED	HS_0420A6 BASIN 1 MIXERS	5	1	N/A	N/A	
576	CP3031	C_STATUS	BL12	BLNALM	DIGITAL ENABLED	HS_0420A14 BASIN 1 MIXERS	5	1	N/A	N/A	
577	CP3031	C_STATUS	BL13	BLNALM	DIGITAL ENABLED	HS_0420B5 BASIN 2 MIXERS	5	1	N/A	N/A	
578	CP3031	D_STATUS	BL1	BLNALM	DIGITAL ENABLED	HS_0110A_DF BARSCREEN 1 DIFFERENTIAL	5	1	N/A	N/A	
579	CP3031	D_STATUS	BL2	BLNALM	DIGITAL ENABLED	CP_0120_RM SCREENINGS CONVEYOR REMOTE	5	1	N/A	N/A	
580	CP3031	D_STATUS	BL3	BLNALM	DIGITAL ENABLED	HS_0171_IN INITIATE GRIT SYSTEM	5	1	N/A	N/A	
581	CP3031	D_STATUS	BL4	BLNALM	DIGITAL ENABLED	HS_0271A_AU PRI SCUM PUMP 1 AUTO	5	1	N/A	N/A	
582	CP3031	D_STATUS	BL5	BLNALM	DIGITAL ENABLED	HS_0272B_AU PRI SLUDGE PUMP 2 AUTO	5	1	N/A	N/A	
583	CP3031	D_STATUS	BL6	BLNALM	DIGITAL ENABLED	HS_1305B2_SL SELECT SLUDGE PIT 2	5	1	N/A	N/A	
584	CP3031	D_STATUS	BL7	BLNALM	DIGITAL ENABLED	HS_1371A_AU SLUDGE TRANSFER PUMP 1 AUTO	5	1	N/A	N/A	
585	CP3031	D_STATUS	BL8	BLNALM	DIGITAL ENABLED	QL_0132A CLASSIFIER 1 ON	5	1	N/A	N/A	
586	CP3030	CP1ALMS	EFF_FILTER3	BLNALM	DIGITAL ENABLED	FILTER #3 BACKWASH FILTER #3 BACKWASH IN MANUAL	2	2	N/A	N/A	
587	CP3030	SBS	SBS_ALARMS1	BLNALM	DIGITAL ENABLED	SBS PUMP2 SBS P2 FAILED TO START	1	1	N/A	N/A	
588	CP3030	SHUTDN	CT_ALARM	BLNALM	DIGITAL ENABLED	OUTFALL ANALYZER LINE CLEANING ACTIVE	1	1	N/A	N/A	
589	CP3030	CP1ALMS	EFF_FILTER1	BLNALM	DIGITAL ENABLED	LAH_0605 FILTER INFL. LEVEL HIGH	1	1	N/A	N/A	
590	CP3030	CP1ALMS	SEC_CLAR1	BLNALM	DIGITAL ENABLED	XA_0571A SEC. SCUM WELL #1 LEVEL HIGH	2	1	N/A	N/A	
591	CP3030	CP1ALMS	SEC_CLAR2	BLNALM	DIGITAL ENABLED	NAH_0510B CLARIFIER 2 HIGH TORQUE	1	1	N/A	N/A	
592	CP3030	CP1ALMS	AERA_BLWRS1	BLNALM	DIGITAL ENABLED	UA_1071D AERATION BLOWER 4 TROUBLE ALARM	1	1	N/A	N/A	
593	CP3030	CP1ALMS	PRI_EFF1	BLNALM	DIGITAL ENABLED	SHUTDN:PLANT.BO01 Fault	1	1	N/A	N/A	
594	CP3030	CP1ALMS	MISC_SYS1	BLNALM	DIGITAL ENABLED	UA_2661 DIESEL FUEL TANK LEAK	5	2	N/A	N/A	
595	CP3030	CP1ALMS	CHEM_SYS1	BLNALM	DIGITAL ENABLED	LALL_1113B POLYMER DAY TANK 2 LO-LO LEVEL	1	1	N/A	N/A	
596	CP3030	CP1ALMS	CHEM_SYS2	BLNALM	DIGITAL ENABLED	UA_1171B NEAT POLYMER PUMP 2 FAIL	1	1	N/A	N/A	
597	CP3030	CP1ALMS	CHLOR_CONT1	BLNALM	DIGITAL ENABLED	DT_ALM CONTACT BASIN DT LOW	1	1	N/A	N/A	
598	CP3030	RECLAIM	ALARMS	BLNALM	DIGITAL ENABLED	RECLAIM:DI1.CIN_10 Fault	1	1	N/A	N/A	
599	CP3030	A_STATUS	BL1	BLNALM	DIGITAL ENABLED	QL_1112B POLYMER MIXER 1 ON	5	1	N/A	N/A	
600	CP3030	A_STATUS	BL3	BLNALM	DIGITAL ENABLED	QL_1171B HEAT POLYMER PUMP 2 ON	5	1	N/A	N/A	
601	CP3030	A_STATUS	BL4	BLNALM	DIGITAL ENABLED	QL_1173A ALUM PUMP 1 RUNNING	5	1	N/A	N/A	

COUNT	CP	COMPOUND	BLOCK	TYPE	ALM TYPE	ALM TEXT	ALARM PRIORITY	ALARM GROUP	LOW LEVEL LIMIT	HIGH LEVEL LIMIT	COMMENTS
602	CP3030	A_STATUS	BL5	BLNALM	DIGITAL ENABLED	FFIC_1173A ALUM PUMP 1 AUTO	5	1	N/A	N/A	
603	CP3030	A_STATUS	BL6	BLNALM	DIGITAL ENABLED	QL_1271D #3 WATER PUMP 4 RUNNING	5	1	N/A	N/A	
604	CP3030	A_STATUS	BL7	BLNALM	DIGITAL ENABLED	M_1132A_RM POLYMER FEEDER 1 REMOTE	5	1	N/A	N/A	
605	CP3030	A_STATUS	BL8	BLNALM	DIGITAL ENABLED	QL_0620C FILTER 3 ON	5	1	N/A	N/A	
606	CP3030	A_STATUS	BL9	BLNALM	DIGITAL ENABLED	M_1132B_AU POLYMER FEEDER 2 AUTO	5	1	N/A	N/A	
607	CP3030	B_STATUS	BL1	BLNALM	DIGITAL ENABLED	HS_0572B_AU WAS PUMP 2 AUTO	5	1	N/A	N/A	
608	CP3030	B_STATUS	BL2	BLNALM	DIGITAL ENABLED	HS_0571A_AU SEC SCUM PUMP 1 AUTO	5	1	N/A	N/A	
609	CP3030	B_STATUS	BL3	BLNALM	DIGITAL ENABLED	QL_2679 POND PUMP SYSTEM ON	5	1	N/A	N/A	
610	CP3031	CP2ALMS	AERATION1	BLNALM	DIGITAL ENABLED	LAHH_0460B SOLIDS PROCESS BASIN B HI-HI LVL	1	1	N/A	N/A	
611	CP3031	CP2ALMS	PRI_EFF1	BLNALM	DIGITAL ENABLED	LAHH_0320 RAS INFL W.W. CH LEVEL HI-HI	1	1	N/A	N/A	
612	CP3031	CP2ALMS	PRI_CLAR1	BLNALM	DIGITAL ENABLED	NAHH_0210B PRI CLARIFIER 2 HI-HI TORQUE	1	1	N/A	N/A	
613	CP3031	CP2ALMS	PRI_CLAR2	BLNALM	DIGITAL ENABLED	PAH_0272A PRI SLUDGE PUMP 1 DISCH PRESS HI	1	1	N/A	N/A	
614	CP3031	CP2ALMS	PRE_TREAT1	BLNALM	DIGITAL ENABLED	FAL_0171A SEAL WATER 1 LOW FLOW	1	1	N/A	N/A	
615	CP3031	CP2ALMS	PRE_TREAT2	BLNALM	DIGITAL ENABLED	UA_0165 INFLUENT SAMPLER TROUBLE ALARM	1	1	N/A	N/A	
616	CP3031	C_STATUS	BL1	BLNALM	DIGITAL ENABLED	HS_0420C6 BASIN 3 MIXERS	5	1	N/A	N/A	
617	CP3031	C_STATUS	BL2	BLNALM	DIGITAL ENABLED	HS_0420E2 BASIN 5 MIXERS	5	1	N/A	N/A	
618	CP3031	C_STATUS	BL3	BLNALM	DIGITAL ENABLED	HS_0381B_AU PRI. EFFLUENT GATE 2 AUTO	5	1	N/A	N/A	
619	CP3031	C_STATUS	BL4	BLNALM	DIGITAL ENABLED	HS_0430F_RM BASIN 6 REMOTE	5	1	N/A	N/A	
620	CP3031	C_STATUS	BL5	BLNALM	DIGITAL ENABLED	HS_0420F2 BASIN 6 MIXERS	5	1	N/A	N/A	
621	CP3031	C_STATUS	BL6	BLNALM	DIGITAL ENABLED	HS_0421D PE DISTRIBUTION CHANNEL MIXERS	5	1	N/A	N/A	
622	CP3031	C_STATUS	BL7	BLNALM	DIGITAL ENABLED	QL_0371A PRI EFFLUENT PUMP 1 ON	5	1	N/A	N/A	
623	CP3031	C_STATUS	BL8	BLNALM	DIGITAL ENABLED	HS_0371A_LD PRI EFFLUENT PUMP 1 LEAD SELECT	5	1	N/A	N/A	
624	CP3031	C_STATUS	BL9	BLNALM	DIGITAL ENABLED	HS_0472A_AU MLR PUMP 1 AUTO	5	1	N/A	N/A	
625	CP3031	C_STATUS	BL10	BLNALM	DIGITAL ENABLED	HS_0381C_RM PRI EFFLUENT GATE 3 REMOTE	5	1	N/A	N/A	
626	CP3031	C_STATUS	BL11	BLNALM	DIGITAL ENABLED	HS_0420A7 BASIN 1 MIXERS	5	1	N/A	N/A	
627	CP3031	C_STATUS	BL12	BLNALM	DIGITAL ENABLED	HS_0472D_RM MLR PUMP 4 REMOTE	5	1	N/A	N/A	
628	CP3031	C_STATUS	BL13	BLNALM	DIGITAL ENABLED	HS_0420B6 BASIN 2 MIXERS	5	1	N/A	N/A	
629	CP3031	D_STATUS	BL1	BLNALM	DIGITAL ENABLED	HS_0110A_TM BARSCREEN 1 TIME	5	1	N/A	N/A	

COUNT	CP	COMPOUND	BLOCK	TYPE	ALM TYPE	ALM TEXT	ALARM PRIORITY	ALARM GROUP	LOW LEVEL LIMIT	HIGH LEVEL LIMIT	COMMENTS
630	CP3031	D_STATUS	BL2	BLNALM	DIGITAL ENABLED	QL_0120 SCREENINGS CONVEYOR ON	5	1	N/A	N/A	
631	CP3031	D_STATUS	BL3	BLNALM	DIGITAL ENABLED	HS_0171_ST STOP GRIT SYSTEM	5	1	N/A	N/A	
632	CP3031	D_STATUS	BL4	BLNALM	DIGITAL ENABLED	QL_0271B PRI SCUM PUMP 2 ON	5	1	N/A	N/A	
633	CP3031	D_STATUS	BL5	BLNALM	DIGITAL ENABLED	HS_0272C_RM PRI SLUDGE PUMP 3 REMOTE	5	1	N/A	N/A	
634	CP3031	D_STATUS	BL6	BLNALM	DIGITAL ENABLED	QL_1310A SLUDGE GRINDER 1 RUNNING	5	1	N/A	N/A	
635	CP3031	D_STATUS	BL7	BLNALM	DIGITAL ENABLED	HS_1371A_RM SLUDGE TRANSFER PUMP 1 REMOTE	5	1	N/A	N/A	
636	CP3031	D_STATUS	BL8	BLNALM	DIGITAL ENABLED	HS_0132B_RM CLASSIFIER 2 REMOTE	5	1	N/A	N/A	
637	CP3030	CP1ALMS	EFF_FILTER3	BLNALM	DIGITAL ENABLED	FILTER LOADING FILTER #1 OFFLINE	2	2	N/A	N/A	
638	CP3030	SBS	SBS_ALARMS1	BLNALM	DIGITAL ENABLED	SBS PUMP3 SBS P3 FAILED TO START	1	1	N/A	N/A	
639	CP3030	CP1ALMS	EFF_FILTER1	BLNALM	DIGITAL ENABLED	UA_0620A FILTER 1 TROUBLE	1	1	N/A	N/A	
640	CP3030	CP1ALMS	SEC_CLAR1	BLNALM	DIGITAL ENABLED	PAH_0571A SEC SCUM PUMP 1 DISCH PRESS	1	1	N/A	N/A	
641	CP3030	CP1ALMS	SEC_CLAR2	BLNALM	DIGITAL ENABLED	NAHH_0510B CLARIFIER 2 TORQUE SHUTDOWN	1	1	N/A	N/A	
642	CP3030	CP1ALMS	AERA_BLWRS1	BLNALM	DIGITAL ENABLED	AERATION BASIN AB AVG D.O. LOW	1	1	N/A	N/A	
643	CP3030	CP1ALMS	PRI_EFF1	BLNALM	DIGITAL ENABLED	:TIME_DELAY.BO07 Fault	1	1	N/A	N/A	
644	CP3030	CP1ALMS	MISC_SYS1	BLNALM	DIGITAL ENABLED	UA_2660 ENGINE GENERATOR FAIL	1	1	N/A	N/A	
645	CP3030	CP1ALMS	CHEM_SYS1	BLNALM	DIGITAL ENABLED	LAL_1113B POLYMER DAY TANK 2 LOW LEVEL	1	1	N/A	N/A	
646	CP3030	CP1ALMS	CHEM_SYS2	BLNALM	DIGITAL ENABLED	UA_1172A POLYMER SOLUTION PUMP 1 FAIL	5	1	N/A	N/A	
647	CP3030	CP1ALMS	CHLOR_CONT1	BLNALM	DIGITAL ENABLED	CT_ALM CONTACT BASIN LOW CT	2	1	N/A	N/A	
648	CP3030	RECLAIM	ALARMS	BLNALM	DIGITAL ENABLED	RECLAIM:DI3.CIN_1 Fault	1	1	N/A	N/A	
649	CP3030	A_STATUS	BL1	BLNALM	DIGITAL ENABLED	HS_1114A_AU MAKE-UP WATER VALVE 1 AUTO	5	1	N/A	N/A	
650	CP3030	A_STATUS	BL2	BLNALM	DIGITAL ENABLED	HS_1271A_RM #3 WATER PUMP 1 REMOTE	5	1	N/A	N/A	
651	CP3030	A_STATUS	BL3	BLNALM	DIGITAL ENABLED	SCU_1172A_RM POLYMER SOLUTION PUMP 1 REMOTE	5	1	N/A	N/A	
652	CP3030	A_STATUS	BL4	BLNALM	DIGITAL ENABLED	QL_2671B AIR COMPRESSOR 2 RUNNING	5	1	N/A	N/A	
653	CP3030	A_STATUS	BL5	BLNALM	DIGITAL ENABLED	FFIC_1173B ALUM PUMP 2 AUTO	5	1	N/A	N/A	
654	CP3030	A_STATUS	BL6	BLNALM	DIGITAL ENABLED	HS_1271D_AU #3 WATER PUMP 4 AUTO	5	1	N/A	N/A	
655	CP3030	A_STATUS	BL7	BLNALM	DIGITAL ENABLED	M_1132B_RM POLYMER FEEDER 2 REMOTE	5	1	N/A	N/A	

COUNT	CP	COMPOUND	BLOCK	TYPE	ALM TYPE	ALM TEXT	ALARM PRIORITY	ALARM GROUP	LOW LEVEL LIMIT	HIGH LEVEL LIMIT	COMMENTS
656	CP3030	A_STATUS	BL8	BLNALM	DIGITAL ENABLED	CP_0620C_BW FILTER 3 IN BACKWASH	5	1	N/A	N/A	
657	CP3030	B_STATUS	BL1	BLNALM	DIGITAL ENABLED	QL_0572B WAS PUMP 2 ON	5	1	N/A	N/A	
658	CP3030	B_STATUS	BL2	BLNALM	DIGITAL ENABLED	QL_0571B SEC SCUM PUMP 2 ON	5	1	N/A	N/A	
659	CP3030	B_STATUS	BL3	BLNALM	DIGITAL ENABLED	QL_0510A SECONDARY CLARIFIER 1 ON	5	1	N/A	N/A	
660	CP3031	D_ALM	BL5	BLNALM	DIGITAL ENABLED	LCP1 ANNUN. HEADWORKS/PRIMARY SECT. FAIL	1	1	N/A	N/A	
661	CP3031	CP2ALMS	AERATION1	BLNALM	DIGITAL ENABLED	PAH_0471A SPR PUMP 1 DISCH PRESSURE	1	1	N/A	N/A	
662	CP3031	CP2ALMS	SLDG_XFER1	BLNALM	DIGITAL ENABLED	PAH_1371A SLUDGE TRANS PUMP 1 HI PRESSURE	1	1	N/A	N/A	
663	CP3031	CP2ALMS	PRI_CLAR1	BLNALM	DIGITAL ENABLED	LALL_0215A PRI SCUM PIT LOW-LOW LEVEL	1	1	N/A	N/A	
664	CP3031	CP2ALMS	PRI_CLAR2	BLNALM	DIGITAL ENABLED	PAH_0272B PRI SLUDGE PMP 2 DISCH PRESS HI	1	1	N/A	N/A	
665	CP3031	CP2ALMS	PRE_TREAT1	BLNALM	DIGITAL ENABLED	PAL_0171A SUCTION PRESSURE 1 LOW	1	1	N/A	N/A	
666	CP3031	CP2ALMS	PRE_TREAT2	BLNALM	DIGITAL ENABLED	LAH_0179 HEADWORKS SUMP SYS. LVL. HI HI	1	1	N/A	N/A	
667	CP3031	ODOR_D	SYS_B	BLNALM	DIGITAL ENABLED	SUMP 1 LEVEL HIGH	5	1	N/A	N/A	
668	CP3031	ODOR_D	SYS_C	BLNALM	DIGITAL ENABLED	SUMP 2 LEVEL HIGH	5	1	N/A	N/A	
669	CP3031	C_STATUS	BL1	BLNALM	DIGITAL ENABLED	HS_0420D1 BASIN 4 MIXERS	5	1	N/A	N/A	
670	CP3031	C_STATUS	BL2	BLNALM	DIGITAL ENABLED	HS_0420E3 BASIN 5 MIXERS	5	1	N/A	N/A	
671	CP3031	C_STATUS	BL3	BLNALM	DIGITAL ENABLED	QL_0381B PRI. EFFLUENT GATE 2 OPEN/CLS	5	1	N/A	N/A	
672	CP3031	C_STATUS	BL4	BLNALM	DIGITAL ENABLED	SCU_0471A_RM SPR PUMP 1 REMOTE	5	1	N/A	N/A	
673	CP3031	C_STATUS	BL5	BLNALM	DIGITAL ENABLED	HS_0420F3 BASIN 6 MIXERS	5	1	N/A	N/A	
674	CP3031	C_STATUS	BL6	BLNALM	DIGITAL ENABLED	HS_0430B_AU BASIN 2 AUTO	5	1	N/A	N/A	
675	CP3031	C_STATUS	BL7	BLNALM	DIGITAL ENABLED	HS_0371A_RM PRI EFFLUENT PUMP 1 REMOTE	5	1	N/A	N/A	
676	CP3031	C_STATUS	BL8	BLNALM	DIGITAL ENABLED	HS_0371B_LD PRI EFFLUENT PUMP 2 LEAD SELECT	5	1	N/A	N/A	
677	CP3031	C_STATUS	BL9	BLNALM	DIGITAL ENABLED	QL_0472A MLR PUMP 1 ON	5	1	N/A	N/A	
678	CP3031	C_STATUS	BL10	BLNALM	DIGITAL ENABLED	ZS_0382 INFLUENT WET WELL CHANNEL 3 GATE	5	1	N/A	N/A	
679	CP3031	C_STATUS	BL11	BLNALM	DIGITAL ENABLED	HS_0420A8 BASIN 1 MIXERS	5	1	N/A	N/A	
680	CP3031	C_STATUS	BL12	BLNALM	DIGITAL ENABLED	HS_0472D_AU MLR PUMP 4 AUTO	5	1	N/A	N/A	
681	CP3031	C_STATUS	BL13	BLNALM	DIGITAL ENABLED	HS_0420C1 BASIN 3 MIXERS	5	1	N/A	N/A	
682	CP3031	D_STATUS	BL1	BLNALM	DIGITAL ENABLED	CP_0110B_RM BARSCREEN 2 CONTROLLER REMOTE	5	1	N/A	N/A	
683	CP3031	D_STATUS	BL2	BLNALM	DIGITAL ENABLED	QL_0171A GRIT PUMP 1 ON	5	1	N/A	N/A	
684	CP3031	D_STATUS	BL3	BLNALM	DIGITAL ENABLED	QL_0210A PRIMARY CLARIFIER 1 ON	5	1	N/A	N/A	

COUNT	CP	COMPOUND	BLOCK	TYPE	ALM TYPE	ALM TEXT	ALARM PRIORITY	ALARM GROUP	LOW LEVEL LIMIT	HIGH LEVEL LIMIT	COMMENTS
685	CP3031	D_STATUS	BL4	BLNALM	DIGITAL ENABLED	HS_0271B_AU PRI SCUM PUMP 2 AUTO	5	1	N/A	N/A	
686	CP3031	D_STATUS	BL5	BLNALM	DIGITAL ENABLED	QL_0272C PRI SLUDGE PUMP 3 ON	5	1	N/A	N/A	
687	CP3031	D_STATUS	BL6	BLNALM	DIGITAL ENABLED	HS_1310A_AU SLUDGE GRINDER 1 AUTO	5	1	N/A	N/A	
688	CP3031	D_STATUS	BL7	BLNALM	DIGITAL ENABLED	HS_0120_AU SCREENINGS CONVEYOR AUTO	5	1	N/A	N/A	
689	CP3031	D_STATUS	BL8	BLNALM	DIGITAL ENABLED	HS_0132B_AU CLASSIFIER 2 AUTO	5	1	N/A	N/A	
690	CP3030	CP1ALMS	EFF_FILTER3	BLNALM	DIGITAL ENABLED	FILTER LOADING FILTER #2 OFFLINE	2	2	N/A	N/A	
691	CP3030	SBS	SBS_ALARMS1	BLNALM	DIGITAL ENABLED	SBS OUTFALL PUMP OUTFALL PUMP STARTED	1	1	N/A	N/A	
692	CP3030	CP1ALMS	EFF_FILTER1	BLNALM	DIGITAL ENABLED	LAHH_0630 BW RETURN STATION HI-HI LEVEL	1	1	N/A	N/A	
693	CP3030	CP1ALMS	SEC_CLAR1	BLNALM	DIGITAL ENABLED	XA_0571B SEC SCUM WELL #2 LEVEL HIGH	2	1	N/A	N/A	
694	CP3030	CP1ALMS	SEC_CLAR2	BLNALM	DIGITAL ENABLED	NAH_0510C CLARIFIER 3 HIGH TORQUE	1	1	N/A	N/A	
695	CP3030	CP1ALMS	MISC_SYS1	BLNALM	DIGITAL ENABLED	LAL_2661 DIESEL FUEL DAY TANK LEVEL LOW	5	2	N/A	N/A	
696	CP3030	CP1ALMS	CHEM_SYS1	BLNALM	DIGITAL ENABLED	LAHH_1113B POLYMER DAY TANK 2 HI-HI LEVEL	1	1	N/A	N/A	
697	CP3030	CP1ALMS	CHLOR_CONT1	BLNALM	DIGITAL ENABLED	AAH_0730 OUTFALL CL2 RESIDUAL HIGH	5	1	N/A	N/A	
698	CP3030	CP1ALMS	CHLOR_CONT2	BLNALM	DIGITAL ENABLED	CP1ALMS:TIME_DELAY.BO01 Fault	5	1	N/A	N/A	
699	CP3030	RECLAIM	ALARMS	BLNALM	DIGITAL ENABLED	RECLAIM:DI3.CIN_4 Fault	1	1	N/A	N/A	
700	CP3030	A_STATUS	BL1	BLNALM	DIGITAL ENABLED	HS_1114B_AU MADE-UP WATER VALVE 2 AUTO	5	1	N/A	N/A	
701	CP3030	A_STATUS	BL2	BLNALM	DIGITAL ENABLED	QL_1271A #3 WATER PUMP 1 RUNNING	5	1	N/A	N/A	
702	CP3030	A_STATUS	BL3	BLNALM	DIGITAL ENABLED	HS_1172A_AU POLYMER SOLUTION PUMP 1 AUTO	5	1	N/A	N/A	
703	CP3030	A_STATUS	BL4	BLNALM	DIGITAL ENABLED	HS_2671A_SL AIR COMPRESSOR DUTY SELECT 1	5	1	N/A	N/A	
704	CP3030	A_STATUS	BL5	BLNALM	DIGITAL ENABLED	QL_1271B #3 WATER PUMP 2 RUNNING	5	1	N/A	N/A	
705	CP3030	A_STATUS	BL6	BLNALM	DIGITAL ENABLED	HS_1271A_LD #3 WATER PUMP SELECT 1	5	1	N/A	N/A	
706	CP3030	A_STATUS	BL7	BLNALM	DIGITAL ENABLED	QL_1132B POLYMER FEEDER 2 RUNNING	5	1	N/A	N/A	
707	CP3030	A_STATUS	BL8	BLNALM	DIGITAL ENABLED	QL_0674A BACKWASH WATER PUMP 1 ON	5	1	N/A	N/A	
708	CP3030	B_STATUS	BL1	BLNALM	DIGITAL ENABLED	CP_1071A1_RM AERATION BLOWERS REMOTE	5	1	N/A	N/A	
709	CP3030	B_STATUS	BL2	BLNALM	DIGITAL ENABLED	HS_0571B_AU SEC SCUM PUMP 2 AUTO	5	1	N/A	N/A	

COUNT	CP	COMPOUND	BLOCK	TYPE	ALM TYPE	ALM TEXT	ALARM PRIORITY	ALARM GROUP	LOW LEVEL LIMIT	HIGH LEVEL LIMIT	COMMENTS
710	CP3030	B_STATUS	BL3	BLNALM	DIGITAL ENABLED	QL_0510B SECONDARY CLARIFIER 2 ON	5	1	N/A	N/A	
711	CP3031	D_ALM	BL5	BLNALM	DIGITAL ENABLED	LCP8 ANNUN. ALARM AT CHLORINE BLDG. (LCP8)	1	1	N/A	N/A	
712	CP3031	CP2ALMS	AERATION1	BLNALM	DIGITAL ENABLED	PAH_0471B SPR PUMP 2 DISCH PRESSURE	1	1	N/A	N/A	
713	CP3031	CP2ALMS	SLDG_XFER1	BLNALM	DIGITAL ENABLED	UA_1371A SLUDGE TRANS PUMP 1 VALVE FAIL	1	1	N/A	N/A	
714	CP3031	CP2ALMS	PRI_CLAR1	BLNALM	DIGITAL ENABLED	LAHH_0215A PRI SCUM PIT 1 HI-HI LEVEL	2	2	N/A	N/A	
715	CP3031	CP2ALMS	PRI_CLAR2	BLNALM	DIGITAL ENABLED	PAH_0272C PRI SLUDGE PMP 3 DISCH PRESS HI	1	1	N/A	N/A	
716	CP3031	CP2ALMS	PRE_TREAT1	BLNALM	DIGITAL ENABLED	PAH_0171A DISCHARGE PRESSURE 1 HIGH	1	1	N/A	N/A	
717	CP3031	CP2ALMS	PRE_TREAT2	BLNALM	DIGITAL ENABLED	PH NORMAL HI/LO PH	1	1	N/A	N/A	
718	CP3031	ODOR_D	SYS_B	BLNALM	DIGITAL ENABLED	SUMP 1 LEVEL LOW	5	1	N/A	N/A	
719	CP3031	ODOR_D	SYS_C	BLNALM	DIGITAL ENABLED	SUMP 2 LEVEL LOW	5	1	N/A	N/A	
720	CP3031	C_STATUS	BL1	BLNALM	DIGITAL ENABLED	HS_0420D2 BASIN 4 MIXERS	5	1	N/A	N/A	
721	CP3031	C_STATUS	BL2	BLNALM	DIGITAL ENABLED	HS_0420E4 BASIN 5 MIXERS	5	1	N/A	N/A	
722	CP3031	C_STATUS	BL3	BLNALM	DIGITAL ENABLED	HS_0381B_RM PRI. EFFLUENT GATE 2 REMOTE	5	1	N/A	N/A	
723	CP3031	C_STATUS	BL4	BLNALM	DIGITAL ENABLED	HS_0471A_AU SPR PUMP 1 AUTO	5	1	N/A	N/A	
724	CP3031	C_STATUS	BL5	BLNALM	DIGITAL ENABLED	HS_0420F4 BASIN 6 MIXERS	5	1	N/A	N/A	
725	CP3031	C_STATUS	BL6	BLNALM	DIGITAL ENABLED	HS_0430B_RM BASIN 2 REMOTE	5	1	N/A	N/A	
726	CP3031	C_STATUS	BL7	BLNALM	DIGITAL ENABLED	HS_0371B_AU PRI EFFLUENT PUMP 2 AUTO	5	1	N/A	N/A	
727	CP3031	C_STATUS	BL8	BLNALM	DIGITAL ENABLED	HS_0371C_LD PRI EFFLUENT PUMP 3 LEAD SELECT	5	1	N/A	N/A	
728	CP3031	C_STATUS	BL9	BLNALM	DIGITAL ENABLED	HS_0472B_RM MLR PUMP 2 REMOTE	5	1	N/A	N/A	
729	CP3031	C_STATUS	BL10	BLNALM	DIGITAL ENABLED	HS_0420A1 BASIN 1 MIXERS	5	1	N/A	N/A	
730	CP3031	C_STATUS	BL11	BLNALM	DIGITAL ENABLED	HS_0420A9 BASIN 1 MIXERS	5	1	N/A	N/A	
731	CP3031	C_STATUS	BL12	BLNALM	DIGITAL ENABLED	QL_0472D MLR PUMP 4 ON	5	1	N/A	N/A	
732	CP3031	C_STATUS	BL13	BLNALM	DIGITAL ENABLED	HS_0420C2 BASIN 3 MIXERS	5	1	N/A	N/A	
733	CP3031	D_STATUS	BL1	BLNALM	DIGITAL ENABLED	QL_0110B BARSCREEN 2 ON	5	1	N/A	N/A	
734	CP3031	D_STATUS	BL2	BLNALM	DIGITAL ENABLED	HS_0171A_AU GRIT PUMP 1 AUTO	5	1	N/A	N/A	
735	CP3031	D_STATUS	BL3	BLNALM	DIGITAL ENABLED	QL_0210B PRIMARY CLARIFIER 2 ON	5	1	N/A	N/A	
736	CP3031	D_STATUS	BL4	BLNALM	DIGITAL ENABLED	HS_0272A_RM PRI SLUDGE PUMP 1 REMOTE	5	1	N/A	N/A	
737	CP3031	D_STATUS	BL5	BLNALM	DIGITAL ENABLED	HS_0272C_AU PRI SLUDGE PUMP 3 AUTO	5	1	N/A	N/A	
738	CP3031	D_STATUS	BL6	BLNALM	DIGITAL ENABLED	CP_1310A_RM SLUDGE GRINDER 1 REMOTE	5	1	N/A	N/A	

COUNT	CP	COMPOUND	BLOCK	TYPE	ALM TYPE	ALM TEXT	ALARM PRIORITY	ALARM GROUP	LOW LEVEL LIMIT	HIGH LEVEL LIMIT	COMMENTS
739	CP3031	D_STATUS	BL7	BLNALM	DIGITAL ENABLED	HS_0131A_RM GRIT DRIVE REMOTE	5	1	N/A	N/A	
740	CP3031	D_STATUS	BL8	BLNALM	DIGITAL ENABLED	QL_0132B CLASSIFIER 2 ON	5	1	N/A	N/A	
741	CP3030	CP1ALMS	EFF_FILTER3	BLNALM	DIGITAL ENABLED	FILTER LOADING FILTER #3 OFFLINE	2	2	N/A	N/A	
742	CP3030	SBS	SBS_ALARMS1	BLNALM	DIGITAL ENABLED	OUTFALL SAMPLE PUMP SAMPLE PUMP FAIL	1	1	N/A	N/A	
743	CP3030	CP1ALMS	EFF_FILTER1	BLNALM	DIGITAL ENABLED	FILTER #2 FILTER #2 IN BACKWASH	3	2	N/A	N/A	
744	CP3030	CP1ALMS	SEC_CLAR1	BLNALM	DIGITAL ENABLED	PAH_0571B SEC SCUM PUMP 2 DISCH PRESS	1	1	N/A	N/A	
745	CP3030	CP1ALMS	SEC_CLAR2	BLNALM	DIGITAL ENABLED	NAHH_0510C CLARIFIER 3 TORQUE SHUTDOWN	1	1	N/A	N/A	
746	CP3030	CP1ALMS	MISC_SYS1	BLNALM	DIGITAL ENABLED	LAH_2679 POND PUMP SYSTEM LEVEL HIGH	1	1	N/A	N/A	
747	CP3030	CP1ALMS	CHEM_SYS1	BLNALM	DIGITAL ENABLED	LAH_1122 ALUM STORAGE TANK LEVEL HIGH	1	1	N/A	N/A	
748	CP3030	CP1ALMS	CHEM_SYS2	BLNALM	DIGITAL ENABLED	LALL_1122 ALUM STORAGE TANK LEVEL LOW-LOW	1	1	N/A	N/A	
749	CP3030	CP1ALMS	CHLOR_CONT1	BLNALM	DIGITAL ENABLED	OUTFALL SAMPLER OUTFALL ISCO SAMPLER FAIL	2	1	N/A	N/A	
750	CP3030	CP1ALMS	CHLOR_CONT2	BLNALM	DIGITAL ENABLED	OUT_DISCH OUTFALL GATE IS OPEN	5	1	N/A	N/A	
751	CP3030	RECLAIM	ALARMS	BLNALM	DIGITAL ENABLED	RECLAIM:POTABLE.LAIND Fault	1	1	N/A	N/A	
752	CP3030	A_STATUS	BL1	BLNALM	DIGITAL ENABLED	HS_1118_AU W3 SOLENOID VALVE AUTO	5	1	N/A	N/A	
753	CP3030	A_STATUS	BL2	BLNALM	DIGITAL ENABLED	HS_1271A_AU #3 WATER PUMP 1 AUTO	5	1	N/A	N/A	
754	CP3030	A_STATUS	BL3	BLNALM	DIGITAL ENABLED	QL_1172A POLYMER SOLUTION PUMP 1 ON	5	1	N/A	N/A	
755	CP3030	A_STATUS	BL4	BLNALM	DIGITAL ENABLED	HS_2671B_SL AIR COMPRESSOR DUTY SELECT 2	5	1	N/A	N/A	
756	CP3030	A_STATUS	BL5	BLNALM	DIGITAL ENABLED	HS_1271B_AU #3 WATER PUMP 2 AUTO	5	1	N/A	N/A	
757	CP3030	A_STATUS	BL6	BLNALM	DIGITAL ENABLED	HS_1271B_LD #3 WATER PUMP SELECT 2	5	1	N/A	N/A	
758	CP3030	A_STATUS	BL7	BLNALM	DIGITAL ENABLED	QL_0610 MIXER	5	1	N/A	N/A	
759	CP3030	A_STATUS	BL8	BLNALM	DIGITAL ENABLED	QL_0674B BACKWASH WATER PUMP 2 ON	5	1	N/A	N/A	
760	CP3030	B_STATUS	BL1	BLNALM	DIGITAL ENABLED	PIC_1030_AU ALP CONTROL AUTO	5	1	N/A	N/A	
761	CP3030	B_STATUS	BL2	BLNALM	DIGITAL ENABLED	QL_0571C SEC SCUM PUMP 3 ON	5	1	N/A	N/A	
762	CP3030	B_STATUS	BL3	BLNALM	DIGITAL ENABLED	QL_0510C SECONDARY CLARIFIER 3 ON	5	1	N/A	N/A	
763	CP3031	D_ALM	BL5	BLNALM	DIGITAL ENABLED	LCP3/LCP10 SECONDARY TREATMENT FAILURE	1	1	N/A	N/A	
764	CP3031	CP2ALMS	AERATION1	BLNALM	DIGITAL ENABLED	PAH_0472A MLR PUMP 1 DISCH PRESSURE	1	1	N/A	N/A	

COUNT	CP	COMPOUND	BLOCK	TYPE	ALM TYPE	ALM TEXT	ALARM PRIORITY	ALARM GROUP	LOW LEVEL LIMIT	HIGH LEVEL LIMIT	COMMENTS
765	CP3031	CP2ALMS	PRI_EFF1	BLNALM	DIGITAL ENABLED	C_DIO:DI7.CIN_4 Fault	1	1	N/A	N/A	
766	CP3031	CP2ALMS	SLDG_XFER1	BLNALM	DIGITAL ENABLED	PAH_1371B SLUDGE TRANS PUMP 2 HI PRESSURE	1	1	N/A	N/A	
767	CP3031	CP2ALMS	PRI_CLAR1	BLNALM	DIGITAL ENABLED	LALL_0215B PRI SCUM PIT 2 LOW-LOW LEVEL	1	1	N/A	N/A	
768	CP3031	CP2ALMS	PRI_CLAR2	BLNALM	DIGITAL ENABLED	LAHH_0279 SLDG. XFER SUMP SYS. LVL HI HI	1	1	N/A	N/A	
769	CP3031	CP2ALMS	PRE_TREAT1	BLNALM	DIGITAL ENABLED	FAL_0171B SEAL WATER 2 LOW FLOW	1	1	N/A	N/A	
770	CP3031	CP2ALMS	PRE_TREAT2	BLNALM	DIGITAL ENABLED	EC NORMAL HI/LO EC	1	1	N/A	N/A	
771	CP3031	C_STATUS	BL1	BLNALM	DIGITAL ENABLED	HS_0420D3 BASIN 4 MIXERS	5	1	N/A	N/A	
772	CP3031	C_STATUS	BL2	BLNALM	DIGITAL ENABLED	HS_0420E5 BASIN 5 MIXERS	5	1	N/A	N/A	
773	CP3031	C_STATUS	BL3	BLNALM	DIGITAL ENABLED	HS_0381C_AU PRI. EFFLUENT GATE 3 AUTO	5	1	N/A	N/A	
774	CP3031	C_STATUS	BL4	BLNALM	DIGITAL ENABLED	QL_0471A SPR PUMP 1 ON	5	1	N/A	N/A	
775	CP3031	C_STATUS	BL5	BLNALM	DIGITAL ENABLED	HS_0420F5 BASIN 6 MIXERS	5	1	N/A	N/A	
776	CP3031	C_STATUS	BL6	BLNALM	DIGITAL ENABLED	HS_0430C_AU BASIN 3 AUTO	5	1	N/A	N/A	
777	CP3031	C_STATUS	BL7	BLNALM	DIGITAL ENABLED	QL_0371B PRI EFFLUENT PUMP 2 ON	5	1	N/A	N/A	
778	CP3031	C_STATUS	BL8	BLNALM	DIGITAL ENABLED	HS_0472A_LD MLR PUMP 1 LEAD	5	1	N/A	N/A	
779	CP3031	C_STATUS	BL9	BLNALM	DIGITAL ENABLED	HS_0472B_AU MLR PUMP 2 AUTO	5	1	N/A	N/A	
780	CP3031	C_STATUS	BL10	BLNALM	DIGITAL ENABLED	HS_0420A2 BASIN 1 MIXERS	5	1	N/A	N/A	
781	CP3031	C_STATUS	BL11	BLNALM	DIGITAL ENABLED	HS_0420A10 BASIN 1 MIXERS	5	1	N/A	N/A	
782	CP3031	C_STATUS	BL12	BLNALM	DIGITAL ENABLED	HS_0420B1 BASIN 2 MIXERS	5	1	N/A	N/A	
783	CP3031	C_STATUS	BL13	BLNALM	DIGITAL ENABLED	FA_0450 FIC-0450 IN AUTO	5	1	N/A	N/A	
784	CP3031	D_STATUS	BL1	BLNALM	DIGITAL ENABLED	HS_0110B_DF BARSCREEN 2 DIFFERENTIAL	5	1	N/A	N/A	
785	CP3031	D_STATUS	BL2	BLNALM	DIGITAL ENABLED	HS_0171A_RM GRIT PUMP 1 REMOTE	5	1	N/A	N/A	
786	CP3031	D_STATUS	BL3	BLNALM	DIGITAL ENABLED	QL_1371B SLUDGE TRANSFER PUMP 2 RUNNING	5	1	N/A	N/A	
787	CP3031	D_STATUS	BL4	BLNALM	DIGITAL ENABLED	QL_0272A PRI SLUDGE PUMP 1 ON	5	1	N/A	N/A	
788	CP3031	D_STATUS	BL5	BLNALM	DIGITAL ENABLED	HS_1305_ST STOP SLUDGE TRANSFER PUMPING	5	1	N/A	N/A	
789	CP3031	D_STATUS	BL6	BLNALM	DIGITAL ENABLED	QL_1310B SLUDGE GRINDER 2 RUNNING	5	1	N/A	N/A	
790	CP3031	D_STATUS	BL7	BLNALM	DIGITAL ENABLED	HS_0131A_AU GRIT DRIVE AUTO	5	1	N/A	N/A	
791	CP3031	D_STATUS	BL8	BLNALM	DIGITAL ENABLED	HS_0135A_AU CLASSIFIER 1 WATER AUTO	5	1	N/A	N/A	
792	CP3030	CP1ALMS	EFF_FILTER1	BLNALM	DIGITAL ENABLED	FILTER #3 FILTER #3 IN BACKWASH	3	2	N/A	N/A	
793	CP3030	CP1ALMS	SEC_CLAR1	BLNALM	DIGITAL ENABLED	XA_0571C SEC SCUM WELL #3 LEVEL HIGH	2	1	N/A	N/A	

COUNT	CP	COMPOUND	BLOCK	TYPE	ALM TYPE	ALM TEXT	ALARM PRIORITY	ALARM GROUP	LOW LEVEL LIMIT	HIGH LEVEL LIMIT	COMMENTS
794	CP3030	CP1ALMS	SEC_CLAR2	BLNALM	DIGITAL ENABLED	LALL_0515A SEC SCUM PIT LOW-LOW LEVEL	1	1	N/A	N/A	
795	CP3030	CP1ALMS	CHEM_SYS1	BLNALM	DIGITAL ENABLED	UA_1173A ALUM PUMP 1 FAIL	1	1	N/A	N/A	
796	CP3030	CP1ALMS	CHEM_SYS2	BLNALM	DIGITAL ENABLED	UA_1132A POLYMER FEEDER 1 FAIL	1	1	N/A	N/A	
797	CP3030	CP1ALMS	CHLOR_CONT1	BLNALM	DIGITAL ENABLED	AAH_0767 EFFLUENT TURBIDITY HIGH/LOW	1	1	N/A	N/A	
798	CP3030	CP1ALMS	CHLOR_CONT2	BLNALM	DIGITAL ENABLED	OUT_DISCH OUTFALL GATE CLOSED	5	1	N/A	N/A	
799	CP3030	RECLAIM	ALARMS	BLNALM	DIGITAL ENABLED	RECLAIM:DI1A.CIN_5 Fault	1	1	N/A	N/A	
800	CP3030	A_STATUS	BL1	BLNALM	DIGITAL ENABLED	HS_1173A_AU ALUM PUMP 1 AUTO	5	1	N/A	N/A	
801	CP3030	A_STATUS	BL2	BLNALM	DIGITAL ENABLED	HS_1271B_RM #3 WATER PUMP 2 REMOTE	5	1	N/A	N/A	
802	CP3030	A_STATUS	BL3	BLNALM	DIGITAL ENABLED	SCU_1172B_RM POLYMER SOLUTION PUMP 2 REMOTE	5	1	N/A	N/A	
803	CP3030	A_STATUS	BL5	BLNALM	DIGITAL ENABLED	HS_1271C_RM #3 WATER PUMP 3 REMOTE	5	1	N/A	N/A	
804	CP3030	A_STATUS	BL6	BLNALM	DIGITAL ENABLED	HS_2671A_AU AIR COMPRESSOR 1 AUTO	5	1	N/A	N/A	
805	CP3030	A_STATUS	BL7	BLNALM	DIGITAL ENABLED	QL_0620A FILTER 1 ON	5	1	N/A	N/A	
806	CP3030	A_STATUS	BL8	BLNALM	DIGITAL ENABLED	QL_0674C BACKWASH WATER PUMP 3 ON	5	1	N/A	N/A	
807	CP3030	B_STATUS	BL1	BLNALM	DIGITAL ENABLED	QL_1071A AERATION BLOWER 1 RUNNING	5	1	N/A	N/A	
808	CP3030	B_STATUS	BL2	BLNALM	DIGITAL ENABLED	HS_0571C_AU SEC SCUM PUMP 3 AUTO	5	1	N/A	N/A	
809	CP3030	B_STATUS	BL3	BLNALM	DIGITAL ENABLED	QL_0512A SCUM COLLECTOR 1 ON	5	1	N/A	N/A	
810	CP3031	D_ALM	BL5	BLNALM	DIGITAL ENABLED	LCP_10 BLOWER MCC BUILDING ALARM	1	1	N/A	N/A	
811	CP3031	CP2ALMS	AERATION1	BLNALM	DIGITAL ENABLED	PAH_0472B MLR PUMP 2 DISCH PRESSURE	1	1	N/A	N/A	
812	CP3031	CP2ALMS	PRI_EFF1	BLNALM	DIGITAL ENABLED	C_DIO:DI7.CIN_7 Fault	5	1	N/A	N/A	
813	CP3031	CP2ALMS	SLDG_XFER1	BLNALM	DIGITAL ENABLED	ALARM XFER RP2 ALARM XFER SWITCH ON	1	1	N/A	N/A	
814	CP3031	CP2ALMS	PRI_CLAR1	BLNALM	DIGITAL ENABLED	LAHH_0215B PRI SCUM PIT 2 HI-HI LEVEL	2	1	N/A	N/A	
815	CP3031	CP2ALMS	PRE_TREAT1	BLNALM	DIGITAL ENABLED	PAL_0171B SUCTION PRESSURE 2 LOW	1	1	N/A	N/A	
816	CP3031	C_STATUS	BL1	BLNALM	DIGITAL ENABLED	HS_0420D4 BASIN 4 MIXERS	5	1	N/A	N/A	
817	CP3031	C_STATUS	BL2	BLNALM	DIGITAL ENABLED	HS_0420E6 BASIN 5 MIXERS	5	1	N/A	N/A	
818	CP3031	C_STATUS	BL3	BLNALM	DIGITAL ENABLED	QL_0381C PRI. EFFLUENT GATE 3 OPEN/CLS	5	1	N/A	N/A	
819	CP3031	C_STATUS	BL4	BLNALM	DIGITAL ENABLED	SCU_0471B_RM SPR PUMP 2 REMOTE	5	1	N/A	N/A	
820	CP3031	C_STATUS	BL5	BLNALM	DIGITAL ENABLED	HS_0420F6 BASIN 6 MIXERS	5	1	N/A	N/A	

COUNT	CP	COMPOUND	BLOCK	TYPE	ALM TYPE	ALM TEXT	ALARM PRIORITY	ALARM GROUP	LOW LEVEL LIMIT	HIGH LEVEL LIMIT	COMMENTS
821	CP3031	C_STATUS	BL6	BLNALM	DIGITAL ENABLED	HS_0430C_RM BASIN 3 REMOTE	5	1	N/A	N/A	
822	CP3031	C_STATUS	BL7	BLNALM	DIGITAL ENABLED	HS_0371B_RM PRI EFFLUENT PUMP 2 REMOTE	5	1	N/A	N/A	
823	CP3031	C_STATUS	BL8	BLNALM	DIGITAL ENABLED	HS_0472B_LD MLR PUMP 2 LEAD	5	1	N/A	N/A	
824	CP3031	C_STATUS	BL9	BLNALM	DIGITAL ENABLED	QL_0472B MLR PUMP 2 ON	5	1	N/A	N/A	
825	CP3031	C_STATUS	BL10	BLNALM	DIGITAL ENABLED	HS_0420A3 BASIN 1 MIXERS	5	1	N/A	N/A	
826	CP3031	C_STATUS	BL11	BLNALM	DIGITAL ENABLED	HS_0420A11 BASIN 1 MIXERS	5	1	N/A	N/A	
827	CP3031	C_STATUS	BL12	BLNALM	DIGITAL ENABLED	HS_0420B2 BASIN 2 MIXERS	5	1	N/A	N/A	
828	CP3031	D_STATUS	BL1	BLNALM	DIGITAL ENABLED	HS_0110B_TM BARSCREEN 2 TIME	5	1	N/A	N/A	
829	CP3031	D_STATUS	BL2	BLNALM	DIGITAL ENABLED	QL_0171B GRIT PUMP 2 ON	5	1	N/A	N/A	
830	CP3031	D_STATUS	BL3	BLNALM	DIGITAL ENABLED	HS_1371B_AU SLUDGE TRANSFER PUMP 2 AUTO	5	1	N/A	N/A	
831	CP3031	D_STATUS	BL4	BLNALM	DIGITAL ENABLED	HS_0272A_AU PRI SLUDGE PUMP 1 AUTO	5	1	N/A	N/A	
832	CP3031	D_STATUS	BL5	BLNALM	DIGITAL ENABLED	HS_1305A1_SL SELECT SLUDGE PIT 1 ALARM	5	1	N/A	N/A	
833	CP3031	D_STATUS	BL6	BLNALM	DIGITAL ENABLED	HS_1310B_AU SLUDGE GRINDER 2 AUTO	5	1	N/A	N/A	
834	CP3031	D_STATUS	BL7	BLNALM	DIGITAL ENABLED	QL_0131A GRIT DRIVE ON	5	1	N/A	N/A	
835	CP3031	D_STATUS	BL8	BLNALM	DIGITAL ENABLED	HS_0135B_AU CLASSIFIER 2 WATER AUTO	5	1	N/A	N/A	
836	CP3030	SHUTDN	CT_ALM	REALM	LO ALM	CONTACT BASIN LOW CT &	2	1	460	N/A	
837	CP3030	SHUTDN	CT_ALM1	REALM	LO ALM	LO CT SHUTDN RECLAIM VALVE &	1	1	450	N/A	
838	CP3030	SHUTDN	DT_ALM	REALM	HI&LO ALM	CONTACT BASIN LOW DETENTION TIME &	1	1	90	50000	
839	CP3030	SHUTDN	OUTCL2	REALM	HI&LO ALM	&	5	5	0	5.1	
840	CP3030	A_AIO	SO2_ALM	REALM	HI&LO ALM	& LOW SBS IN OUTFALL	:HIGH_SO2_CLC.RO02	1	0	4.75	
841	CP3030	A_AIO	HIGH_SO2	REALM	HI&LO ALM	EXCESSIVE SBS IN OUTFALL &	:HIGH_SO2_CLC.RO02	1	0.2	100	
842	CP3030	B_AIO	BLWR_SHUTDN	REALM	HI ALM	&	5	5	N/A	:BLWR_CALC.RO01	
843	CP3030	CHLORINATION	CL2_DOS_ALM	REALM	HI&LO ALM	LOW TOTAL CL2 DOSE & HIGH TOTAL CL2 DOSE	5	1	9	20	
844	CP3030	WATER	LEAD_SW	REALM	HI&LO ALM	START LEAD PUMP & STOP LEAD PUMP	5	2	66	85	
845	CP3030	WATER	LAG_SW	REALM	HI&LO ALM	START LAG PUMP & STOP LAG PUMP	5	2	60	70	
846	CP3030	WATER	PMP3_SW	REALM	HI&LO ALM	START PUMP 3 &	5	2	58	76.5	
847	CP3030	WATER	PMP4_SW	REALM	HI&LO ALM	START PUMP 4 &	5	2	52	76	
848	CP3030	RECLAIM	TST_LOW	REALM	HI&LO ALM	&	5	3	40	5000	

COUNT	CP	COMPOUND	BLOCK	TYPE	ALM TYPE	ALM TEXT	ALARM PRIORITY	ALARM GROUP	LOW LEVEL LIMIT	HIGH LEVEL LIMIT	COMMENTS
849	CP3030	RECLAIM	RECLVLV	REALM	HI&LO ALM	POTABLE WATER ON TO RESERVOIR & RECLAIM WATER LEVEL HIGH	5	2	10	23	
850	CP3030	RECLAIM	POTABLE	REALM	HI&LO ALM	RESV LO LEVEL-POTABLE OPEN & POTABLE WATER VALVE CLOSED	5	2	14	14.5	
851	CP3030	RECLAIM	SHTDNALM	REALM	HI&LO ALM	LOW LOW LOW LEVEL (PUMPS OFF) &	1	1	8	100	
852	CP3030	RECLAIM	EFFL_FLW_ALM	REALM	HI&LO ALM	&	5	2	1	100	
853	CP3030	RECLAIM	FSWCH1	REALM	HI&LO ALM	RECLAIM LEAD PUMP LOW FLOW &	5	1	-200	10001	
854	CP3030	RECLAIM	PSWCH1	REALM	HI&LO ALM	&	5	3	110	140	
855	CP3030	RECLAIM	PSWCH3	REALM	HI&LO ALM	LAG1 PUMP START & LAG1 PUMP STOP	5	5	110	:VLVCTRL.RO02	
856	CP3031	C_AIO	MHOVFLW	REALM	HI&LO ALM	MANHOLE LOW & MANHOLE FLOWING TO EMERG POND	1	1	-1	6.63	
857	CP3031	D_AIO	AI_0169A	REALM	HI&LO ALM	LOW EC & HI-HI EC	2	2	300	2500	
858	CP3031	PEPUMPS	PELEAD	REALM	HI&LO ALM	&	5	3	2.3	3	
859	CP3031	PEPUMPS	PE_LAG	REALM	HI&LO ALM	&	5	3	3.5	4.5	
860	CP3031	PEPUMPS	TMP_LVLL	REALM	HI&LO ALM	&	5	1	2.5	100	
861	CP3031	PEPUMPS	RAS_FLW	REALM	HI&LO ALM	&	5	1	2.5	100	
862	CP3031	PEPUMPS	RAS_PNTS	REALM	HI&LO ALM	&	5	1	2.2	4.2	
863	CP3031	PRI_EFF	WELL_LEV	REALM	HI&LO ALM	& STRT LAG PMP	5	2	3	5	
864	CP3031	MIXLQR	PUMP_TIMER	REALM	HI ALM	& PUMP STOP	5	5	N/A	6	
865	CP3030	SHUTDN	CT_ALM	REALM	HIHI ALM	BELOW 450 CT ALARM & CT TOTAL MIN HOLD	5	5	N/A	450	
866	CP3030	SHUTDN	DT_ALM	REALM	HIHI ALM	& DT TOTAL MIN IN HOLD	5	5	N/A	90	
867	CP3030	SHUTDN	OUTCL2	REALM	HIHI&LOLO ALM	& HIGH CL2 PLNT SHTDN 30 MIN DELAY	5	5	0	9.5	
868	CP3030	B_AIO	BLWR_SHUTDN	REALM	HIHI ALM	&	5	5	N/A	:BLWR_CALC.RO02	
869	CP3030	RECLAIM	POTABLE	REALM	LOLO ALM	POTABLE WATER VALVE OPEN &	1	1	12	N/A	
870	CP3030	RECLAIM	SHTDNALM	REALM	HIHI&LOLO ALM	LOW LOW LOW LOW LEVEL &	1	1	7.5	100	
871	CP3030	RECLAIM	PSWCH1	REALM	HIHI&LOLO ALM	&	5	3	100	150	
872	CP3030	RECLAIM	PSWCH2	REALM	HIHI&LOLO ALM	&	1	1	50	150	
873	CP3030	RECLAIM	PSWCH3	REALM	HIHI&LOLO ALM	LAG2 PUMP START & LAG2 PUMP STOP	5	5	100	:VLVCTRL.RO03	
874	CP3031	MIXLQR	PUMP_TIMER	REALM	HIHI ALM	& PUMP START	5	5	N/A	20	
875	CP3031	PRELIM	LY_0105	REALM	HI&LO DEV ALM	& HI DIFFERENTIAL	5	1	100	1.7	

Appendix D

Carbon Canyon Water Recycling Facility

Recycled Water Users and Demands

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Chino Recycled Water Usage in AF

FY 2013/2014

9/20/2013

Date Range: 9/1/2012 - 9/1/2013

Customer	Site Address	Segment	Type	Meter #	PrZone	Demand	Status	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Total AF
AGAVE NEIGHBORHOOD ASSOCIATION		8100 W PRESERVE LOOP #SPR-RC		Bickmore Ave	Landscape Residential	237741		800	1.00	Current	1.57	0.90	0.99	0.26	0.06	0.40	0.66	0.96	0.80	1.32 1.29
All Coast Forest Products	13880 Monte Vista Ave #RC	CCWRF Distr. Line	Landscape Commercial	194239	930	12.00	Current	2.02	0.98	1.23	0.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**4.71**
American Power Conversion	14875 Monte Vista Ave #SPR-RC	CCWRF Distr. Line	Landscape Commercial	199850	930	5.00	Current	0.59	0.96	0.74	0.04	0.12	0.19	0.34	0.41	1.00	0.61	0.78	0.00	**5.78**
American Power Conversion	14725 Monte Vista Ave #SPR-RC	CCWRF Distr. Line	Landscape Commercial	199869	930	5.00	Current	1.25	1.00	0.79	0.03	0.17	0.23	0.42	0.55	1.05	0.92	1.20	0.00	**7.60**
BOBERG ENGINEERING	HYDRANT METER	Bickmore Ave	Landscape Residential	195979	930	6.00	Current	0.00	6.91	0.00	0.71	0.05	0.01	0.34	0.09	0.85	0.00	0.15	0.00	**9.13**
BOBERG ENGINEERING	HYDRANT METER			221266			Current	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.31	0.00	**9.31**
BOBERG ENGINEERING	HYDRANT METER			236881			Current	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.00	**0.18**
C W FARMS IV	REMINGTON/WALKER NORTH #SPR		TP-1 Outfall	Agricultural Farm	231076	800	1,000.00	Current	195.45	96.17	1.82	21.46	0.07	22.30	25.67	31.98	37.65	25.41	24.77	0.00 **482.**
Cal Poly Pomona	Kimball Ave/Magnolia Channel#RC		Bickmore Ave	Agricultural Farm	219376	800	850.00	Current	210.07	52.77	15.66	36.15	0.00	0.00	11.83	71.03	37.21	65.00	43.85	0.00 **543.**
Cal Poly Pomona	14515 Central Ave #A SPR/R	Edison Ave Main A	Agricultural Farm	233956	800	500.00	Current	92.37	16.79	45.14	0.00	0.00	0.00	17.07	59.61	0.00	0.00	54.98	0.00	**285.96**
Cal Poly Pomona	4575 Eucalyptus Ave #SPR-RC	CCWRF Distr. Line	Landscape Residential	234606	930	3.00	Current	0.16	0.13	0.12	0.06	0.07	0.08	0.13	0.11	0.14	0.10	0.11	0.00	**1.19**
Cal Trans	Chino Hills Pkwy/71 #SPR-RC	CCWRF Distr. Line	Landscape StreetScape	204765	930	16.00	Current	1.64	1.40	1.35	0.14	0.17	0.23	1.68	0.90	0.21	1.04	0.84	0.00	**9.61**
Calif Cogeneration	5605 COLLEGE PARK AVE #RC	Edison Ave Main A	Industrial cooling	237776	930	100.00	Current	7.95	4.07	3.42	10.68	5.09	3.34	8.70	10.85	8.08	10.96	12.28	0.00	**85.43**
Central Business Owners Assoc	13931-13965 Central Ave	Edison Ave Main A	Landscape Commercial	228206	930	5.00	Current	0.57	0.48	0.47	0.09	0.02	0.38	0.43	0.56	0.30	0.81	0.77	0.00	**4.87**
Central Park Industrial PTNRS	14760 Central Ave	Edison Ave Main A	Landscape Commercial	201340	930	8.00	Current	0.00	0.00	0.04	0.07	0.22	0.17	0.49	0.40	0.81	0.66	0.78	0.00	**3.63**
Central Park Industrial PTNRS	14602-14698 Central Ave	Edison Ave Main A	Landscape Commercial	208612	930	27.00	Current	1.47	1.31	1.39	0.09	0.16	0.14	0.53	0.34	0.93	0.51	0.73	0.00	**7.61**
Central Park Industrial PTNRS	14091 Twelfth St.	Edison Ave Main A	Landscape Commercial	218656	930	3.00	Current	0.41	0.25	0.41	0.07	0.02	0.04	0.05	0.19	0.21	0.52	0.33	0.00	**2.50**
Central Park Industrial PTNRS	14508 Central Ave	Edison Ave Main A	Landscape Commercial	220791	930	9.00	Current	0.81	0.70	0.56	0.09	0.12	0.28	0.64	0.46	0.67	0.52	0.85	0.00	**5.71**
Chaffey College	5897 College Park Ave #SPR-RC	Edison Ave Main A	Landscape School	236281	800	2.50	Current	0.79	0.55	0.28	0.16	0.00	0.23	0.20	0.49	0.52	0.69	0.55	0.00	**4.45**
CHAFFEY COLLEGE	5890 COLLEGE PARK AVE	Edison Ave Main A	Landscape School	237386	800	5.00	Current	0.99	0.53	0.33	0.20	0.00	0.22	0.30	0.46	0.65	1.02	0.85	0.00	**5.54**
Chandler Real Properties	15342 El Prado Rd #SPR-RC	El Prado	Landscape Commercial	230156	800	8.00	Current	0.51	0.45	0.27	0.01	0.03	0.09	0.09	0.00	0.05	0.56	0.75	0.00	**2.81**
Chino Development Corporation	Wetlands Project	Bickmore Ave	Landscape Commercial	221381	800	50.00	Current	15.16	6.95	7.47	1.88	0.22	0.32	0.87	6.11	6.20	11.38	11.08	0.00	**67.63**
Chino Development Corporation	PRESERVE/RINCON MW HYD-R	Bickmore Ave	Landscape Commercial	222351	800	1.00	Current	0.02	0.00	0.00	0.00	0.19	0.00	0.00	0.00	3.12	3.18	1.09	0.00	**7.59**
Chino Hills Ford	4480 Chino Hills Pkwy #SPR-RC	CCWRF Distr. Line	Landscape Commercial	152781	930	10.00	Current	1.00	1.08	1.48	0.16	0.31	0.47	0.58	0.87	1.22	1.41	1.74	0.00	**10.32**
Chino Industrial Commons	5505 Daniels St. #SPR-RC	Edison Ave Main A	Landscape Commercial	221356	930	2.00	Current	0.72	1.12	0.22	0.07	0.00	0.07	0.08	0.21	0.19	0.37	0.29	0.00	**3.34**
Chino Industrial Commons-Owners	5625 Daniels St. #SPR-RC	Edison Ave Main A	Landscape Commercial	221371	930	3.00	Current	1.01	0.60	0.35	0.03	0.00	0.12	0.11	0.31	0.34	0.60	0.50	0.00	**3.97**
CITRUS COMMONS	PARKSIDE/WEST PRES #SPR RC	Bickmore Ave	Landscape Commercial	224836	930	8.00	Current	1.35	0.78	0.45	0.26	0.03	0.25	0.31	0.62	0.79	0.97	0.69	0.00	**6.49**
City of Chino	Edison Ave Bike Trail	Edison Ave Main A	Landscape StreetScape	183539	930	40.00	Current	3.77	2.15	1.78	0.45	0.11	0.74	0.48	1.74	0.00	2.49	2.19	0.00	**15.90**
City of Chino	5604 COLLEGE PARK AVE #SPR-RC		Edison Ave Main A	Landscape StreetScape		236471	930	8.00	Current	34.22	30.73	41.03	29.63	17.77	24.79	25.68	38.04	0.00	43.73	34.71 0.00
City of Chino Ayala Park	5301 Edison Ave	Edison Ave Main A	Landscape Park	189677	800	85.00	Current	6.34	3.49	7.39	0.54	0.34	1.46	1.73	4.45	6.78	7.97	5.75	0.00	**46.24**
CITY OF CHINO AYALA PARK	5301 Edison Ave	Edison Ave Main A	Landscape Park	189685	930	90.00	Current	8.61	5.25	6.19	1.42	0.31	1.66	1.88	4.80	0.00	9.09	7.19	0.00	**46.40**
Cleveland Farm	HYDRANT METER		Agricultural Other	100168		80.00	Current	10.66	0.00	0.00	0.00	0.00	0.00	0.00	20.85	4.44	0.00	0.00	0.00	**35.95**
Cleveland Farm	HYDRANT METER		Agricultural Farm	204811		80.00	Current	79.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**79.91**
Cleveland Farm	HYDRANT METER		Agricultural Farm	218138		80.00	Current	73.69	31.11	1.24	0.00	0.00	0.00	0.00	14.39	7.25	0.00	0.00	0.00	**127.67**
Cleveland Farm	7550 BICKMORE AVE #SPR-RC	Bickmore Ave	Agricultural Farm	237816	800	500.00	Current	19.11	0.00	5.31	0.00	0.00	0.00	5.89	6.49	0.00	11.49	13.73	0.00	**62.00**
CLEVELAND FARM #1	Bickmore East of Euclid#SPR-RC	Bickmore Ave	Agricultural Farm	202517	930	400.00	Current	53.16	15.66	17.66	16.22	0.00	0.00	3.16	32.37	38.98	50.10	51.81	0.00	**279.13**
COLLEGE PARK COMMUNITES	6524 WHEATON #SPR-RC	Edison Ave Main A	Landscape Residential	228216	930	10.00	Current	0.78	0.56	0.18	0.22	0.00	0.13	0.17	0.17	0.13	0.31	0.46	0.00	**3.12**
COLLEGE PARK COMMUNITES	6572 WHEATON	Edison Ave Main A	Landscape Residential	232821	930	5.00	Current	0.82	0.60	0.39	0.22	0.00	0.08	0.12	0.14	0.20	0.47	0.55	0.00	**3.60**
College Park Community Assoc	Eucalyptus/San Antonio #SPR	Edison Ave Main A	Landscape Residential	224291	930	10.00	Current	2.98	2.01	1.60	0.54	0.00	0.35	0.56	1.47	0.91	0.00	0.01	0.00	**10.44**
College Park Community Assoc	San Antonio A/Standford #SPR-RC		Edison Ave Main A	Landscape Residential		224991	930	10.00	Current	1.09	0.48	0.39	0.28	0.00	0.13	0.12	0.25	0.44	0.73	0.98 0.00
College Park Community Assoc	Eucalyptus/Fern #SPR-RC	Edison Ave Main A	Landscape Residential	225001	930	10.00	Current	1.39	1.12	0.70	0.22	0.00	0.12	0.15	0.42	0.55	0.80	1.10	0.00	**6.57**
College Park Community Assoc	6975 EDINBORO ST #SPR-RC	Edison Ave Main A	Landscape Residential	236266	930	10.00	Current	0.14	0.16	0.14	0.07	0.00	0.03	0.03	0.05	0.08	0.10	0.12	0.00	**0.93**
College Park Community Assoc	6623 CLEMSON ST #SPR-RC	Edison Ave Main A	Landscape Residential	236876	930	10.00	Current	1.11	1.22	1.04	0.71	0.16	0.33	0.24	0.43	0.33	1.61	0.99	0.00	**8.17**
College Park Community Assoc	EUCALYPTUS	Edison Ave Main A	Landscape Residential	237876	930	10.00	Current	0.58	0.53	0.37	0.16	0.03	0.09	0.10	0.24	0.57	0.36	0.40	0.00	**3.43**
College Park Community Assoc	EUCALYPTUS #SPR-RC	Edison Ave Main A	Landscape Residential	237881	930	10.00	Current	1.71	1.31	0.86	0.85	0.00	0.66	0.68	0.80	0.68	1.07	1.55	0.00	**10.17**
College Park Community Assoc	6555 EUCALYPTUS	Edison Ave Main A	Landscape Residential	237931	930	10.00	Current	0.64	0.83	0.54	0.36	0.01	0.23	0.15	0.42	0.46	0.56	0.47	0.00	**4.68**
College Park Community Assoc 1	Clemson/Tuskegee So #SPR-RC	Edison Ave Main A	Landscape Residential	224301	930	10.00	Current	1.53	0.90	0.33	0.19	0.00	0.22	0.29	0.34	0.29	0.50	0.92	0.00	**5.51**
College Park Communty Assoc 2	Clemson/Tuskegee No #SPR-RC	Edison Ave Main A	Landscape Residential	224996	930	10.00	Current	1.41	1.00	0.64	0.45	0.01	0.52	0.26	0.54	0.56	0.85	0.91	0.00	**7.13**
Collins Company	5470 Daniels St.	Edison Ave Main A	Landscape Commercial	202487	930	3.00	Current	0.19	0.21	0.15	0.09	0.09	0.06	0.12	0.30	0.14	0.17	0.14	0.00	**1.67**
Colonial Electric	14981 Telephone Ave	CCWRF Distr. Line	Landscape Commercial	132160	930	1.00	Current	0.04	0.03	0.04	0.06	0.08	0.07	0.08	0.07	0.10	0.06	0.08	0.00	**0.72**

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Chino Recycled Water Usage in AF

FY 2013/2014

9/20/2013

Date Range: 9/1/2012 - 9/1/2013

Customer	Site Address	Segment	Type	Meter #	PrZone	Demand	Status	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Total AF
CP BUSINESS PARK PARTNERS LP	CENTRAL/CHINO HILLS PK SPR-RC		Edison Ave Main A	Landscape Commercial		219311	930	3.00	Current	1.17	1.23	1.49	0.22	0.15	0.44	0.70	0.58	0.81	0.62	1.33
CT Storage-Chino LLC	13855 Central Ave #SPR-RC	Edison Ave Main A	Landscape Commercial	232256	930	6.00	Current	0.72	0.60	0.63	0.74	0.58	0.59	0.59	0.74	0.57	0.70	0.28	0.00	**6.74**
CW Farms	S Pine/W of W Preserve Loop #RC		Pine Ave	Agricultural Farm	204943	800	560.00	Current	280.22	188.48	75.50	0.04	0.00	10.78	9.95	104.60	10.51	0.39	91.07	0.00
CW Farms II	Pine Ave W/of Grove #RC	Outfall Ext	Agricultural Farm	217700	800	100.00	Current	21.44	24.62	0.00	0.00	0.00	9.92	13.65	13.41	13.24	0.00	14.10	0.00	**110.38**
CW Farms III	Remington/Walker Ave. #RC	TP-1 Outfall	Agricultural Farm	218356	800	320.00	Current	135.38	43.94	33.50	11.69	1.78	4.74	1.01	28.97	62.88	81.75	54.72	0.00	**460.35**
DBRS Medical System	13820 Benson Ave	Edison Ave Main A	Landscape Commercial	206687	930	1.00	Current	0.14	0.11	0.08	0.01	0.00	0.00	0.00	0.04	0.09	0.11	0.14	0.00	**0.73**
Dept. of Corrections State	14515 Central Ave #B SPR/R	Edison Ave Main A	Landscape Commercial	233961	930	15.00	Current	0.47	0.68	0.71	0.44	0.41	0.38	1.10	1.38	0.00	3.11	1.11	0.00	**9.78**
DO + ABLE Product	5150 Edison Ave	Edison Ave Main A	Landscape Commercial	143316	930	6.00	Current	0.66	0.65	0.60	0.00	0.14	0.15	0.57	0.29	0.57	0.64	0.69	0.00	**4.96**
DOWNING CONSTRUCTION INC	Mountain/Bickmore			100258	800	2.00	Current	0.00	0.00	0.00	0.00	0.00	0.00	0.19	-0.02	0.17	0.00	0.03	0.00	**0.37**
DR Horton	HYDRANT METER	1299 E Pipeline	Agricultural Commercial	190152	800	1.00	Current	0.00	0.00	0.00	0.00	0.11	0.02	0.00	0.00	0.00	0.00	0.00	0.00	**0.13**
DR Horton	14569 Purdue	Edison Ave Main A	Landscape Residential	231021	930	1.00	Current	0.59	0.50	0.38	0.12	0.03	0.12	0.22	0.31	0.39	0.46	0.40	0.00	**3.53**
DSC Logistics	5116 Chino Hills Parkway	Edison Ave Main A	Landscape Park	197475	930	5.00	Current	0.98	1.32	1.67	0.19	0.40	0.49	1.07	0.84	1.09	1.05	1.44	0.00	**10.56**
El Prado Rd Business Owners	15278 EL PRADO RD	El Prado	Landscape Commercial	221436	800	6.00	Current	0.83	0.80	0.65	0.12	0.00	0.39	0.49	0.45	0.44	0.31	0.64	0.00	**5.13**
EQUIPMENT WHOLESALERS	Daniels Ave #SPR-RC	Edison Ave Main A	Landscape Commercial	223456	930	3.00	Current	0.12	0.10	0.10	0.12	0.10	0.11	0.11	0.14	0.11	0.14	0.10	0.00	**1.25**
EVERBLOOM ENTERPRISE LLC	13975 CENTRAL AVE	Edison Ave Main A	Landscape Commercial	100019	930	5.00	Current	0.45	0.38	0.38	0.48	0.34	0.45	0.39	0.51	0.51	0.64	0.46	0.00	**5.00**
Evergreen at The Preserve	15731 Earhart Ct #SPR-RC	Bickmore Ave	Landscape Residential	221271	800	2.00	Current	1.14	0.79	0.56	0.44	0.45	0.28	0.27	0.79	1.15	1.24	1.14	0.00	**8.25**
Evergreen at the Preserve (222671-2)		8200 Garden gate ct #SPR-RC		Bickmore Ave	Landscape Residential	222671		800	2.00	Current	0.25	0.14	0.06	0.05	0.00	0.01	0.04	0.08	0.08	0.20
Excel INC	14701 Yorba CT	CCWRF Distr. Line	Landscape Commercial	195766	930	7.00	Current	0.31	0.46	0.46	0.04	0.06	0.05	0.20	0.47	0.86	0.63	0.72	0.00	**4.25**
Farrand Enterprises	14375 Monte Vista Ave #SPR-RC	Edison Ave Main A	Landscape Commercial	103918	930	2.00	Current	0.22	0.27	0.20	0.00	0.03	0.03	0.13	0.19	0.27	0.17	0.21	0.00	**1.72**
FIRST INDUSTRIAL	6185 KIMBALL AVE			100337	800		Discontinued	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.98	1.62	1.15	0.00	**3.74**
Funding Resources	13960 Benson Ave	Edison Ave Main A	Landscape Commercial	218081	930	4.00	Current	1.26	0.17	0.11	0.05	0.07	0.05	0.07	0.16	0.17	0.20	0.26	0.00	**2.56**
FUSION 5 CONDO ASSOCIATION	15804 MCINTOSH AVE	Bickmore Ave	Landscape Commercial	236491	930	3.00	Current	0.13	0.50	0.17	0.17	0.05	0.10	0.07	0.09	0.20	0.37	0.49	0.00	**2.34**
Garrett Concrete	14923 Telephone Ave	CCWRF Distr. Line	Landscape Commercial	142794	800	4.00	Current	0.17	0.14	0.17	0.08	0.09	0.15	0.15	0.07	0.09	0.07	0.08	0.00	**1.26**
Garrett Concrete	14920 Telephone Ave	CCWRF Distr. Line	Landscape Commercial	190012	800	2.00	Current	0.00	0.12	0.17	0.03	0.03	0.05	0.12	0.07	0.16	0.16	0.15	0.00	**1.07**
GILBERT WEST	16133 S FERN AVE	Edison Ave Main A	Landscape Commercial	237216	800	2.50	Current	1.84	1.26	1.12	0.42	0.09	0.42	0.72	1.16	1.09	1.46	1.24	0.00	**10.84**
GMC ENGINEERING INC	HYDRANT METER			100205		0.01	Current	0.00	0.00	0.00	0.15	0.01	0.00	0.00	0.16	0.00	0.10	0.00	0.00	**0.42**
Gro-Power Inc	15065 Telephone Ave	CCWRF Distr. Line	Landscape Commercial	103365	800	1.00	Current	0.25	0.26	0.24	0.11	0.08	0.12	0.21	0.19	0.25	0.16	0.17	0.00	**2.06**
H PLACENICIA NURSERY	8005 PINE AVENUE	Outfall Ext	Landscape Other	100007	800	15.00	Current	2.87	2.23	1.89	2.02	1.01	1.23	1.99	3.13	4.07	5.58	4.09	0.00	**30.11**
HERMAN WEISSKER INC	HYDRANT METER	1299 E Pipeline	Agricultural Commercial	205117	930	1.00	Current	1.95	0.00	2.78	0.13	0.03	0.18	0.10	0.93	0.53	0.45	0.17	0.00	**7.26**
HILL PHOENIX INC	14680 MONTE VISTA AVE	CCWRF Distr. Line	Landscape Commercial	198811	930	5.00	Current	0.77	0.77	0.42	0.00	0.09	0.12	0.41	0.34	0.87	0.66	0.86	0.00	**5.31**
HYUNDAI-KIA AMERICA	14011 TWELFTH ST #SPR-RC	Edison Ave Main A	Landscape Commercial	218651	930	2.00	Current	0.35	0.29	0.17	0.11	0.00	0.00	0.02	0.05	0.12	0.25	0.19	0.00	**1.55**
INSTITUFORM TECHNOLOGIES INC	HYDRANT METER		Unknown StreetScape	100078	930	0.00	Discontinued	0.00	0.00	0.00	0.00	2.00	0.33	0.19	1.95	0.00	0.00	0.00	0.00	**4.47**
Jasmine Willows HOA	Begonia & Holland Park #SPR	Bickmore Ave	Landscape Residential	233296	800	1.00	Current	0.37	0.26	0.15	0.10	0.00	0.10	0.09	0.18	0.19	0.33	0.22	0.00	**1.99**
K-8 SCHOOL (PRESERVE)	8150 GARDEN PARK SCHOOL #SPR		Edison Ave Main A	Landscape School	228201	930	15.00	Current	3.22	2.28	0.57	0.20	0.00	0.00	0.49	1.94	2.08	2.92	3.39	0.00
KB Homes	8090 PINE AVE	Outfall Ext		100147	800	1.00	Current	0.00	0.00	0.00	0.00	0.00	0.00	0.00	39.59	2.13	2.96	3.08	0.00	**47.75**
KB Homes	7988 PINE AVE	TP-1 Outfall	Landscape Other	100148	800	7.00	Current	0.00	0.00	0.00	0.00	10.98	0.55	0.16	0.62	0.52	0.77	1.17	0.00	**14.77**
KB Homes	HYDRANT METER	1299 E Pipeline	Landscape Residential	221711	930	3.00	Current	0.33	0.20	0.00	0.08	0.05	0.01	0.00	0.09	0.03	0.27	0.59	0.00	**1.65**
KB Homes	BICKMORE/HUNTINGTON GARDEN		Landscape Residential	235086	800	2.00	Current	0.54	0.53	0.20	0.18	0.02	0.06	0.14	0.19	0.15	0.33	0.45	0.00	**2.78**
Kinfine USA Inc	13824 YORBA AVE	Edison Ave Main A	Landscape Park	136123	930	2.00	Current	0.49	0.47	0.32	0.25	0.30	0.20	0.30	0.22	0.45	0.37	0.34	0.00	**3.71**
La Brucherie Farms	Kimball & Rincon Meadows #RC	Bickmore Ave	Agricultural Farm	223811	800	50.00	Current	60.97	44.86	19.94	19.44	5.42	9.22	19.61	30.49	28.24	29.73	39.20	0.00	**307.10**
LENNAR HOMES OF CA	6287 EUCALYPTUS AVE	Edison Ave Main A	Landscape Commercial	100169	1050	0.82	Current	0.19	0.19	5.64	0.35	0.17	0.59	0.88	3.43	1.99	2.05	1.19	0.00	**16.69**
LENNAR HOMES OF CA	6069 EUCALYPTUS AVE	Edison Ave Main A	Landscape Commercial	100170	1050	1.23	Current	0.24	0.24	7.19	0.79	0.14	0.78	0.35	1.09	1.07	1.72	1.23	0.00	**14.83**
LENNAR HOMES OF CA	5981 EUCALYPTUS AVE	Edison Ave Main A	Landscape Commercial	100171	1050	0.66	Current	0.19	0.14	5.22	0.65	0.64	1.12	0.59	1.41	1.16	1.48	1.99	0.00	**14.60**
LENNAR HOMES OF CA	6088 SATTERFIELD		Landscape StreetScape	100174		4.10	Current	0.00	0.00	0.35	0.28	0.00	0.49	0.50	0.69	0.52	0.73	0.63	0.00	**4.18**
LENNAR HOMES OF CA	6291 SATTERFIELD		Landscape StreetScape	100175		5.70	Current	0.00	0.00	0.48	0.57	0.75	1.06	0.93	1.13	0.92	1.15	1.35	0.00	**8.33**
LENNAR HOMES OF CA	6287 SHEFFIELD ST	Edison Ave Main A		100186	930	1.00	Current	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.05	0.06	0.05	0.00	**0.24**
LENNAR HOMES OF CA	6019 Appalachian		Landscape StreetScape	100187	1630	6.40	Current	0.00	0.00	0.54	0.05	0.02	0.36	0.56	1.89	1.81	2.47	1.58	0.00	**9.27**
LENNAR HOMES OF CA	14687 APPALACHIAN ST			100190		10.00	Current	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.80	0.27	0.18	0.12	0.00	**1.38**
LENNAR HOMES OF CA	14549 APPALACHIAN ST			100191		3.00	Current	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.44	0.42	0.99	0.00	**2.10**

Inland Empire Utilities Agency
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Date Range: 9/1/2012 - 9/1/2013

Customer	Site Address	Segment	Type	Meter #	PrZone	Demand	Status	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Total AF
LENNAR HOMES OF CA	LENNAR HOMES OF CALIFORNIA		Landscape Other	100199		7.00	Current	0.00	0.00	0.00	0.02	0.03	0.24	0.28	0.15	0.18	0.30	0.27	0.00	**1.46**
LENNAR HOMES OF CA	6084 APPALACHIAN ST			100327			Current	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.00	**0.27**
LENNAR HOMES OF CA	HYDRANT METER	1299 E Pipeline	Landscape Residential	218324	930	1.00	Discontinued	0.00	0.00	0.00	0.00	0.00	0.14	0.04	0.02	0.00	0.00	0.00	0.00	**0.21**
LENNAR HOMES OF CA	HYDRANT METER			221691			Current	0.00	0.00	0.00	0.00	0.00	2.00	0.15	0.08	0.50	0.62	0.44	0.00	**3.80**
LENNAR HOMES OF CA	HYDRANT METER	1299 E Pipeline	Landscape Residential	221911	930	1.00	Current	0.79	0.24	0.17	0.00	0.00	0.00	0.52	0.44	0.48	0.55	0.45	0.00	**3.64**
LENNAR HOMES OF CA	14123 OAKS AVE	Edison Ave Main A	Landscape Residential	235036	930	1.00	Current	2.03	1.55	1.01	1.04	0.58	1.44	1.52	1.86	1.47	1.88	1.54	0.00	**15.94**
LENNAR HOMES OF CA	14124 OAKS AVE	Edison Ave Main A	Landscape Residential	235041	930	1.00	Current	0.84	2.39	0.69	0.73	1.19	2.93	0.85	0.36	0.34	0.50	1.10	0.00	**11.92**
Lewis Operating Corp	Main St/Kimball Ave, Hydrant Meter		Bickmore Ave	Landscape Residential		185752	930	1.00	Current	0.83	0.95	0.00	1.90	0.96	1.21	2.16	4.61	3.06	2.63	3.16 0.00
Lewis Operating Corp	16100 Rincon Meadows	Bickmore Ave	Landscape Residential	221281	800	6.00	Current	1.65	5.82	0.16	0.09	0.00	0.01	0.11	0.37	0.62	1.01	1.32	0.00	**11.17**
LW INCOME PROPERTIES	5051 EDISON AVE #SPR-RC	Edison Ave Main A	Landscape Commercial	130176-2	930	2.00	Discontinued	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.01**
Majestic Management	14510-70 Monte Vista Ave #SPR	CCWRF Distr. Line	Landscape Commercial	198803	930	7.00	Current	1.15	0.96	0.59	0.04	0.19	0.26	0.68	0.44	1.03	0.87	1.19	0.00	**7.39**
MEF Realty LLC	5220-5228 Edison Ave #SPR-RC	Edison Ave Main A	Landscape Residential	165271	930	1.00	Current	0.25	0.24	0.31	0.03	0.10	0.00	0.09	0.08	0.17	0.35	0.20	0.00	**1.83**
MESA CONTRACTING CORP	SOUTH/E OF COLLEGE BLDG #RC	Edison Ave Main A	Agricultural Commercial	237686	930	3.00	Current	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.15**
MONTE VISTA #3	14720 MONTE VISTA AVE #SPR-RC		CCWRF Distr. Line	Landscape StreetScape		199737	930	5.00	Current	0.79	0.80	0.57	0.00	0.09	0.09	0.25	0.42	0.80	0.87	1.04 0.00
MONTE VISTA #3	14880 MONTE VISTA AVE #SPR-RC		CCWRF Distr. Line	Landscape StreetScape		199745	930	5.00	Current	0.12	0.59	0.52	0.00	0.10	0.15	0.37	0.53	0.92	0.74	0.90 0.00
National Distribution Center	16045 MOUNTAIN AVE	Bickmore Ave	Landscape Commercial	228431	800	5.00	Current	2.75	1.41	2.04	0.47	0.29	0.49	0.52	0.84	1.12	2.98	2.08	0.00	**14.99**
National Distribution Center	16045 MOUNTAIN AVE #SPR-RC	Bickmore Ave	Landscape Commercial	237946	800	2.00	Current	4.63	2.41	2.39	0.83	0.19	1.02	1.38	1.99	1.73	2.60	2.51	0.00	**21.69**
NEXGRILL INDUSTRIES INC	5270 EDISON AVE	Edison Ave Main A	Landscape Commercial	163112	930	5.00	Current	0.46	0.47	0.28	0.03	0.05	0.02	0.15	0.17	0.40	0.42	0.42	0.00	**2.90**
NORCO INJECTION MOLDING	14286 Monte Vista	Edison Ave Main A	Landscape Commercial	188336	930	5.00	Current	0.39	0.38	0.51	0.07	0.05	0.10	0.11	0.09	0.19	0.20	0.34	0.00	**2.42**
NORCO INJECTION MOLDING	5500 DANIELS AVE #SPR-RC	Edison Ave Main A	Landscape Commercial	237681	800	5.00	Current	0.33	0.04	0.05	0.06	0.05	0.05	0.05	0.07	0.05	0.07	0.05	0.00	**0.88**
NORCO INJECTION MOLDING	14325 MONTE VISTA AVE	Edison Ave Main A	Landscape Commercial	33294	800	5.00	Current	0.44	0.50	0.40	0.26	0.20	0.32	0.71	0.80	1.20	0.83	0.97	0.00	**6.63**
Nyenhius Dairy	8711 Remington Ave #AGR	TP-1 Outfall	Agricultural Dairy	236291	800	150.00	Current	129.70	121.93	56.26	39.24	20.77	34.51	44.88	77.36	0.00	108.71	70.06	0.00	**703.43**
Oltmans Construction	15970 MOUNTAIN AVE			100338	800		Current	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.46	0.00	**0.70**
OMNIA ITALIAN DESIGN	4950 Edison Ave #SPR-RC	Edison Ave Main A	Landscape Commercial	179310	930	7.00	Current	1.47	0.77	0.81	0.05	0.12	0.53	0.68	0.53	0.81	0.64	0.72	0.00	**7.13**
ORANGE COUNTY WATER DISTRICT	HYDRANT METER 1	1299 E Pipeline	Agricultural Commercial	210048	800	1.00	Current	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.00	0.11	0.00	0.00	0.00	**0.75**
Panattoni Construction	4565 Eucalyptus Ave #SPR-RC	CCWRF Distr. Line	Landscape Residential	234611	930	5.00	Current	0.75	0.68	0.98	0.08	0.16	0.15	0.23	0.30	0.76	0.55	0.46	0.00	**5.11**
Panattoni Construction	14559 Ramona Ave #MED-RC	CCWRF Distr. Line	Landscape Residential	234616	930	4.00	Current	0.20	0.24	0.23	0.00	0.03	0.02	0.07	0.09	0.25	0.20	0.21	0.00	**1.56**
Panattoni Construction	14607 Ramona Ave #SPR-RC	CCWRF Distr. Line	Landscape Residential	234621	930	9.00	Current	0.68	0.68	0.50	0.09	0.17	0.06	0.20	0.24	0.38	0.38	0.42	0.00	**3.82**
Panattoni Construction	14609 Ramona Ave #SPR-RC	CCWRF Distr. Line	Landscape Residential	234626	930	4.00	Current	0.70	0.71	0.49	0.00	0.06	0.04	0.11	0.16	0.70	0.45	0.48	0.00	**3.89**
Panattoni Construction	4685 EUCALYPTUS AVE #SPR-RC	CCWRF Distr. Line	Landscape Residential	236751	930	3.00	Current	0.48	0.41	0.03	0.00	0.00	0.00	0.01	0.06	0.39	0.30	0.33	0.00	**2.01**
PARKCREST CONSTRUCTION INC	7105 KIMBALL AVE	Bickmore Ave	Construction Temporary	100075	800	1.00	Current	0.50	0.28	0.59	0.54	0.05	0.14	0.12	0.29	0.44	0.44	0.55	0.00	**3.93**
PARKCREST CONSTRUCTION INC	15709 EUCLID AVE	Bickmore Ave	Construction Commercial	100106	800	2.00	Current	0.47	0.36	0.30	0.24	0.00	0.10	0.00	0.05	0.23	0.28	0.31	0.00	**2.33**
PARKCREST CONSTRUCTION INC	EUCLID AVE/KIMBALL AVE	Bickmore Ave	Construction Temporary	236881_old	800	1.00	Discontinued	0.00	0.00	0.00	1.92	1.47	2.42	1.24	22.96	0.00	0.99	0.00	0.00	**30.99**
Portrait Construction, Inc.	Portrait Construction, Inc.	Bickmore Ave	Construction Other	100077	800	2.00	Current	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.44	0.55	0.42	0.71	0.00	**2.31**
Preserve Maintenance Corp	8273 KIMBALL AVE #SPR-RC	Bickmore Ave	Landscape Residential	221811	800	2.00	Current	0.67	0.63	0.24	0.13	0.00	0.05	0.12	0.23	0.39	0.54	0.43	0.00	**3.44**
Preserve Maintenance Corp	15702 Meadow Valley #SPR-RC	Bickmore Ave	Landscape Residential	223461	800	2.00	Current	0.90	0.58	0.22	0.22	0.00	0.11	0.06	0.25	0.36	0.45	0.38	0.00	**3.53**
Preserve Maintenance Corp	15703 Meadow Valley #SPR-RC	Bickmore Ave	Landscape Residential	223471	800	1.00	Current	0.33	0.42	0.02	0.16	0.00	0.03	0.00	0.11	0.22	0.40	0.50	0.00	**2.19**
Preserve Maintenance Corp	8595 Forest Park #SPR-RC	Bickmore Ave	Landscape Residential	223491	800	5.00	Current	0.53	0.45	0.20	0.09	0.04	0.05	0.02	0.22	0.27	0.35	0.32	0.00	**2.55**
Preserve Maintenance Corp	8381 Kimball Ave #SPR-RC	Bickmore Ave	Landscape Residential	224126	800	2.00	Current	0.71	0.73	0.46	0.24	0.01	0.12	0.27	0.51	0.30	0.72	0.65	0.00	**4.70**
Preserve Maintenance Corp	7703 Kimball Ave #SPR-RC	Bickmore Ave	Landscape Residential	224136	800	4.00	Current	1.21	1.03	0.40	0.16	0.03	0.16	0.17	0.42	0.59	1.29	1.41	0.00	**6.85**
Preserve Maintenance Corp	15990 Nature Trail #SPR-RC	Bickmore Ave	Landscape Residential	225546	800	12.00	Current	3.20	1.91	0.78	0.84	0.00	0.11	0.65	0.94	0.83	1.24	1.29	0.00	**11.78**
Preserve Master Community	15779 Starfighter Ave #SPR-R	Bickmore Ave	Landscape Residential	218456	800	10.00	Current	0.26	0.14	0.13	0.05	0.00	0.01	0.03	0.12	0.09	0.25	0.22	0.00	**1.29**
Preserve Master Corp	7920 Bickmore Ave #SPR-RC	Bickmore Ave	Landscape Residential	218451	800	7.00	Current	0.96	0.96	0.38	0.20	0.00	0.06	0.17	0.47	0.62	0.76	0.77	0.00	**5.37**
Preserve Master Corp	8704 Bridle Path ST #A #SPR	Bickmore Ave	Landscape Residential	222011	800	5.00	Current	3.56	2.08	0.62	1.39	0.01	0.79	0.50	1.58	1.32	1.82	1.88	0.00	**15.53**
PRESERVE MASTER MAINTENANCE	7973 KIMBALL AVE #SPR-RC	Bickmore Ave	Landscape Residential	218416	800	3.00	Current	1.23	0.71	0.33	0.14	0.00	0.07	0.15	0.13	0.39	0.60	0.50	0.00	**4.24**
PRESERVE MASTER MAINTENANCE	8456 E PRESERVE LOOP #SPR-RC	Bickmore Ave	Landscape Residential	218431	800	7.00	Current	1.47	1.02	0.47	0.25	0.00	0.11	0.20	0.41	0.89	1.12	0.71	0.00	**6.65**
PRESERVE MASTER MAINTENANCE	8344 FOREST PARK ST #SPR-RC	Bickmore Ave	Landscape Residential	218436	800	4.00	Current	0.76	0.62	0.25	0.13	0.04	0.09	0.08	0.30	0.42	0.89	0.96	0.00	**4.54**
PRESERVE MASTER MAINTENANCE	8473 FOREST PARK ST #SPR-RC	Bickmore Ave	Landscape Residential	218441	800	3.00	Current	0.57	0.44	0.23	0.13	0.00	0.09	0.12	0.23	0.24	0.37	0.52	0.00	**2.95**
PRESERVE MASTER MAINTENANCE	8100 W PRESERVE LOOP #SPR-RC		Bickmore Ave	Landscape Residential		218481	800	5.00	Current	1.84	1.42	0.31	0.15	0.00	0.05	0.17	0.48	0.80	0.58	0.65 0.00

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PRESERVE MASTER MAINTENANCE	8179 KIMBALL AVE #SPR-RC	Bickmore Ave	Landscape Residential	224141	800	1.00	Current	0.25	0.47	0.19	0.09	0.00	0.06	0.10	0.16	0.23	0.35	0.28	0.00	**2.19**
PRESERVE MASTER MAINTENANCE	15750 MILL CREEK #SPR-RC	Bickmore Ave	Landscape Residential	224146	800	3.00	Current	0.67	0.93	0.30	0.25	0.00	0.11	0.12	0.22	0.34	0.74	0.64	0.00	**4.33**
PRESERVE MASTER MAINTENANCE	7714 BICKMORE AVE SPR-RC	Bickmore Ave	Landscape Residential	224151	800	7.00	Current	1.57	1.43	0.75	0.43	0.20	0.35	0.56	0.82	0.95	1.27	1.49	0.00	**9.83**
PRESERVE MASTER MAINTENANCE	8151 WEST PRESERVE LOOP-PARK		Bickmore Ave	Landscape Residential		228196	800	25.00	Current	3.70	2.55	1.30	1.14	0.12	0.40	0.89	2.96	2.27	3.96	4.02	0.00
PRESERVE MASTER MAINTENANCE	16343 MEADOWHOUSE AVE #SPR-RC		Bickmore Ave	Landscape Residential		236891	800	9.00	Current	0.79	0.63	0.39	0.51	0.02	0.30	0.37	0.62	0.70	0.64	1.05	0.00
PRESERVE MASTER MAINTENANCE	8383 KIMBALL AVE #SPR-RC	Bickmore Ave	Landscape Residential	237186	800	2.00	Current	0.20	0.17	0.13	0.06	0.00	0.03	0.06	0.22	0.15	0.21	0.17	0.00	**1.39**
PRESERVE MASTER MAINTENANCE	7585 BICKMORE AVE #SPR-RC	Bickmore Ave	Landscape Residential	237286	800	2.00	Current	0.54	0.21	0.20	0.05	0.01	0.02	0.00	0.08	0.06	0.08	0.07	0.00	**1.33**
PRESERVE MASTER MAINTENANCE	15591 RETREAT #SPR-RC	Bickmore Ave	Landscape Residential	237446	800	2.00	Current	0.68	0.48	0.49	0.08	0.11	0.11	0.22	0.49	0.43	0.67	0.62	0.00	**4.38**
Quetico Schaefer Properties	5610 Daniels St.#SPR/RC	Edison Ave Main A	Landscape Commercial	207624	930	4.00	Current	0.73	0.83	0.59	0.33	0.03	0.15	0.22	0.39	0.39	0.54	0.45	0.00	**4.64**
Redbuilt LLC	5088 EDISON AVE #SPR-RC	Edison Ave Main A	Landscape Commercial	190691	930	3.00	Current	0.20	0.21	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.41	0.00	**1.38**
Redwood Business Center	13851-97 Redwood Ave#SPR-RC	Edison Ave Main A	Landscape Commercial	220186	930	4.00	Current	0.68	0.39	0.29	0.10	0.11	0.11	0.11	0.17	0.41	0.95	0.77	0.00	**4.07**
Repet Inc	14207 MONTE VISTA AVE	Bickmore Ave	Landscape Park	175250	930	1.00	Current	1.24	1.65	1.89	1.35	1.20	1.80	3.38	2.13	2.76	2.42	2.34	0.00	**22.17**
Richardson, Don	Kimball & Rincon Meadows #RC	Bickmore Ave	Agricultural Dairy	223806	800	40.00	Current	10.97	8.26	6.43	2.39	1.31	2.32	2.74	7.47	8.15	12.74	8.17	0.00	**70.96**
SADDLE CREEK CORPORATION	5026 CHINO HILLS PARKWAY	CCWRF Distr. Line	Landscape Commercial	197653	930	5.00	Current	0.85	0.91	0.30	0.05	0.09	0.10	0.16	0.32	1.00	0.58	0.93	0.00	**5.30**
San Bdno County Fairgrounds	5410 Edison Ave #SPR-RC	Edison Ave Main A	Landscape Other	191825	930	10.00	Current	1.35	0.96	0.64	0.59	0.07	0.47	0.61	0.78	1.10	1.86	1.70	0.00	**10.14**
San Bdno County Fairgrounds	5410 Edison Ave, HYD-RC	Edison Ave Main A	Landscape Other	191833	930	2.00	Current	0.03	0.07	0.02	0.01	0.00	0.00	0.00	0.02	0.09	0.09	0.20	0.00	**0.53**
SCOTT ENGINEERING	5051 EDISON AVE #SPR-RC	Edison Ave Main A	Landscape Commercial	130176	930	1.00	Current	0.10	0.13	0.09	0.05	0.04	0.03	0.00	0.04	0.29	0.14	0.25	0.00	**1.17**
SEACOUNTRY HOMES	15777 MC INTOSH AVE	Bickmore Ave	Landscape Residential	100074	800	4.00	Current	0.54	1.17	0.67	0.50	0.51	0.35	0.16	1.08	1.10	2.30	2.13	0.00	**10.53**
Shamrock Marketing	5445 Daniels St	Edison Ave Main A	Landscape Commercial	196819	930	1.00	Current	0.09	0.10	0.08	0.06	0.00	0.02	0.08	0.07	0.09	0.08	0.09	0.00	**0.74**
SOUTHERN CALIFORNIA EDISON	14005 BENSON AVE	Edison Ave Main A	Landscape Other	237961	930	1.00	Current	0.11	0.08	0.10	0.06	0.02	0.00	0.01	0.03	0.04	0.05	0.04	0.00	**0.55**
Standard Pacific	6632 EUCALYPTUS AVE	Edison Ave Main A	Landscape Other	100105	1050	2.00	Current	0.00	0.00	0.00	0.07	0.11	0.11	0.17	0.06	0.07	0.19	0.21	0.00	**0.99**
Standard Pacific	6615 EUCALYPTUS AVE	Edison Ave Main A		100262	930	2.00	Current	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.48	0.06	0.54	0.00	**1.23**
Standard Pacific	0 HYD MTR 04074614	1299 E Pipeline	Agricultural Commercial	218586	800	2.00	Current	0.00	0.00	0.00	0.00	0.00	0.46	0.00	0.00	0.00	0.44	0.00	0.00	**0.90**
Standard Pacific	15784 Canopy Ave #SPR-RC-Park	TP-1 Outfall Relocation		Landscape Commercial		236896	800	2.00	Current	1.56	1.02	0.42	0.24	0.02	0.22	0.20	0.62	1.08	1.50	1.61	0.00
STICE COMPANY INC	Pine/Euclid NW Corner	Outfall Ext	Construction Other	100259	800	45.00	Current	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.75	4.24	4.43	1.97	0.00	**14.38**
STICE COMPANY INC	Pine/Euclid NW Corner	Outfall Ext		100260	800	12.00	Current	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.97	3.25	4.29	4.40	0.00	**12.90**
SUKUT CONSTRUCTION INC	8600 Chino Corona Rd.	TP-1 Outfall	Construction Commercial	100202	800	2.00	Current	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.21**
Sundance Spas	14525 Monte Vista Ave #SPR-RC	Edison Ave Main A	Landscape Commercial	194808	930	6.00	Current	0.88	1.06	0.62	0.02	0.09	0.13	0.31	0.49	0.96	0.88	1.04	0.00	**6.49**
Sundance Spas	14675 Monte Vista Ave #SPR-RC	Edison Ave Main A	Landscape Commercial	194883	930	10.00	Current	0.71	0.84	0.62	0.01	0.07	0.10	0.27	0.36	0.48	0.54	0.68	0.00	**4.68**
Superior Sod	PINE & HELLMAN #SPR-RC	TP-1 Outfall Relocation		Industrial Process	236921	800	200.00	Current	32.88	22.12	13.33	3.92	3.56	9.84	14.47	40.71	32.33	47.28	21.28	0.00	**241.**
Superior Sod	CHINO CORONA RD #SPR-RC	Outfall Ext	Industrial Process	237361	800	200.00	Current	26.93	14.10	12.75	2.55	1.12	3.95	5.80	14.46	16.15	14.09	15.11	0.00	**127.02**
Superior Sod	CHINO CORONA RD	Outfall Ext	Industrial Process	237871	800	200.00	Current	42.74	24.88	10.62	2.50	0.72	1.47	1.98	5.38	7.72	10.22	6.25	0.00	**114.47**
Superior Sod #4	8545 PINE AVE - RC	TP-1 Outfall	Industrial Process	100091	800	55.00	Current	28.33	20.03	12.30	5.50	3.37	5.08	9.58	0.00	35.73	34.25	19.43	0.00	**173.58**
Superior Sod #4	8900 Bickmore Ave.	Outfall Ext	Agricultural Farm	100166	800	4.00	Current	0.00	0.00	0.26	0.17	0.03	0.15	0.14	0.52	0.62	0.35	0.00	0.00	**2.25**
SUPERIOR SOD AIRPORT #1	KIMBALL AVE/WALKER AVE			100261	800	80.00	Current	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	15.24	41.24	32.05	0.00	**88.54**
Tetherwinds Neighborhood	158519 LINDBERGH AVE	TP-1 Outfall Relocation		Landscape Residential		224166	800	3.00	Current	0.80	0.89	0.60	0.27	0.00	0.21	0.26	0.48	0.42	0.53	0.78	0.00
Tetherwinds Neighborhood	15850 Lindbergh Ave #SPR-RC	Bickmore Ave	Landscape Residential	224171	800	25.00	Current	0.76	0.42	0.52	0.27	0.00	0.10	0.14	0.34	0.34	0.42	0.57	0.00	**3.88**
Tetherwinds Neighborhood	158519 LINDBERGH AVE	TP-1 Outfall Relocation		Landscape Residential		224176	800	3.00	Current	0.51	0.67	0.41	0.31	0.03	0.08	0.11	0.47	0.37	0.44	0.77	0.00
Tetherwinds Neighborhood	15754 Lindbergh Ave #SPR-RC	Bickmore Ave	Landscape Residential	224191	800	5.00	Current	0.65	0.41	0.37	0.18	0.00	0.26	0.18	0.62	0.70	0.59	0.65	0.00	**4.61**
The Campus Owners Corp	14091 TWELFTH ST B-SPR	Edison Ave Main A	Landscape Commercial	218676	930	6.00	Current	0.81	0.74	0.71	0.14	0.04	0.09	0.09	0.21	0.44	1.12	0.87	0.00	**5.27**
The Preserve Master Community	15871 Main Street #SPR-RC	Bickmore Ave	Landscape Residential	218386	800	10.00	Current	1.73	1.24	0.43	0.39	0.29	0.27	0.45	0.52	1.06	0.97	0.88	0.00	**8.21**
The Preserve Master Community	EAST HUNTINGTON GARDEN #SPR-RC		Bickmore Ave	Landscape Residential		218396	800	6.00	Current	1.86	1.29	0.69	0.29	0.00	0.21	0.25	1.18	1.03	1.67	1.35	0.00
The Preserve Master Community	8122 Garden Park St #SPR-RC	Bickmore Ave	Landscape Residential	218446	800	6.00	Current	1.17	0.89	0.29	0.26	0.00	0.17	0.20	0.52	0.84	1.38	1.54	0.00	**7.26**
The Preserve Master Community	15784 CANOPY AVE #SPR-RC PARK		Bickmore Ave	Landscape Residential		236846	800	10.00	Current	0.39	0.26	0.09	0.05	0.02	0.04	0.00	0.25	0.18	0.25	0.36	0.00
Trammel Crow So Cal Inc	14651 Yorba Ct SPR-RC	CCWRF Distr. Line	Landscape Commercial	195790	930	4.00	Current	0.38	0.65	0.19	0.04	0.10	0.09	0.19	0.58	0.81	0.68	0.81	0.00	**4.52**
Trammel Crow So Cal Inc	14575 Yorba Ct	CCWRF Distr. Line	Landscape Commercial	195820	930	5.00	Current	0.21	0.39	0.36	0.02	0.05	0.04	0.14	0.29	0.39	0.34	0.41	0.00	**2.64**
Trammel Crow So Cal Inc	4775 Eucalyptus Ave	CCWRF Distr. Line	Landscape Commercial	195839	930	1.00	Current	0.29	0.37	0.27	0.00	0.02	0.00	0.12	0.24	0.64	0.50	0.56	0.00	**3.00**
Trammel Crow So Cal Inc	YORBA/EUCALYPTUS (SW) #SPR-RC		CCWRF Distr. Line	Landscape Commercial		195871	930	1.00	Current	0.08	0.13	0.08	0.00	0.01	0.00	0.04	0.08	0.18	0.14	0.15	0.00
Trammel Crow So Cal Inc	14525 YORBA AVE #SPR RC	CCWRF Distr. Line	Landscape Commercial	195898	930	3.00	Current	0.22	0.40	0.27	0.00	0.02	0.00	0.09	0.20	0.45	0.36	0.41	0.00	**2.42**

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Valbruna	13930-13950 Benson Ave #SPR-RC		Edison Ave Main A	Landscape Commercial		216917	930	3.00	Current	0.37	0.22	0.15	0.11	0.00	0.00	0.00	0.17	0.15	0.18	0.15	0.00
Viaverde Nursery	MAIN ST/FORREST PARK #SPR-RC		Bickmore Ave	Landscape Other	237756	800	13.00	Current	5.98	4.57	3.33	1.53	1.31	1.90	2.73	4.48	0.00	5.21	5.01	0.00	**36.0**
Viaverde Nursery	15801 E PRESERVE LOOP #SPR-RC		Bickmore Ave	Landscape Other	237761	800	13.00	Current	1.34	1.01	0.72	0.39	0.34	0.63	0.89	1.62	1.42	2.03	2.33	0.00	**12.7**
Viaverde Nursery	15800 E PRESERVE #SPR-RC	Bickmore Ave	Landscape Other	237766	800	13.00	Current	6.12	4.76	3.83	2.09	1.04	1.86	2.62	4.83	3.78	6.12	5.20	0.00	**42.27**	
VIRAMONTES EXPRESS	8600 CHINO CORONA RD #HYD-RC		Outfall Ext	Landscape Commercial		192570	800	65.00	Current	1.54	0.65	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
W L Homes	Kimball/Preserve #HYD	Bickmore Ave	Landscape Residential	192600	800	10.00	Current	0.00	0.03	0.00	0.00	0.04	0.00	0.00	0.03	0.00	0.02	0.00	0.00	**0.12**	
Warehouse Technology	5065 Eucalyptus Ave	CCWRF Distr. Line	Landscape Commercial	191272	930		Current	0.81	0.99	0.51	0.07	0.14	0.10	0.25	0.24	0.66	0.53	0.68	0.00	**4.97**	
Warehouse Technology	5151 Eucalyptus	CCWRF Distr. Line	Landscape Commercial	191302	930	8.00	Current	0.57	1.05	0.45	0.06	0.06	0.05	0.32	0.44	0.91	0.90	1.05	0.00	**5.87**	
WATSON LAND COMPANY	6911 BICKMORE AVE #SPR-RC	Bickmore Ave	Landscape Commercial	237231	800	3.00	Current	2.05	1.20	1.17	0.38	0.11	0.52	0.67	0.90	1.20	1.60	1.48	0.00	**11.28**	
WESTSTEYN DAIRY	8300 PINE AVE	Outfall Ext	Agricultural Dairy	237966	800	65.00	Current	128.91	109.06	52.80	42.75	0.50	12.36	37.13	108.08	0.00	134.53	114.12	0.00	**740.25**	
Woodbury Neighborhood Association		7034 EDINBORO AVE	Edison Ave Main A	Landscape Residential		231016	930	25.00	Current	0.84	0.70	0.45	0.22	0.06	0.24	0.40	0.49	0.59	0.58	0.75	0.00
Yin, Zhihua	13860 Benson Ave. #SPR-RC	Edison Ave Main A	Landscape Commercial	218601	930	2.00	Current	0.25	0.17	0.17	0.11	0.01	0.12	0.19	0.17	0.21	0.28	0.24	0.00	**1.92**	
Yorba Industrial Center	13901 Yorba Ave #SPR-RC	CCWRF Distr. Line	Landscape Commercial	152544	930	5.00	Current	0.81	1.08	0.69	0.00	0.10	0.09	0.36	0.41	0.92	0.73	0.88	0.00	**6.08**	
Yorba Industrial Center	14670 YORBA CT	CCWRF Distr. Line	Landscape Commercial	235051	930	5.00	Current	0.98	0.80	0.68	0.03	0.22	0.18	0.41	0.53	0.78	0.75	0.98	0.00	**6.34**	
Yoshimura R&D	5420 Daniels St #SPR-RC	Edison Ave Main A	Landscape Commercial	202495	930	3.00	Current	0.38	0.30	0.21	0.12	0.08	0.08	0.10	0.21	0.20	0.29	0.23	0.00	**2.21**	
Yoshimura Racing LLC	5411 Daniels St #SPR-RC	Edison Ave Main A	Landscape Commercial	196800	930	1.00	Current	0.04	0.04	0.03	0.01	0.00	0.00	0.02	0.04	0.03	0.05	0.06	0.00	**0.32**	
Yoshimura Racing LLC	5411 Daniels St #HYD/RC	Edison Ave Main A	Landscape Commercial	201464	930	1.00	Current	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	
City of Chino	**Billing Total**					**6,922.92**		**1,853.95**	**1,015.21**	**549.48**	**291.98**	**97.22**	**205.99**	**324.65**	**898.80**	**494.34**	**907.62**	**907.86**	**0.00**	**7,547.08**	
Grand Total						**6,922.92**		**1,853.95**	**1,015.21**	**549.48**	**291.98**	**97.22**	**205.99**	**324.65**	**898.80**	**494.34**	**907.62**	**907.86**	**0.00**	**7,547.08**	

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15870 Soquel Canyon Pkwy	15870 Soquel Canyon Pkwy	CCWRF Dist. Line	Landscape StreetScape	5428979	930	4.00	Current	0.75	0.45	0.51	0.16	0.01	0.06	0.07	0.11	0.23	0.41	0.55	0.00	**3.31**
15872 Soquel Canyon Pkwy	15872 Soquel Canyon Pkwy	CCWRF Dist. Line	Landscape StreetScape	4279474	930	1.00	Current	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	**0.04**
16343 Canyon Rim Dr	16343 Canyon Rim Dr	CCWRF Dist. Line	Landscape StreetScape	4358820	930	2.00	Current	0.46	0.34	0.37	0.08	0.09	0.07	0.11	0.79	1.26	1.24	0.68	0.00	**5.49**
16370 Vista Ct	16370 Vista Ct	CCWRF Dist. Line	Landscape StreetScape	5427676	930	13.00	Current	1.51	1.76	0.75	0.28	0.21	0.04	0.90	1.93	3.28	0.81	2.18	0.00	**13.67**
3550 Woodview Rd.	3550 Woodview Rd.	CCWRF Dist. Line	Landscape StreetScape	4357197	930	2.00	Current	0.40	0.49	0.29	0.00	0.00	0.01	0.17	0.37	0.39	0.31	0.69	0.00	**3.13**
4670 Soquel Cyn Pkwy	4670 Soquel Cyn Pkwy	CCWRF Dist. Line	Landscape StreetScape	4357573	930	4.00	Current	0.53	0.66	0.17	0.00	0.02	0.00	0.37	0.16	0.47	0.47	0.78	0.00	**3.62**
5771 Pine Ave (5651 Pine Ave, LLC)	5771 Pine Ave	1299 E Pipeline	Agricultural Commercial	5747427	930	8.00	Current	0.36	0.39	0.37	0.16	0.00	0.13	0.14	0.18	0.33	0.08	0.18	0.00	**2.32**
6085 Butterfield ranch road	6085 Butterfield Ranch Road	CCWRF Dist. Line	Landscape StreetScape	5428992	930	30.00	Current	1.43	1.40	0.40	0.00	0.00	0.00	0.89	1.18	1.74	2.21	1.56	0.00	**10.82**
6087 Butterfield ranch road	6087 Butterfield Ranch Road	CCWRF Dist. Line	Landscape StreetScape	4357204	930	35.00	Current	1.02	1.18	0.43	0.00	0.00	0.00	0.79	1.04	1.35	1.91	1.18	0.00	**8.90**
7-Eleven (15450 Fairfield Ranch Rd)	15450 Fairfield Ranch Rd	CCWRF Dist. Line	Landscape Commercial	5356337	930	6.00	Current	0.45	0.41	0.48	0.38	0.01	0.01	0.00	0.05	0.44	0.37	0.42	0.00	**3.02**
Albertsons	4999 Soquel Canyon Parkway	CCWRF Dist. Line	Landscape Commercial	5399000	930	6.00	Current	0.89	0.71	0.86	0.72	0.09	0.59	0.75	0.64	1.50	0.92	0.96	0.00	**8.64**
Artisan	16594 Slate east (3190159)	CCWRF Dist. Line	Landscape Commercial	3190159	930	17.00	Current	2.76	2.14	2.10	0.28	2.33	0.16	1.54	1.81	1.76	1.88	2.09	0.00	**18.87**
Artisan	16302 Butterfield Ranch Rd	CCWRF Dist. Line	Landscape Commercial	3275339	930	25.00	Current	0.81	0.72	0.51	0.19	0.02	0.21	0.39	0.59	0.97	0.99	1.16	0.00	**6.55**
Artisan	16308 Butterfield Ranch Rd (14551-1)	CCWRF Dist. Line	Landscape Commercial	3275480	930	25.00	Current	0.56	0.70	0.36	0.16	-0.05	0.08	0.20	0.42	1.29	0.94	0.92	0.0	
Artisan	16675 C State Dr	CCWRF Dist. Line	Landscape Commercial	432182453	930	3.00	Current	0.87	0.53	0.29	0.12	-0.03	0.08	0.17	0.29	0.35	0.44	0.47	0.00	**3.58**
Big League Dreams	16333 Fairfield Ranch Rd	CCWRF Dist. Line	Landscape Park	4706124	930	60.00	Current	0.01	0.00	0.00	0.00	20.66	1.95	2.61	1.66	5.08	6.72	6.75	0.00	**45.45**
BRR HOA	16780 Quail Country Ave	CCWRF Dist. Line	Landscape Residential	4357780	930	12.00	Current	1.78	1.49	1.50	1.38	0.00	0.00	0.03	0.08	1.24	3.23	1.48	0.00	**12.22**
BRR HOA	16804 Butterfield Ranch Rd	CCWRF Dist. Line	Landscape Residential	5581627	930	6.00	Current	1.22	1.14	1.37	0.80	0.00	0.15	0.04	0.44	0.87	0.78	0.73	0.00	**7.53**
BRR HOA	16572 Butterfield Ranch Rd	CCWRF Dist. Line	Landscape Residential	5683774	930	10.00	Current	1.60	1.65	2.05	0.83	0.00	0.38	0.26	0.35	0.68	0.81	2.16	0.00	**10.77**
C.U.S.D.	5130 Riverside Dr, Chino, CA 91710		CCWRF Dist. Line	Landscape School	6201073	930	30.00	Current	6.52	5.40	4.26	1.62	0.00	1.12	0.77	1.66	2.52	3.55	3.05	0.00	**30.**
C.U.S.D.	5130 Riverside Dr	CCWRF Dist. Line	Landscape School	6203135	930	0.00	Current	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.70	1.94	0.00	**6.65**
CalTrans	East of Mesa Oak Ave	CCWRF Dist. Line	Landscape StreetScape	1636151	930	36.00	Current	1.94	1.81	1.80	1.23	0.57	0.20	0.19	0.20	0.42	0.58	0.27	0.00	**9.20**
CalTrans	1 Monte Vista Ave	CCWRF Dist. Line	Landscape StreetScape	6983423	930	36.00	Current	0.94	1.13	1.03	0.92	0.01	0.25	0.22	0.24	0.24	0.25	0.23	0.00	**5.47**
Centex	High View at Opal (3177799)	CCWRF Dist. Line	Landscape Residential	3177799	930	1.00	Current	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.01**
Centex	x from 5008 Glen View (3181307)		CCWRF Dist. Line	Landscape Residential	3181307	930	1.00	Current	0.02	0.02	0.02	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.02	0.0	
Centex	4937 Glen View (3187716)	CCWRF Dist. Line	Landscape Residential	3187716	930	15.00	Current	1.13	0.87	1.09	0.31	-0.07	0.08	0.24	0.87	1.39	1.91	2.14	0.00	**9.97**
Centex	16857 Verbana (3160264)	CCWRF Dist. Line	Landscape Residential	3190264	930	0.00	Discontinued	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
Centex	16857 Verbana east	CCWRF Dist. Line	Landscape Residential	3206124	930	15.00	Current	2.18	2.56	1.96	0.42	0.11	0.12	0.07	0.91	2.57	3.91	4.10	0.00	**18.91**
Centex	5044 Glen View (3212515)	CCWRF Dist. Line	Landscape Residential	3212515	930	1.00	Current	0.10	0.04	0.03	0.03	-0.02	0.02	0.02	0.02	0.02	0.04	0.05	0.00	**0.34**
Centex	5139 Glen View (3212754)	CCWRF Dist. Line	Landscape Residential	3212754	930	10.00	Current	0.56	1.18	0.74	0.29	-0.19	0.04	0.12	0.87	1.25	1.27	0.57	0.00	**6.71**
Centex	Highview & Glenview (3452614)	CCWRF Dist. Line	Landscape Residential	3452614	930	10.00	Current	2.51	2.80	1.38	0.69	-0.35	0.14	5.31	4.28	0.91	1.13	0.89	0.00	**19.69**
Centex	16679 High View	CCWRF Dist. Line	Landscape Residential	3453252	930	0.00	Discontinued	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
Centex	High View /buckwheat (3453402)		CCWRF Dist. Line	Landscape Residential	3453402	930	6.00	Current	0.54	0.51	0.49	0.15	-0.08	0.02	0.09	0.23	0.39	0.61	0.79	0.0	
Centex	High View west (3453563)	CCWRF Dist. Line	Landscape Residential	3453563	930	5.00	Current	0.62	0.66	0.48	0.11	-0.06	0.04	0.08	0.22	0.51	0.61	0.73	0.00	**3.99**
Chapparral Elem. School (4342912)	4849 E Bird Farm Rd (Chaparral School)		CCWRF Dist. Line	Landscape School	4848649	930	12.00	Current	1.78	1.49	0.44	0.66	0.84	0.34	0.55	1.48	3.83	0.00	0.95	0.00	**12.**
Chino Hills Business Park	15360 E Fairfield Ranch Rd (3384301)		CCWRF Dist. Line	Landscape Commercial	3384301	930	8.00	Current	0.88	0.76	0.88	0.40	0.02	0.06	0.19	0.35	0.53	0.61	0.83	0.0	
Chino Hills Business Park	15330 A Fairfield Ranch Rd	CCWRF Dist. Line	Landscape Commercial	5213476	930	6.00	Current	0.88	0.66	0.78	0.47	0.00	0.04	0.04	0.13	0.34	0.38	0.30	0.00	**4.02**
Chino Hills Business Park	15315 E Fairfield Ranch Rd	CCWRF Dist. Line	Landscape Commercial	5723794	930	15.00	Current	1.32	0.97	0.62	0.19	0.02	0.07	0.14	0.23	0.51	0.71	0.95	0.00	**5.72**
Chino Hills Business Park	15325 E Fairfield Ranch Rd	CCWRF Dist. Line	Landscape Commercial	5984610	930	10.00	Current	1.04	0.73	0.52	0.23	0.01	0.06	0.13	0.25	0.50	0.62	0.89	0.00	**5.00**
Chino Hills Car Wash	15969 Los Serranos Country Club Dr		CCWRF Dist. Line	Landscape Commercial	99528051	930	0.00	Discontinued	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	
Chino Hills Storage	15315 Los Serranos Road	CCWRF Dist. Line	Landscape Commercial	3445517	930	1.00	Current	0.13	0.04	0.02	0.00	0.00	0.07	0.20	0.02	0.04	0.04	0.03	0.00	**0.58**
Chino Valley Fire	5551 Butterfield Ranch Rd	CCWRF Dist. Line	Landscape Other	3178102	930	2.00	Current	0.19	0.11	0.64	0.08	0.01	0.13	0.02	0.16	0.08	0.15	0.16	0.00	**1.71**
City of Chino Hills	5005 Soquel Canyon Pkwy	CCWRF Dist. Line	Landscape StreetScape	11151441	930	5.00	Current	0.38	0.38	0.21	0.00	0.00	0.00	0.00	0.16	0.18	0.21	0.23	0.00	**1.75**
City of Chino Hills	15695 Fairfield Ranch Rd (Danbury Park)		CCWRF Dist. Line	Landscape Commercial	11152825	930	16.00	Current	1.49	1.28	0.46	0.00	0.00	0.03	1.13	1.21	1.86	1.81	1.62	0.0	
City of Chino Hills	15697 Fairfield Ranch Rd (Danbury Park)		CCWRF Dist. Line	Landscape StreetScape	11154731	930	15.00	Current	1.23	1.15	0.46	0.00	0.00	0.00	0.73	0.96	1.50	1.53	1.18	0.0	
City of Chino Hills	5331 Picasso Dr	CCWRF Dist. Line	Landscape StreetScape	11216602	930	1.00	Current	0.08	0.09	0.08	0.01	0.00	0.00	0.06	0.08	0.08	0.09	0.10	0.00	**0.67**
City of Chino Hills	4639 Chino Hills Pkwy	CCWRF Dist. Line	Landscape StreetScape	11216672	930	1.00	Current	0.14	0.17	0.15	0.04	0.00	0.06	0.14	0.07	0.23	0.28	0.30	0.00	**1.58**
City of Chino Hills	4792 Sapphire Rd	CCWRF Dist. Line	Landscape StreetScape	4357771	930	5.00	Current	0.73	1.02	0.07	0.00	0.00	0.00	0.30	0.39	0.41	0.53	0.64	0.00	**4.10**
City of Chino Hills	16343 Fairfield Ranch Rd	CCWRF Dist. Line	Landscape StreetScape	4357784	930	30.00	Current	2.27	2.24	1.12	0.07	0.17	1.25	1.22	2.12	3.47	2.86	2.91	0.00	**19.70**
City of Chino Hills	5901 Butterfield Ranch Rd	CCWRF Dist. Line	Landscape StreetScape	4358293	930	2.00	Current	0.15	0.18	0.07	0.00	0.00	0.00	0.11	0.16	0.18	0.21	0.18	0.00	**1.24**
City of Chino Hills	17350 Butterfield Ranch Rd	CCWRF Dist. Line	Landscape StreetScape	5082171	930	10.00	Current	1.05	1.24	0.46	0.18	0.56	0.11	0.71	0.97	1.08	1.33	1.32	0.00	**9.02**
City of Chino Hills	1 Pine Ave	CCWRF Dist. Line	Landscape StreetScape	5142069	930	3.00	Current	0.23	0.35	0.42	0.08	0.00	0.00	0.00	0.00	0.25	0.45	0.35	0.00	**2.14**

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Chino Hills Recycled Water Usage in AF

FY 2013/2014

9/20/2013

Date Range: 9/1/2012 - 9/1/2013

Customer	Site Address	Segment	Type	Meter #	PrZone	Demand	Status	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Total AF	
City of Chino Hills	15941 Fairfield Ranch Rd	1299 E Pipeline	Agricultural Commercial	5387831	930	1.00	Current	0.16	0.18	0.10	0.00	0.00	0.00	0.06	0.14	0.27	0.41	0.23	0.00	**1.55**	
City of Chino Hills	City of Chino Hills	CCWRF Dist. Line	Landscape StreetScape	5395524	930	7.00	Current	1.17	1.15	1.27	0.78	0.00	0.46	0.20	0.16	0.28	0.51	0.46	0.00	**6.46**	
City of Chino Hills	Elinver Dr	CCWRF Dist. Line	Landscape StreetScape	5427752	930	8.00	Current	0.69	0.92	0.72	0.26	0.67	0.03	0.00	0.05	1.69	0.05	0.00	0.00	**5.09**	
City of Chino Hills	0 Butterfield Ranch C Rd	CCWRF Dist. Line	Landscape StreetScape	5427757	930	15.00	Current	1.35	1.39	0.63	0.01	0.08	0.05	0.89	1.37	1.35	1.66	1.34	0.00	**10.13**	
City of Chino Hills	16200 Slate Dr.	CCWRF Dist. Line	Landscape StreetScape	5429551	930	20.00	Current	1.27	1.30	0.62	0.00	0.00	0.00	0.85	1.05	1.95	1.98	1.90	0.00	**10.93**	
City of Chino Hills	0 Butterfield Ranch D Rd	CCWRF Dist. Line	Landscape StreetScape	5429573	930	15.00	Current	1.36	1.40	0.63	0.01	0.00	0.00	0.90	1.39	1.38	1.69	1.37	0.00	**10.13**	
City of Chino Hills	16980 Butterfield Ranch Rd	CCWRF Dist. Line	Landscape StreetScape	5579566	930	8.00	Current	0.56	0.75	0.33	0.00	0.01	0.00	0.53	0.69	0.72	1.01	1.00	0.00	**5.60**	
City of Chino Hills	16186 Butterfield Ranch Rd	CCWRF Dist. Line	Landscape StreetScape	5579662	930	10.00	Current	0.73	0.89	0.39	0.08	0.17	0.21	0.57	0.73	0.87	1.37	1.45	0.00	**7.46**	
City of Chino Hills	16886 Butterfield Ranch Rd	1299 E Pipeline	Agricultural Commercial	5586108	930	1.00	Current	0.33	0.43	0.19	0.00	0.00	0.00	0.30	0.41	0.49	0.65	0.46	0.00	**3.27**	
City of Chino Hills	6060 Natalie Rd (Hunter Hill Park)		CCWRF Dist. Line	Landscape StreetScape		5744740	930	20.00	Current	2.32	1.54	0.47	0.00	0.00	0.01	0.85	1.44	2.45	2.44	2.19	0.0
City of Chino Hills	16464 Butterfield Ranch Rd	CCWRF Dist. Line	Landscape StreetScape	5755743	930	12.00	Current	0.59	0.72	0.44	0.00	0.00	0.00	0.44	0.62	0.84	1.21	0.87	0.00	**5.73**	
City of Chino Hills	1 Hunters Hill Dr	CCWRF Dist. Line	Landscape StreetScape	6168923	930	4.00	Current	0.40	0.52	0.17	0.00	0.00	0.00	0.31	0.46	0.39	0.43	0.48	0.00	**3.17**	
Country Club Market Place II	15948 Los Serranos Country Club D		1299 E Pipeline	Agricultural Commercial		5397081	930	0.00	Current	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Country Club Villa	15447 B Pomona Rincon Rd	CCWRF Dist. Line	Landscape Golf Course	5429395	930	1.00	Current	0.00	0.00	0.00	0.00	0.06	0.37	0.14	0.17	0.21	0.29	0.32	0.00	**1.56**	
Dennys	Fairfield Ranch Rd & Central Ave	CCWRF Dist. Line	Landscape Commercial	11143437	930	6.00	Current	0.68	0.76	0.47	0.31	0.05	0.09	0.11	0.21	0.22	0.42	0.37	0.00	**3.68**	
EGM Management	4641 Chino Hills Pkwy	CCWRF Dist. Line	Landscape Commercial	11146712	930	10.00	Current	1.20	1.94	0.85	0.48	-0.03	0.31	0.94	0.88	0.93	1.18	1.39	0.00	**10.06**	
EGM Management	4635 Chino Hills Pkwy	CCWRF Dist. Line	Landscape Commercial	11152913	930	10.00	Current	1.09	1.91	1.25	0.33	0.12	0.30	0.70	1.21	1.72	1.93	1.57	0.00	**12.13**	
EGM Management	4631 Chino Hills Pkwy	CCWRF Dist. Line	Landscape Commercial	5428166	930	10.00	Current	1.86	1.63	1.65	0.61	0.64	0.29	0.51	1.21	0.92	1.85	1.40	0.00	**12.56**	
Fairfield Ranch HOA	15966 Fairfield Ranch Rd (West @ Victoria Falls)		CCWRF Dist. Line	Landscape Residential		5059685	930	8.00	Current	1.41	1.14	1.40	1.16	0.01	0.75	0.20	0.26	0.50	0.64	0.60	0.0
Fieldstone	4022 Soquel Canyon Rd. (Fieldstone)		CCWRF Dist. Line	Landscape Residential		4357185	930	2.00	Current	0.13	0.21	0.13	0.22	0.00	0.00	0.16	0.11	0.14	0.18	0.42	0.0
Higgins Ranch Community	3 Heritage Dr	CCWRF Dist. Line	Landscape Residential	5259357	930	5.00	Current	0.52	0.38	0.44	0.12	0.00	0.12	0.13	0.25	0.53	0.68	0.64	0.00	**3.80**	
Higgins Ranch Community	1 Heritage Dr.	CCWRF Dist. Line	Landscape Residential	5311248	930	5.00	Current	0.87	0.63	1.02	0.37	0.06	0.31	0.29	0.45	0.73	1.08	0.91	0.00	**6.72**	
Higgins Ranch Community	2 Heritage Dr	CCWRF Dist. Line	Landscape Residential	5350625	930	5.00	Current	0.60	0.39	0.49	0.15	0.00	0.12	0.08	0.17	0.30	0.54	0.48	0.00	**3.32**	
Higgins Ranch Community	16110 Butterfield Ranch Rd	CCWRF Dist. Line	Landscape Residential	5581404	930	1.00	Current	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	
Hyoung Corp	15380 Fairfield Ranch Rd	CCWRF Dist. Line	Landscape Commercial	11154713	930	5.00	Current	0.46	0.28	0.25	0.32	0.09	0.04	0.02	0.08	0.20	0.36	0.33	0.00	**2.43**	
Lexington	4915 Torrey Pines Dr. (Lexington HOA)		CCWRF Dist. Line	Landscape Commercial		4282527	930	2.00	Current	0.26	0.23	0.23	0.08	0.00	0.00	0.05	0.07	0.11	0.08	0.10	0.0
Los Serranos Golf Course	Pinehurst Tract 14427	CCWRF Dist. Line	Landscape Golf Course	70027142	930	340.00	Current	22.57	8.34	14.83	0.00	0.06	2.18	15.44	27.22	33.91	9.11	19.74	0.00	**153.40**	
Los Serranos Golf Course	15656 Yorba Ave	CCWRF Dist. Line	Landscape Golf Course	8044180	930	340.00	Current	4.72	8.39	15.83	0.44	9.27	2.34	11.88	23.51	29.35	40.69	39.10	0.00	**185.50**	
Los Serranos Ranch Comm. Assoc.	4249 Soquel Cyn Pkwy	CCWRF Dist. Line	Landscape Residential	4357429	930	5.00	Current	1.83	1.43	1.52	0.31	0.51	0.00	0.26	1.08	0.96	0.95	1.12	0.00	**9.98**	
Monte Vista Farmer (1)		CCWRF Dist. Line	Agricultural Farm	66321397	930	65.00	Current	1.40	2.80	3.69	1.76	0.75	1.81	3.65	4.65	4.35	4.30	3.60	0.00	**32.76**	
New Vellano			Landscape Residential	4357142	930	7.00	Current	1.29	0.83	0.57	0.00	0.02	0.04	0.55	0.56	1.07	1.11	1.61	0.00	**7.65**	
New Vellano			Landscape Residential	4358480	930	3.00	Current	1.10	0.51	0.23	0.00	0.01	0.02	0.21	0.36	0.53	0.47	0.44	0.00	**3.87**	
New Vellano			Landscape Residential	5060085	930	1.00	Current	0.26	0.30	0.19	0.00	0.00	0.00	0.15	0.29	0.34	0.29	0.34	0.00	**2.17**	
New Vellano			Landscape Residential	5237957	930	209.00	Current	51.95	53.42	19.65	9.07	-0.37	4.25	17.54	22.96	38.89	66.16	81.13	0.00	**364.65**	
New Vellano			Landscape Residential	5362726	930	1.00	Current	0.38	0.21	0.11	0.00	0.00	0.00	0.10	0.14	0.16	0.14	0.16	0.00	**1.40**	
Pine Corp Center (4274439)	5825 Pine Avenue	CCWRF Dist. Line	Landscape Commercial	4274439	930	9.00	Current	1.26	0.80	0.60	0.36	0.00	0.19	0.15	0.33	0.58	0.76	0.82	0.00	**5.84**	
Pine Corp Center (4279489)	5825 Pine Avenue	CCWRF Dist. Line	Landscape Commercial	4279489	930	9.00	Current	2.13	1.32	1.28	0.49	0.03	0.30	0.16	0.42	0.84	1.34	1.35	0.00	**9.64**	
Ridgegate HOA		CCWRF Dist. Line	Landscape Residential	4358011	930	7.00	Current	1.64	1.27	1.00	0.23	0.61	0.49	1.10	0.89	0.81	1.10	1.43	0.00	**10.56**	
Ridgegate HOA	16359 Canyon Rim Dr	CCWRF Dist. Line	Landscape Residential	4358223	930	2.00	Current	0.92	0.66	0.60	0.12	0.14	0.11	0.02	0.02	0.81	1.32	0.68	0.00	**5.40**	
Ridgegate HOA	3989 Golden Terrace Ln	CCWRF Dist. Line	Landscape Residential	4358796	930	2.00	Current	0.74	0.47	0.39	0.12	0.09	0.14	0.37	0.75	0.62	1.04	1.06	0.00	**5.80**	
Ridgegate HOA	3987 Golden Terrace Ln	CCWRF Dist. Line	Landscape Residential	4359308	930	2.00	Current	1.53	1.38	0.69	0.17	0.16	0.17	0.46	1.36	1.88	1.94	1.06	0.00	**10.81**	
Ridgegate HOA	16361 Canyon Rim Dr.	CCWRF Dist. Line	Landscape Residential	4359313	930	2.00	Current	2.87	1.72	1.20	0.17	0.34	0.11	0.14	0.17	1.70	2.22	1.32	0.00	**11.97**	
Ridgegate HOA	16341 Canyon Rim Dr.	CCWRF Dist. Line	Landscape Residential	4359346	930	7.00	Current	2.19	1.40	0.50	0.16	-0.10	0.42	1.14	1.98	1.99	1.45	2.25	0.00	**13.38**	
Rincon Park	16202 Pinehurst Drive	CCWRF Dist. Line	Landscape Park	4357668	930	21.00	Current	2.00	1.55	0.57	0.00	0.35	1.00	0.94	1.18	2.45	3.12	2.33	0.00	**15.50**	
Rincon Park	16202 Pinehurst Drive	CCWRF Dist. Line	Landscape Park	5427639	930	1.00	Current	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	
Standard Pacific	5641 Tipu Tree (4369857)	CCWRF Dist. Line	Landscape Commercial	4369857	930	10.00	Current	1.82	1.50	1.18	1.11	0.00	0.29	0.17	0.41	1.54	2.24	1.13	0.00	**11.39**	
Standard Pacific	5381 Tipu Tree (61613321)	CCWRF Dist. Line	Landscape Commercial	61613321	930	10.00	Current	1.59	2.38	0.79	0.68	0.00	0.42	0.32	0.42	1.30	2.31	1.58	0.00	**11.79**	
Standard Pacific	5488 Pine (62078505)	CCWRF Dist. Line	Landscape Commercial	62078505	930	5.00	Current	0.92	0.73	0.71	0.13	0.00	0.48	0.04	0.21	0.48	0.76	1.50	0.00	**5.96**	
Standard Pacific	5331 Buttonwood (62078507)	CCWRF Dist. Line	Landscape Commercial	62078507	930	8.00	Current	1.22	1.58	1.17	0.28	0.00	0.19	0.09	0.17	0.43	0.34	0.47	0.00	**5.94**	
Standard Pacific	5378 Pine (98650539)	CCWRF Dist. Line	Landscape Commercial	98650539	930	10.00	Current	1.90	1.47	1.36	1.38	0.00	0.04	0.00	0.00	1.03	1.32	1.21	0.00	**9.72**	
Standard Pacific	16791 Morning Glory (99528055)		CCWRF Dist. Line	Landscape Commercial		99528055	930	8.00	Current	1.15	1.38	1.20	0.09	0.00	0.46	0.54	0.74	1.11	1.71	1.35	0.0

Inland Empire Utilities Agency
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Chino Hills Recycled Water Usage in AF

FY 2013/2014

9/20/2013

Date Range: 9/1/2012 - 9/1/2013

Customer	Site Address	Segment	Type	Meter #	PrZone	Demand	Status	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Total AF
Standard Pacific	5361 Ebony (999001111)	CCWRF Dist. Line	Landscape Commercial	999001111	930	7.00	Current	1.71	1.26	0.80	0.50	0.00	0.34	0.41	0.63	0.79	1.32	1.03	0.00	**8.80**
Standard Pacific	5393 Carob (99900120)	CCWRF Dist. Line	Landscape Commercial	99900120	930	10.00	Current	2.42	1.90	1.56	0.95	0.00	0.31	0.23	0.35	1.15	2.80	2.54	0.00	**14.20**
Sterling Downs Apartments	16011 Butterfield Ranch Rd - (Sterling Downs Apts)	CCWRF Dist. Line	Landscape Commercial	5210884	930	7.00	Current	0.63	0.66	0.38	0.19	0.01	0.10	0.16	0.29	0.43	0.52	0.54	0.0	
Sterling Downs Apartments	16011 Butterfield Ranch Rd - (Sterling Downs Apts)	CCWRF Dist. Line	Landscape Residential	5986757	930	7.00	Current	0.46	0.50	0.28	0.14	0.00	0.07	0.12	0.21	0.32	0.39	0.39	0.0	
Taylor Woodrow	16675 Slate (3185134)	CCWRF Dist. Line	Landscape Residential	3185134	930	8.00	Current	0.82	0.70	0.42	0.25	-0.07	0.23	0.17	0.48	0.61	0.78	0.84	0.00	**5.23**
Taylor Woodrow	5181 Fox Hall (3275266)	CCWRF Dist. Line	Landscape Residential	3275266	930	25.00	Current	0.94	0.68	0.45	0.15	0.10	0.07	0.33	0.52	0.63	0.67	0.89	0.00	**5.43**
Taylor Woodrow	5221 High View (3533362)	CCWRF Dist. Line	Landscape Residential	3533362	930	1.00	Current	0.25	0.28	0.23	0.06	0.21	0.10	0.15	0.20	0.24	0.20	0.20	0.00	**2.14**
Vellano	3230 Venezia Terrace	CCWRF Dist. Line	Landscape Golf Course	4336624	930	147.00	Current	0.00	0.53	0.00	0.11	-0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.53**
Vellano	3199 Woodview Rd	CCWRF Dist. Line	Landscape Golf Course	4357209	930	5.00	Current	1.04	0.81	0.51	0.12	-0.04	0.00	0.00	0.28	0.50	0.41	0.76	0.00	**4.39**
Vellano Golf Course	15100 Fairfield Ranch Rd	1299 E Pipeline	Agricultural Commercial	11143626	930	7.00	Current	2.27	1.73	1.54	0.97	-0.10	1.63	1.87	2.46	3.35	3.64	4.00	0.00	**23.36**
Vellano Homeowner	16525 Palmero Dr		Landscape Residential	4276537	930	1.00	Current	0.17	0.13	0.12	0.04	0.16	0.06	0.08	0.32	0.23	0.19	0.32	0.00	**1.82**
Vellano Homeowner	2535 Venazia Ter	930 W RW PL	Landscape Residential	4282479	930	3.00	Current	0.48	0.46	0.37	0.13	0.12	0.01	0.40	0.32	0.61	0.57	0.54	0.00	**4.01**
Vellano Homeowner	13875 Catena Dr	930 W RW PL	Landscape Residential	4357008	930	0.00	Current	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
Vellano Homeowner	16626 Catena Dr	930 W RW PL	Landscape Residential	4357069	930	3.00	Current	0.81	0.77	0.24	0.17	-0.07	0.00	0.01	0.08	0.54	1.18	0.92	0.00	**4.66**
Vellano Homeowner	2491 Milano Terr	930 W RW PL	Landscape Residential	4357190	930	4.00	Current	1.27	1.26	0.77	0.22	-0.02	0.00	0.19	0.33	0.71	0.35	0.41	0.00	**5.49**
Vellano Homeowner	16797 Palermo Dr		Landscape Residential	4357202	930	3.00	Current	0.98	0.45	0.42	0.11	0.06	0.13	0.36	0.51	0.69	0.44	0.61	0.00	**4.76**
Vellano Homeowner	16327 Aviano Ln	930 W RW PL	Landscape Residential	4357472	930	0.00	Current	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
Vellano Homeowner	3015 Aviano Ct	930 W RW PL	Landscape Residential	4357562	930	12.00	Current	0.74	0.64	0.64	0.42	-0.08	0.00	0.00	0.56	1.38	0.91	0.36	0.00	**5.57**
Vellano Homeowner	16318 Aviano Ln	930 W RW PL	Landscape Residential	4357566	930	5.00	Current	0.46	0.42	0.28	0.11	0.08	0.17	0.18	0.22	0.27	0.46	0.42	0.00	**3.06**
Vellano Homeowner	16685 Palermo Dr		Landscape Residential	4357576	930	4.00	Current	0.67	0.55	0.47	0.12	0.02	0.03	0.27	0.38	0.57	0.46	0.89	0.00	**4.41**
Vellano Homeowner	2960 Venezia Ter	930 W RW PL	Landscape Residential	4357577	930	6.00	Current	0.76	0.64	0.56	0.23	-0.03	0.02	0.22	0.56	1.20	0.97	0.69	0.00	**5.82**
Vellano Homeowner	3233 Venezia Ter	930 W RW PL	Landscape Residential	4357632	930	4.00	Current	0.66	1.06	1.07	0.19	0.31	0.78	1.02	0.50	0.70	1.41	0.81	0.00	**8.51**
Vellano Homeowner	16311 Aviano Ln	930 W RW PL	Landscape Residential	4357774	930	3.00	Current	1.31	1.03	0.70	0.14	0.02	0.00	0.32	0.35	0.71	0.85	1.16	0.00	**6.60**
Vellano Homeowner	2983 Aviano Ct	930 W RW PL	Landscape Residential	4358013	930	2.00	Current	0.43	0.37	0.34	0.06	-0.03	0.00	0.00	0.06	0.20	0.22	0.13	0.00	**1.79**
Vellano Homeowner	2425 Milano Ter	930 W RW PL	Landscape Residential	4358123	930	3.00	Current	0.52	0.84	2.93	0.13	0.57	0.41	0.32	0.60	0.65	0.26	0.39	0.00	**7.62**
Vellano Homeowner	2421 Milano Ter	930 W RW PL	Landscape Residential	4358992	930	1.00	Current	0.13	0.12	0.10	0.09	-0.08	0.01	0.06	0.06	0.08	0.10	0.11	0.00	**0.77**
Vellano Homeowner	2850 Venezia Ter	930 W RW PL	Landscape Residential	4359220	930	4.00	Current	0.90	0.82	0.88	0.14	0.16	0.06	0.25	0.50	1.21	0.94	0.76	0.00	**6.63**
Vellano Homeowner	3066 Venezia Ter	930 W RW PL	Landscape Residential	4359221	930	5.00	Current	1.16	1.55	0.80	0.27	-0.09	0.02	0.34	0.48	0.86	0.78	0.74	0.00	**6.91**
Vellano Homeowner	16622 Catena Dr	930 W RW PL	Landscape Residential	4359317	930	1.00	Current	0.18	0.17	0.05	0.04	-0.03	0.00	0.00	0.01	0.10	0.27	0.21	0.00	**1.01**
Vellano Homeowner	16401 Aviano Ln	930 W RW PL	Landscape Residential	4359348	930	4.00	Current	0.78	0.74	0.84	0.10	0.04	0.00	0.00	0.14	0.53	0.52	0.46	0.00	**4.15**
Vellano Homeowner	16337 Aviano Ln	930 W RW PL	Landscape Residential	4359495	930	5.00	Current	2.13	0.85	0.52	0.27	-0.19	0.00	0.22	0.00	0.00	0.86	0.81	0.00	**5.48**
Vellano Homeowner	2753 Woodview Rd	930 W RW PL	Landscape Residential	5353940	930	2.00	Current	0.63	0.43	0.36	0.08	0.04	0.00	0.15	0.01	0.22	0.31	0.31	0.00	**2.53**
Vellano Homeowner	2977 Versnate Ter	930 W RW PL	Landscape Residential	5357148	930	2.00	Current	0.55	0.59	0.47	0.11	0.07	0.13	0.23	0.40	0.58	0.42	0.36	0.00	**3.90**
Vellano Homeowner	2681 Vellano Club Dr	930 W RW PL	Landscape Residential	5392044	930	3.00	Current	1.06	0.74	0.71	0.15	0.98	0.59	0.93	1.05	1.12	0.92	0.83	0.00	**9.07**
Vellano Homeowner	2308 Vellano Club Dr	930 W RW PL	Landscape Residential	5397983	930	2.00	Current	0.29	0.31	0.15	0.17	-0.08	0.04	0.25	0.11	0.54	0.54	0.31	0.00	**2.64**
Vellano Homeowner	2316 Vellano Club Dr	930 W RW PL	Landscape Residential	5398346	930	2.00	Current	0.29	0.31	0.15	0.17	-0.08	0.04	0.25	0.12	0.54	0.54	0.31	0.00	**2.66**
Vellano Homeowner	2312 Vellano Club Dr	930 W RW PL	Landscape Residential	5399204	930	2.00	Current	0.23	0.25	0.12	0.14	-0.07	0.03	0.21	0.10	0.46	0.46	0.28	0.00	**2.22**
Vellano Homeowner	2999 Woodview Rd	CCWRF Dist. Line	Landscape Residential	5408126	930	5.00	Current	0.74	0.73	0.45	0.00	-0.13	0.00	0.37	0.34	0.50	0.53	0.53	0.00	**4.06**
Vellano Homeowner	2975 Woodview Rd	930 W RW PL	Landscape Residential	5427944	930	3.00	Current	0.52	0.51	0.32	0.18	-0.08	0.00	0.15	0.12	0.19	0.50	0.50	0.00	**2.90**
Vellano Homeowner	2925 Woodview Rd	930 W RW PL	Landscape Residential	5429219	930	0.00	Current	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
Vista San Juan/ C.C. Medical Center	15944 Los Seranos C.C. Dr,	1299 E Pipeline	Agricultural Commercial	5057853	930	1.00	Current	0.16	0.15	0.10	0.04	0.00	0.03	0.01	0.09	0.14	0.13	0.14	0.00	**0.99**
Wickman Elem	16250 Pinehurst Ave	CCWRF Dist. Line	Landscape School	3238139	930	10.00	Current	2.58	1.48	1.96	0.12	0.00	0.01	0.19	0.54	2.21	2.05	2.59	0.00	**13.73**
City of Chino Hills	**Billing Total**					**2,181.00**		**209.97**	**189.94**	**140.56**	**43.69**	**40.36**	**32.51**	**97.33**	**148.05**	**220.61**	**252.63**	**267.82**	**0.00**	**1,643.48**
Grand Total						**2,181.00**		**209.97**	**189.94**	**140.56**	**43.69**	**40.36**	**32.51**	**97.33**	**148.05**	**220.61**	**252.63**	**267.82**	**0.00**	**1,643.48**

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Inland Empire Utilities Agency
Regional Plant No. 4
Title 22 Engineering Report

September 2009

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Irvine, CA 92618
(949) 727-4008

Inland Empire Utilities Agency
Regional Plant No. 4
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Section 1
Introduction

In March 2005, the Inland Empire Utilities Agency (IEUA) submitted a Title 22 Engineering Report for Regional Water Recycling Plant No. 4 (RP-4) that covered plant modifications to improve its energy efficiency and maintain its reliability to treat its previous 7 million gallons per day (mgd) average flow capacity in compliance with all existing and proposed quality requirements.

In May 2005, IEUA awarded a construction contract for additional modifications designed to expand the plant's average capacity from 7 to 14 mgd. The expansion is being conducted in two phases. Phase 1 work converted the original 7 mgd oxidation ditch plant to a biological nitrogen removal activated sludge process with 7 mgd of capacity and was completed in 2007. Phase 1 also included construction of new primary and secondary clarifiers. Phase 2 features construction of another 7 mgd of new biological nitrogen removal activated sludge capacity, increasing the total plant capacity to 14 mgd. Phase 2 also involves other improvements, such as modifications to the headworks, addition of new primary clarifiers, addition of secondary clarifiers, addition of new tertiary cloth filters, and installation of an odor control biofilter. Phase 2 is expected to be completed by summer 2009. The rationale for the modifications is contained in the Preliminary Design Report prepared by Black & Veatch (B&V) in October 2002 (Black & Veatch, 2002).

The purpose of this engineering report is to describe the treatment system that will be in place after the expansion to 14 mgd capacity is complete in 2009 and to demonstrate its compliance with water recycling criteria and the design and reliability requirements set forth in Title 22 of the California Code of Regulations. This section describes the background of the facility and the objective of this document.

1.1 Background

IEUA owns and operates RP-4, located in San Bernardino County east of Interstate 15 and between the Interstate 10 and Interstate 210 Freeways. The plant site is at the southwest corner of Etiwanda Avenue and Sixth Street at 12811 Sixth Street in the City of Rancho Cucamonga (Section 17, T1S, R6W, SBB&M). RP-4 serves a 35 square mile area including portions of the Cities of Rancho Cucamonga and Fontana and some unincorporated areas of San Bernardino County. RP-4 began operation in July 1997 and serves as an upstream satellite plant to IEUA Regional Plant No. 1 (RP-1) by scalping flow from the Etiwanda sewer that would otherwise flow to RP-1. RP-4 treats the wastewater it receives to the quality of disinfected tertiary recycled water, as defined in Title 22, but returns solids to the trunk sewer for conveyance to RP-1 for processing with the influent to that plant.

Recycled water from RP-4 is pumped into a dedicated pipeline (the RP-4 Outfall) which conveys it southward to recycled water users and groundwater recharge basins in the 1158 pressure zone. Two new reservoirs were recently constructed to increase the supply of recycled water in the 1158 pressure zone. Excess recycled water flows south to RP-1 and is discharged to Cucamonga Creek. With the completion of the RP-1 and RP-4 Recycled Water Pumping Stations, the RP-4 Outfall has been converted to a pressurized recycled water delivery pipeline for all uses between RP-1 and RP-4. Any RP-4 recycled water not removed from the outfall for use will continue to mix with RP-1 effluent and be discharged at Discharge Point No. 002. IEUA recently added a second recycled water pump station at RP-4 to create two pressure zones. The recycled water is pumped from 1158 pressurized pipeline to convey recycled water northward to users in the 1299 pressure zone. A reservoir will be purchased and retrofitted to serve this pressure zone by 2010. If the 1158 pump station experiences low flow due to low RP-4 influent flow or high recycled water demand, the 1158 reservoirs have the capacity of supplying recycled water to the suction header of the 1299 pump station.

RP-4 operates under a consolidated permit with three other IEUA plants, including RP-1, Regional Plant No. 5 (RP-5) and Carbon Canyon Water Recycling Facility (CCWRF), issued as Regional Water Quality Control Board, Santa Ana Region (RWQCB) Order No. R8-2009-0021 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA8000409 (RWQCB, 2009) A copy of the permit is included in Appendix A. According to the permit, RP-4 is designed to treat an annual average flow of 14 mgd.

1.2 Objective

The objective of this report is to demonstrate RP-4 compliance with California Code of Regulations Title 22, Division 4, Chapter 3, entitled Water Recycling Criteria (California, 2001). Section 60323, Article 7 of these Criteria requires submittal of an engineering report to the RWQCB and California Department of Public Health (CDPH) (formerly California Department of Health Services (DHS)).

Since IEUA is both increasing plant capacity and making significant improvements to RP-4, a new engineering report demonstrating compliance with Title 22 is necessary. Separate Title 22 Engineering Reports have been prepared addressing the use of RP-1 and RP-4 recycled water for the Phase I and Phase II Chino Basin Recycled Water Groundwater Recharge Projects (CH2M Hill, 2003 and DDB Engineering, Inc. and Wildermuth Environmental, Inc., 2006).

Section 2
Regulatory Requirements

Wastewater treatment, disposal, and reuse are regulated by local, State, and Federal requirements primarily to protect public health, safety, and general welfare. In California, water recycling has received support from the U. S. Environmental Protection Agency (EPA), State Water Resources Control Board (SWRCB), and CDPH as a means of effluent reuse and disposal. This section describes the types of reuse and regulatory requirements that pertain to RP-4.

2.1 Types of Reuse

Treated effluent from RP-4 is piped to RP-1 where the two tertiary effluents are mingled prior to discharge through RP-1's outfall into Cucamonga Creek (Discharge Point No. 002), which has a beneficial use designation of REC-1 (water contact recreation). A portion of the RP-4 effluent is recycled for landscape irrigation, industrial uses such as power plant cooling water, in-plant utility water needs, and groundwater recharge. Recycled water is discharged to Prado Park Lake (Discharge Point No. 001), which is tributary to Chino Creek. Further description of recycled water uses is given in Section 8.

2.2 Water Recycling Criteria

Water recycling criteria are specified in the California Code of Regulations, Title 22, Division 4, Chapter 3. Water reclamation requirements and guidelines are established by CDPH. Enforcement of these criteria is the role of the SWRCB and its nine Regional Water Quality Control Boards. RP-4 is under the jurisdiction of Regional Board No. 8, the Santa Ana River Basin RWQCB.

Commonly referred to as Title 22 Criteria, the treatment and effluent quality requirements are dependent upon the proposed type of water reuse. In addition to these requirements, Title 22 specifies reliability criteria to ensure protection of public health.

Effluent from RP-4 must comply with the highest categories of reuse, spray irrigation and non-restricted recreational and landscape impoundments. Under Title 22, wastewater is required to be oxidized, coagulated (as needed for turbidity reduction – see Section 3), filtered, and disinfected, or treated by a sequence of unit processes assuring an equivalent degree of treatment and reliability. Title 22 specifies that recycled water for the highest level of reuse shall be disinfected tertiary effluent. The NPDES permit requires the flow from RP-4 to meet that requirement, except when the receiving water provides a dilution flow of 20:1 or greater. In that case the effluent can be a disinfected oxidized wastewater with a median number of coliforms not exceeding 23 per 100 milliliters. However, since RP-4 recycled water will be pumped directly to users or will be pumped into the RP-4 Outfall, which has some recycled water

users withdrawing water, RP-4 will have to comply with the requirements for disinfected tertiary effluent at all times, even though some of the water may eventually be discharged to Cucamonga Creek during periods when dilutions of 20:1 are available.

With regard to filtration, the Title 22 Water Recycling Criteria specify a maximum filtration rate and effluent turbidity requirements. For gravity dual media (anthracite/sand) filters like those at RP-4, the maximum filtration rate is limited to 5 gallons per minute per square foot (gpm/sf) of surface area. For the new cloth filters at RP-4, the maximum filtration rate is limited to 6 gpm/sf of surface area. Under Title 22, the turbidity of the filtered wastewater may not exceed any of the following: (1) an average of 2 Nephelometric Turbidity Units (NTU) within a 24-hour period; (2) 5 NTU more than 5 percent of the time within a 24-hour period; and (3) 10 NTU at any time. RWQCB Order No. R8-2009-0021 specifies that RP-4 and RP-1 must meet the turbidity requirements specified in Title 22, as summarized above.

Permissible coliform bacteria levels are used as an indicator of effluent quality. For water reuse for spray irrigation and non-restricted recreational and landscape impoundments, the median number of coliform organisms must not exceed a most probable number (MPN) of 2.2 per 100 milliliter (mL) sample of effluent for the last 7 days for which bacteriological analyses have been completed. In addition, the median number of coliform organisms must not be more than 23 MPN per 100 mL sample of effluent in more than one sample within any 30-day period. No sample may exceed an MPN of 240 total coliform bacteria per 100 mL. If a chlorination disinfection process is used, such as that being implemented at RP-4, Title 22 specifies that a contact time (CT) value of at least 450 milligram-minutes per liter (mg-min/L) with a modal contact time of at least 90 minutes (based on peak dry weather design flow) be provided.

In addition to treatment and effluent quality, Title 22 sets forth general reliability requirements. The facilities must be designed for flexibility so that a high degree of treatment can be achieved under varying conditions. Components of a flexible design include multiple or standby treatment units or pieces of equipment. In addition, alarms are required to alert plant operators of power supply failure or failure of any treatment plant unit processes. In the event of a power supply failure, Title 22 requires the plant to provide either a standby power source or automatically actuated short-term or long-term storage or disposal provisions.

In order to assure that wastewater reclamation facilities comply with the regulations, Title 22 requires that an engineering report describing the proposed reclamation system and the means for the system complying with listed requirements be prepared and submitted to the RWQCB and CDPH for approval. The engineering report must be amended or resubmitted in the event that there are significant modifications to an existing project.

2.3 Creek Discharge Requirements

Product water that is not used from the RP-4 outfall before it reaches RP-1 will be commingled with RP-1 effluent and discharged to either Prado Park Lake, which is designated as Discharge Point No. 001, or to Cucamonga Creek, which is designated as Discharge Point No. 002. The RP-1/RP-4 NPDES permit requires that discharges to the creek be disinfected tertiary effluent suitable for non-restricted recreational impoundments as required under Title 22, except when the creek provides at least a 20:1 dilution ratio. When at least 20:1 dilution of the wastewater effluent can be provided by the natural flow of the creek at the point of discharge, the discharge may be disinfected secondary effluent. The discharge shall be considered adequately disinfected if at some location in the treatment process, the median number of coliform organisms does not exceed 23 per 100 milliliters. As mentioned previously, with the RP-4 outfall converted to a recycled water delivery system, this requirement may be applicable at RP-1, but there will not be any time when the effluent from RP-4 can be at less than full treatment.

Section 3
Wastewater Flow and Quality

This section describes wastewater flow and quality characteristics, as well as treated effluent quality limitations for RP-4.

3.1 Wastewater Flow Characteristics

Influent and effluent flows are monitored continuously at RP-4. Table 3-1 summarizes flow data from January 2008 through December 2008.

Table 3-1
Average Influent and Effluent Flows [1]

	Minimum Month [2] (mgd)	Average Month (mgd)	Maximum Month [3] (mgd)
Raw Influent Flow	3.4	6.1	7.4
Effluent Flow	2.4	4.8	6.3

1. Source: (IEUA, 2008a), monthly average flow data for 2008.
2. Minimum monthly average raw influent flow and minimum monthly average effluent flow occurred in February 2008.
3. Maximum monthly average raw influent flow and maximum monthly average effluent flow occurred in September 2008.

3.2 Influent Quality Characteristics

The chemical composition of raw wastewater influent to RP-4 based on 2008 data is summarized in Table 3-2.

Table 3-2
Typical Influent Wastewater Characteristics [1]

Constituent	Units	Minimum	Maximum	Average
Specific Conductance	µmhos/cm	730	1,230	933
pH	Unit	6.6	7.9	7.5
Total Organic Carbon (TOC)	mg/L	104	348	171
Total Suspended Solids (TSS)	mg/L	50	709	251
Total Dissolved Solids (TDS)	mg/L	422	618	489
Biochemical Oxygen Demand (BOD_5)	mg/L	163	602	294
Ammonia - Nitrogen	mg/L	27.0	58.5	49.0
Total Inorganic Nitrogen (TIN)	mg/L	43.6	51.7	49.2
Boron	mg/L	0.3	0.4	0.3

Table 3-2
Typical Influent Wastewater Characteristics [1]

Constituent	Units	Minimum	Maximum	Average
Chloride	mg/L	72	114	92
Cyanide, Free	µg/L	<2	3	<2
Fluoride	mg/L	0.2	0.3	0.3
Sulfate	mg/L	22	75	40
Total Hardness	mg/L	145	190	162
Arsenic	µg/L	<10	<10	<10
Total Recoverable Chromium	µg/L	<10	<10	<10
Total Recoverable Copper	µg/L	50	110	76
Total Recoverable Cadmium	µg/L	<10	<10	<10
Total Recoverable Lead	µg/L	<20	<20	<20
Total Recoverable Mercury	µg/L	<0.5	0.6	<0.5
Total Recoverable Nickel	µg/L	<10	<10	<10
Total Recoverable Selenium	µg/L	<20	<20	<20
Total Recoverable Silver	µg/L	<10	<10	<10
Total Recoverable Zinc	µg/L	100	250	162
Bis (2-ethylhexyl) phthalate	µg/L	<10	18	12

1. Source: IEUA, 2008a

3.3 Source Control

IEUA maintains a comprehensive industrial pretreatment and source control program approved by the RWQCB to control waste discharges from point sources into the wastewater collection system. The focus of this source control program is to prevent adverse effects on the treatment facilities and the environment. Because of the Chino Basin Recycled Water Groundwater Recharge Program, the scope and purpose of this source control program will be expanded to include not only contaminants that may be detrimental to the facilities, but also contaminants specified by the CDPH that may be harmful to human health and drinking water supplies. In accordance with the groundwater recharge permit RWQCB Order No. R8-2007-0039 (RWQCB, 2007a), IEUA will review its current source control program to mitigate future impacts on the groundwater recharge program. The program review will determine whether additional constituents should be included in the industry permitting process and if additional pretreatment requirements are necessary particularly for industries that discharge wastewater to RP-1 and RP-4 collections systems. Through a comprehensive monitoring program implemented by IEUA, IEUA will ensure that the recycled water produced at RP-1 and RP-4 for recharge into the Chino Basin is not contaminated with toxic chemicals of industrial origin that are of concern to CDPH and the RWQCB in drinking water sources. IEUA owns and operates a non-reclaimable wastewater (NRW) collection and conveyance system that provides disposal for industrial wastewater and brines. The NRW discharges

either into the Orange County Sanitation District's wastewater treatment facilities or to the County Sanitation Districts of Los Angeles County wastewater treatment facilities for treatment and disposal. The industrial pretreatment program and the NRW system provide source control and salinity management for the IEUA water reclamation facilities.

IEUA plans to further mitigate wastewater constituent impacts on the groundwater recharge program by maximizing the use of the NRW system. Requirements pertaining to IEUA's industrial pretreatment and source control program are specified in RWQCB Order No. R8-2009-0021 (RWQCB 2009).

The permit (RWQCB, 2009) incorporates source control requirements that CDPH recommended for groundwater recharge and effluent from RP-1 and RP-4, which is used for the Chino Basin Recycled Water Groundwater Recharge Program, which is regulated under RWQCB Order No. R8-2007-0039 (RWQCB, 2007). The permit requires IEUA to operate the wastewater collection system under a comprehensive industrial pretreatment and pollutant control program for the control of discharge of toxic wastes from point sources. If CDPH identifies any contaminants that may pose a risk of contamination to a drinking water supply, the permit specifies that CDPH may designate those contaminants for inclusion into the pretreatment and source control program requirements for IEUA to minimize the possibility that the influent wastewater to RP-1 and RP-4 will be contaminated with such toxic chemicals. The source control program shall include:

- An assessment of the fate of the specified contaminant compounds through the wastewater and recycled water treatment systems.
- A source investigation and monitoring program focused on the specified contaminants.
- An outreach program to industrial, commercial and residential communities within the sewage collection agency's service area to manage and minimize the discharge of compounds of concern at the source.
- A proactive program for maintaining an inventory of compounds discharged into the wastewater collection system so that new compounds of concern can be evaluated rapidly.

3.4 Effluent Quality Limits

Consolidated effluent discharge limits are established for RP-1, RP-4, RP-5, and CCWRF in RWQCB Order No. R8-2009-0021 NPDES Permit No. CA8000409 (RWQCB, 2009), which became effective July 21, 2009. The RWQCB issues discharge limits based on the beneficial uses and water quality objectives established in the "Santa Ana River Basin Water Quality Control Plan" (RWQCB, 1995), commonly referred to as the "Basin Plan", and recommendations from other regulatory agencies, such as CDPH. RP-4 is a tertiary treatment plant that produces recycled water for reuse in the IEUA service area. RP-4 discharges some of its effluent, commingled and dechlorinated with effluent from RP-1, to

Cucamonga Creek, Reach 1, through Discharge Point No. 002. Reach 1 is a lined flood control channel which discharges to Mill Creek and thence to Chino Creek, which is tributary to Santa Ana River, Reach 3. Solids from RP-4 are returned to the Etiwanda Trunk sewer and conveyed to RP-1 for removal and treatment. Specific effluent quality requirements for RP-4 are discussed below, based on the existing permit rates RP-4 at an average capacity of 14 mgd.

3.4.1 Biochemical Oxygen Demand and Suspended Solids Limits

Table 3-3 lists biochemical oxygen demand (BOD) and total suspended solids (TSS) limits from the RP-1/RP-4 discharge permit. These values are achievable with tertiary treatment and are intended to ensure that only adequately oxidized wastewater is discharged.

Table 3-3
Effluent BOD and TSS Limitations[1]

Constituent	Average Weekly Concentration (mg/L)	Average Monthly Concentration (mg/L)
For Discharges Without 20:1 Dilution:		
BOD	30	20
TSS	30	20
For Discharges With 20:1 Dilution:		
BOD	45	30
TSS	45	30

1. Source: RWQCB, 2009.

3.4.2 Ammonia-Nitrogen and Chlorine Residual Limits

Table 3-4 lists the ammonia-nitrogen and total chlorine residual concentration limits for protection of receiving waters.

Compliance determinations for total chlorine residual are based on 99 percent compliance with the following conditions:

- The total time during which the total chlorine residual values are above 0.1 mg/L (instantaneous maximum value) shall not exceed 7 hours and 26 minutes in any calendar month;
- No individual excursion from 0.1 mg/L value shall exceed 5 minutes; and
- No individual excursion shall exceed 5.0 mg/L.

Table 3-4
Effluent Ammonia-Nitrogen and Chlorine Residual Limitations[1]

Constituent	Instantaneous Maximum (mg/L)	Average Monthly (mg/L)
Ammonia-Nitrogen	---	4.5
Total Chlorine Residual[2] - For Discharges Without 20:1 Dilution	0.1	---
Total Chlorine Residual[2] - For Discharges With 20:1 Dilution	2.1	---

1. Source: RWQCB, 2009.
2. Applies to surface water discharges. See discussion above for compliance determination.

3.4.3 Total Dissolved Solids and Total Inorganic Nitrogen Limits

Restrictions are imposed for effluent salinity and Total Inorganic Nitrogen (TIN). Total Dissolved Solids (TDS - a measure of salinity) and TIN limits are summarized in Table 3-5 on the following page.

The permit recognizes that effluent TDS is based on the TDS of the water supply sources utilized in the IEUA service area. The RWQCB will not initiate enforcement action for TDS limit violations if the violation is due to the TDS of the water supply sources utilized in the IEUA service area and that all reasonable steps have been taken to ensure that the best TDS quality supplies are obtained and utilized in the service area. Furthermore, the RWQCB will not initiate enforcement action for violations of the TDS limits if the cause is solely due to chemical additions in the treatment processes needed to meet the waste discharge requirements, provided that IEUA has taken steps to optimize chemical additions to minimize TDS increases.

TIN is the sum of nitrate, nitrite, and ammonia, measured as nitrogen. The TIN limits in Order No. R8-2009-0021, NPDES No. CA8000409, (RWQCB, 2009) are based on the RWQCB's revised wasteload allocation for TIN in Publicly Owned Treatment Works discharges to the Santa Ana River and its tributaries and to groundwater in the Upper Santa Ana River Basin. The permit (RWQCB, 2009) allows IEUA to meet the limitation on an agency-wide basis using flow weighted averages of the discharges from all four plants,(RP-1, RP-4, RP-5, and CCWRF.

Table 3-5
Effluent TDS and TIN Limitations [1]

Constituent	12-Month Running Average (mg/L)
TDS	550[2]
TIN	8

1. Source: RWQCB, 2009.
2. The 12-month average limit for TDS cannot exceed the 12-month average TDS in the water supply by more than 250 mg/L. Compliance is based on the lower of the two limits, either 550 mg/L or 250 mg/L above the weighted averages of the water supplies in the RP-1, RP-4, RP-5, and CCWRF service areas.

3.4.4 Mineral/Inorganic Effluent Limitations

The RWQCB imposes restrictions on effluent inorganics to meet surface water quality objectives established to protect beneficial uses designated in the Basin Plan. Typically regulated constituents include boron, chloride, fluoride, sodium, sulfate, and total hardness. Based on its review of historic effluent data, the RWQCB determined that discharges from RP-1 and RP-4 were unlikely to cause or contribute to violations of water quality objectives for these mineral constituents. Consequently, the permit contains no effluent limitations, although monitoring is still required for these mineral constituents.

3.4.5 Trace Constituent Effluent Limitations

The RP-1/RP-4 NPDES permit specifies maximum concentrations for trace constituents in the effluent as summarized in Table 3-6.

Table 3-6
Effluent Trace Constituent Limitations [1]

Constituent	Maximum Daily Concentration (μg/L)	Average Monthly Concentration (μg/L)
Cyanide, Free	8.5	4.2
Selenium	8.2	4.1
Bis(2-ethylhexyl)phthalate	11.9	5.9

1. Source: RWQCB, 2009.

3.4.6 Effluent Limitations for TOC and Nitrogen Compounds

IEUA began recharging the Chino Groundwater Basin using recycled water from RP-1 and RP-4 as part of its Chino Basin Recycled Water Groundwater Recharge Project. More recently, IEUA began recharging more recycled water from RP-1 and RP-4 with the Phase II Chino Basin Recycled Water Groundwater Recharge Project. Effluent must comply with CDPH requirements for groundwater recharge. At present, groundwater recharge is allowed under Title 22 Water Recycling Criteria on a case-by-case basis. Based on the proposed Draft Groundwater Recharge Criteria issued by CDPH on August 5, 2008 (CDPH, 2007a), recharge water that is percolated at spreading basins is required to comply with specified limits for TOC and nitrogen compounds, including total nitrogen, ammonia-nitrogen, organic nitrogen, nitrite-nitrogen, and nitrate-nitrogen. The recharge water will be a blend of recycled water, stormwater, and imported water. Recharge water quality will be dependent upon the performance of RP-1 and RP-4, dilution with non-wastewater sources, and soil aquifer treatment as the recharge water percolates.

The RWQCB issued the original permit for the Phase I Recharge Project in 2005 (RWQCB, 2005). When Phase II was approved by CDPH in April 2007 (CDPH, 2007), the RWQCB issued a new permit covering both Phase I and Phase II Recharge Projects under the same Order No. R8-2007-0039 (RWQCB, 2007a) so that the regulatory requirements would be identical for both phases.

3.4.7 Other Effluent Limitations

Treatment requirements specified in the RP-1/RP-4 NPDES permit are dependent upon the flow in the receiving waters and the amount of effluent dilution that will be provided. (Monitoring location R-002U is used to determine the dilution ratio in Cucamonga Creek.)

If the flow in Cucamonga Creek is less than that required for a 20:1 (ratio of receiving water flow to wastewater flow) dilution at the point of discharge, the discharge must be tertiary effluent that has been adequately oxidized, coagulated, filtered, and disinfected. The discharge is considered adequately filtered if the turbidity does not exceed: (1) an average of 2 Nephlometric Turbidity Units (NTU) within a 24-hour period; (2) 5 NTU more than 5 percent of the time during any 24-hour period; and (3) 10 NTU at any time. The discharge is considered adequately disinfected if: (1) the median number of coliform organisms does not exceed a most probable number (MPN) of 2.2 per 100 mL over the last seven days; (2) the number of coliform organisms does not exceed an MPN of 23 per 100 mL in more than one sample within any 30-day period, and (3) the number of coliform organisms does not exceed an MPN of 240 per 100 mL in any sample.

If the flow in Cucamonga Creek is more than that required for a 20:1 dilution at the point of discharge, the discharge must be at least secondary effluent that has been adequately oxidized and disinfected. The discharge is considered

adequately disinfected if the median number of coliform organisms does not exceed 23 per 100 mL over the last 7 days.

The permit includes other general effluent limitations that restrict oil and grease, pH and toxicity for all discharges. Visible oil and grease in the effluent is not permissible, and the effluent pH must be within 6.5 and 8.5 units. Compliance determinations for pH require compliance with the following conditions:

- The total time during which the pH values are outside the required range of 6.5 to 8.5 units shall not exceed 7 hours and 26 minutes in any calendar month; and
- No individual excursion from the range of 6.5 to 8.5 pH units shall exceed 60 minutes.

Effluent toxicity is required to be monitored monthly. Monitoring of toxicity shall be accelerated as specified in the NPDES permit when the result of any single chronic toxicity test of the effluent exceeds 1.0 chronic toxicity units (TUc). An Initial Investigation Toxicity Reduction Evaluation (IITRE) shall be developed and followed when the result of the chronic toxicity tests exceeds a two month median value of 1.0 TUc for survival or reproduction endpoint, or 1.7 TUc for survival endpoint for any single test.

Although the above requirements for discharge to Cucamonga Creek apply equally to effluent from both RP-1 and RP-4, RP-4 will be meeting the more strict requirements at all times because the RP-4 outfall has now been converted to a recycled water distribution pipeline and there will be users requiring disinfected tertiary effluent at all times.

The use of recycled water for landscape irrigation or other similar uses shall comply with the limitations set forth in the consolidated permit. In order to comply with Title 22 requirements for spray irrigation and non-restricted recreational landscape impoundments, recycled water must be tertiary effluent that has been adequately disinfected, oxidized, coagulated (as needed for turbidity reduction), and filtered. The same BOD_5, TSS, turbidity and disinfection requirements apply for recycled water production as for surface water discharges with less than 20:1 dilution. The same TDS and TIN limitations also apply for recycled water production as for surface water discharges with less than 20:1 dilution. However, if those limitations are not met, more restrictive antidegradation limitations are included in the RP-1/RP-4 NPDES permit for recycled water overlying specific local groundwater management zones.

The pH for recycled water effluent should be within an instantaneous minimum and maximum of 6 and 9 pH units, respectively.

3.5 Effluent Quality Characteristics

IEUA submits monitoring reports to the RWQCB in accordance with the NPDES permit. Table 3-7 summarizes recent recycled water quality data for some of the major regulated parameters. Complete monitoring and reporting records are available from IEUA or the RWQCB.

Table 3-7
Typical RP-4 Effluent Quality [1]

Constituent	Units	Minimum	Maximum	Average
Specific Conductance	µmhos/cm	695	965	805
pH	unit	6.7	7.2	6.9
Turbidity	NTU	0.2	0.6	0.4
TOC	mg/L	3.7	10.9	4.5
TSS	mg/L	<0.1	3.2	0.2
TDS	mg/L	426	538	472
Carbonate Alkalinity	mg/L	0	0	0
Bicarbonate Alkalinity	mg/L	93	145	121
Nitrate Nitrogen (NO_3-N)	mg/L	1.3	28.3	5.8
Nitrite Nitrogen (NO_2-N)	mg/L	<0.01	0.45	<0.01
Ammonia Nitrogen (NH_3-N)	mg/L	<0.1	3.7	<0.1
TKN	mg/L	<0.5	5.3	0.6
Total Inorganic Nitrogen (TIN as N)	mg/L	1.3	32.4	5.8
Calcium	mg/L	36	43	39
Chloride	mg/L	102	144	127
Magnesium	mg/L	8	11	10
Sodium	mg/L	97	113	107
Sulfate	mg/L	42	58	50

Source: IEUA, 2008a.

Section 4
Plant Facilities

IEUA's RP-4 provides wastewater treatment that conforms to the highest level of California water reclamation criteria. This section describes the existing and newly constructed facilities and presents the basis for compliance of the expanded RP-4 facilities with the treatment, recycled water quality, and reliability requirements set forth in Title 22. As mentioned in Section 1, IEUA has already shown that the existing facilities comply with Title 22 in an Engineering Report submitted in March 2005 (DDB Engineering, Inc., 2005).

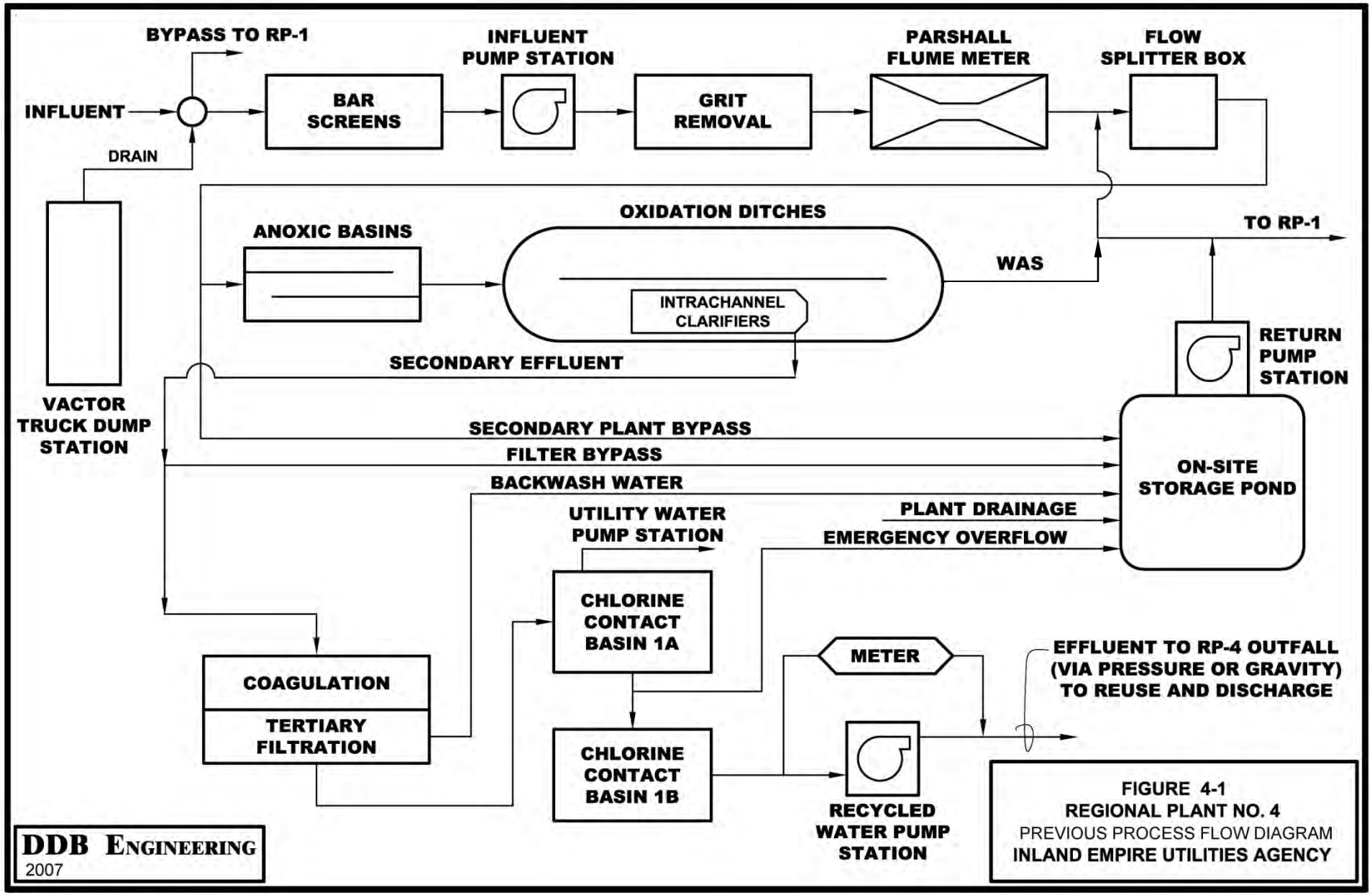
4.1 General Description of Facilities

The previously existing RP-4 was designed to treat an annual average flow of 7 mgd. Improvements are being constructed that will increase the plant's rated capacity to 14 mgd. The improvements are being implemented in two phases. Phase 1 work converted the previous 7 mgd oxidation ditch plant to a biological nitrogen removal activated sludge process with 7 mgd of capacity. Phase 1 was commissioned in July 2007. Phase 2 features construction of an additional 7 mgd capacity biological nitrogen removal activated sludge train, also including the addition of new primary and secondary clarifiers, increasing the total plant capacity to 14 mgd. The standby oxidation ditch will also be converted to a biological nutrient removal activated sludge process system. Phase 2 also involves other improvements, such as modifications to the headworks, including primary enhancement chemical addition, and addition of new tertiary cloth filters, clarifiers, and an odor control biofilter. Phase 2 is expected to be completed by summer 2009.

4.1.1 Previous 7-MGD Plant Process Configuration

RP-4 currently provides preliminary, secondary, and tertiary treatment and solids wasting facilities. The existing plant was originally designed to treat an annual average flowrate of 7 mgd and peak flow of 14 mgd. Figure 4-1 presents the process flow schematic and Figure 4-2 shows the site plan for RP-4 as it existed at the initiation of construction for the expansion from an average flow of 7 mgd to 14 mgd. The 7-mgd plant's treatment sequence is comprised of bar screens, an influent pumping station, grit removal, anoxic tanks, oxidation ditches (mechanical aerators were abandoned in place and all of them were fine bubble aeration), intrachannel (BOAT^{TM}) clarifiers, waste activated sludge (WAS) thickening units, filtration, and sodium hypochlorite disinfection. It formerly included aerated digesters and centrifuge dewatering facilities, but they have since been relocated.

Raw wastewater passes through a mechanical bar screen and then is pumped to a vortex (Pista) grit chamber and Parshall flume on its way to the flow splitter that apportions flows among the three parallel secondary process trains. Screenings


BYPASS TO RP-1
INFLUENT
INFLUENT PUMP STATION
PARSHALL FLUME METER
FLOW SPLITTER BOX
BAR SCREENS
GRIT REMOVAL
DRAIN
OXIDATION DITCHES
ANOXIC BASINS
TO RP-1
WAS
INTRACHANNEL CLARIFIERS
RETURN PUMP STATION
SECONDARY EFFLUENT
VACTOR TRUCK DUMP STATION
SECONDARY PLANT BYPASS
FILTER BYPASS
BACKWASH WATER
ON-SITE STORAGE POND
PLANT DRAINAGE
UTILITY WATER PUMP STATION
EMERGENCY OVERFLOW
CHLORINE CONTACT BASIN 1A
METER
EFFLUENT TO RP-4 OUTFALL (VIA PRESSURE OR GRAVITY) TO REUSE AND DISCHARGE
COAGULATION
TERTIARY FILTRATION
CHLORINE CONTACT BASIN 1B
RECYCLED WATER PUMP STATION
DDB ENGINEERING
2007
FIGURE 4-1
REGIONAL PLANT NO. 4
PREVIOUS PROCESS FLOW DIAGRAM
INLAND EMPIRE UTILITIES AGENCY

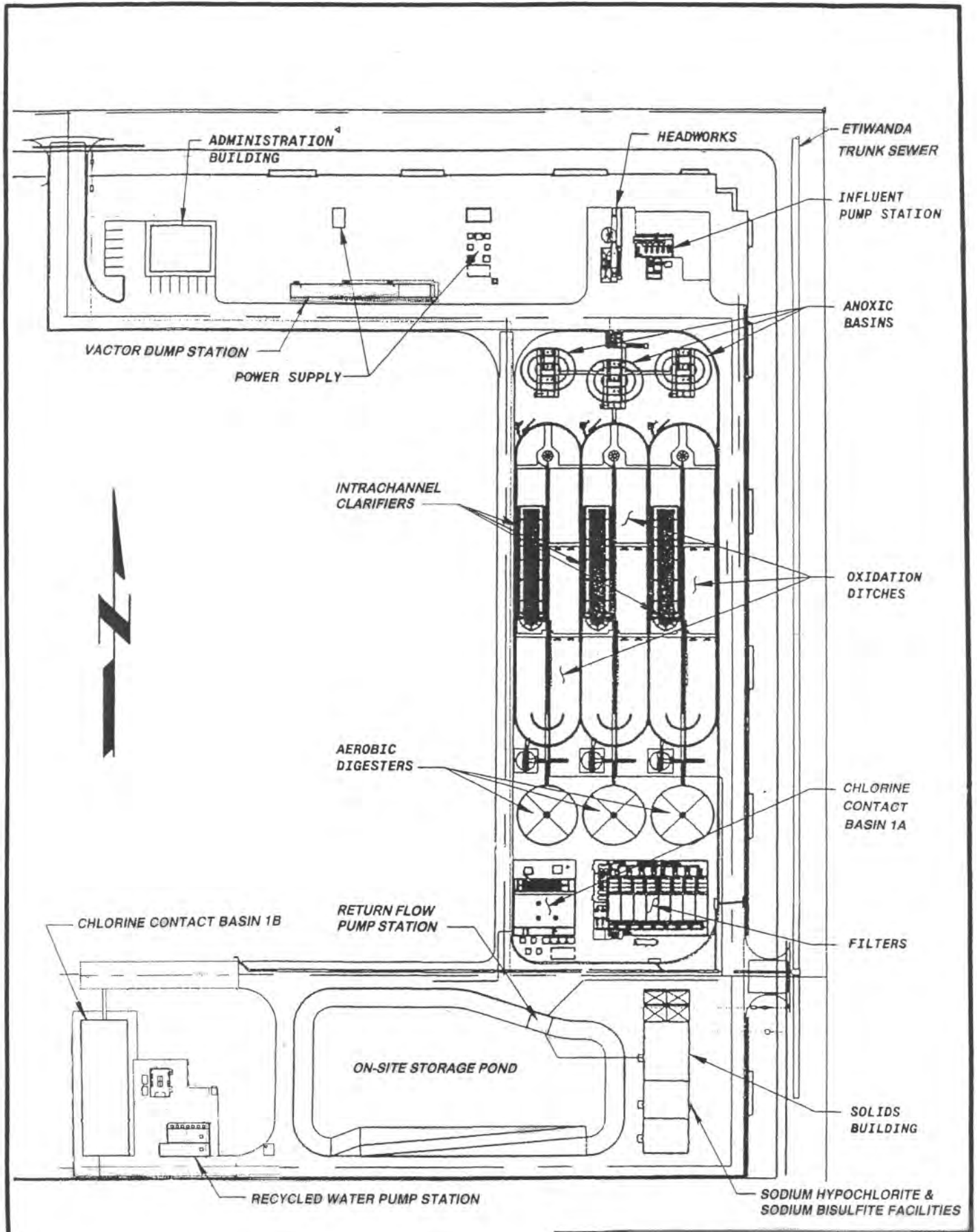


FIGURE 2-5
REGIONAL PLANT NO. 4
EXISTING - SITE LAYOUT
INLAND EMPIRE UTILITIES AGENCY

and grit are dewatered and hauled to a landfill. All other solids removed during treatment are returned to the trunk sewer and conveyed to RP-1 for removal, processing and disposal.

Secondary treatment consists primarily of biological destruction and stabilization of suspended and dissolved organic materials. Nitrification and denitrification is also achieved by utilizing an anoxic tank with recycle streams and an oxidation ditch aeration tank with a BOAT™ clarifier for solids separation at RP-4. This biological treatment process uses both aerobic (oxic) and anoxic bacteria and other microorganisms to break down organic matter and to remove nitrogen found in the wastewater. All three aeration tanks use fine bubble diffusers.

Tertiary treatment consists of coagulation, filtration, and disinfection to produce high quality recycled water. Filtered effluent is disinfected using sodium hypochlorite. The required 90-minute contact time is achieved through the two baffled chlorine contact tanks (1A and 1B) operated in series. The effluent from Basin 1B enters the wet well of the Recycled Water Pumping Station and is pumped into the RP-4 outfall for delivery to recycled water users. Recycled water can be brought back into the plant to be used for plant utility water either through a 10-inch connection to the discharge line from the RP-4 recycled water pump station or through a 6-inch connection to the RP-4 outfall pressure line in Etiwanda Avenue. Any water not reused eventually reaches RP-1 where it is mixed with RP-1 effluent and dechlorinated before discharge to Prado Park Lake or Cucamonga Creek.

WAS generated during biological treatment and filter backwash waste are sent to the holding pond for the filter backwash water, or returned to the trunk sewer in Etiwanda Avenue and conveyed with other raw sewage to RP-1 for removal, processing and disposal.

4.1.2 Modified and Expanded Treatment Process Configuration

The major change to the process sequence for the expansion of capacity from 7 to 14 mgd is the conversion of the activated sludge/BOAT™ clarifier system to a multi-stage Bardenpho process with the addition of primary and secondary clarifiers and a second anoxic zone in the aeration tanks. The existing BOAT™ clarifiers were removed. Additions to the plant facilities during the expansion will include:

- Influent Pump Station No. 2
- Headworks Splitter Box
- Headworks No. 2 / Grit Screening
- Primary Clarifier Splitter Box
- Primary Clarifiers Nos. 1 and 2
- Primary Sludge Waste Station
- Anoxic Basin Splitter Box
- Modification of 3 oxidation ditches

- Secondary Clarifiers Nos. 1, 2 and 3
- RAS/WAS Pump Station
- Secondary Clarifier Splitter Box
- Four new Cloth Disc Filters
- Chlorine Contact Basin No. 2
- Ferric/Polymer Feed System
- Odor Control System/Biofilters

The modified flow schematic and the modified site plan, illustrated on Figures 4-3 and 4-4, respectively, show the plant as it will operate when the modifications and expansion to 14 mgd are complete. As described earlier in this Section, the improvements are being implemented in two phases. Phase 1 modifications, included the conversion of the previous 7 mgd oxidation ditch plant to a biological nitrogen removal activated sludge process that was commissioned in July 2007. Phase 2, which includes conversion of the standby activated sludge train, addition of new primary and secondary clarifiers, and addition of a new 7 mgd biological nitrogen removal activated sludge system, new tertiary cloth filters and clarifiers, and modifications to the headworks, should be completed by summer 2009.

The following sections describe the basis of design for each of the treatment processes in detail and demonstrate how Title 22 compliance will be achieved for an annual average flow of 14 mgd. Capacities of each unit process are determined for operation as defined under the following conditions:

- Peak Capacity – total peak flow capacity with all units in service.
- Annual Average Capacity Without Redundancy – annual average capacity with all units in service.
- Title 22 Reliable Annual Average Capacity – annual average capacity conforming to the reliability requirements set forth in Title 22. Reliability may be provided by redundant, standby, or alternative equipment or processes. Typically, the Title 22 Reliable Annual Average Capacity for each treatment process is determined with the largest unit out of service. In other cases, alternative means of reliability is provided by storage or another treatment process. The specific means of establishing reliability is described for each treatment process.

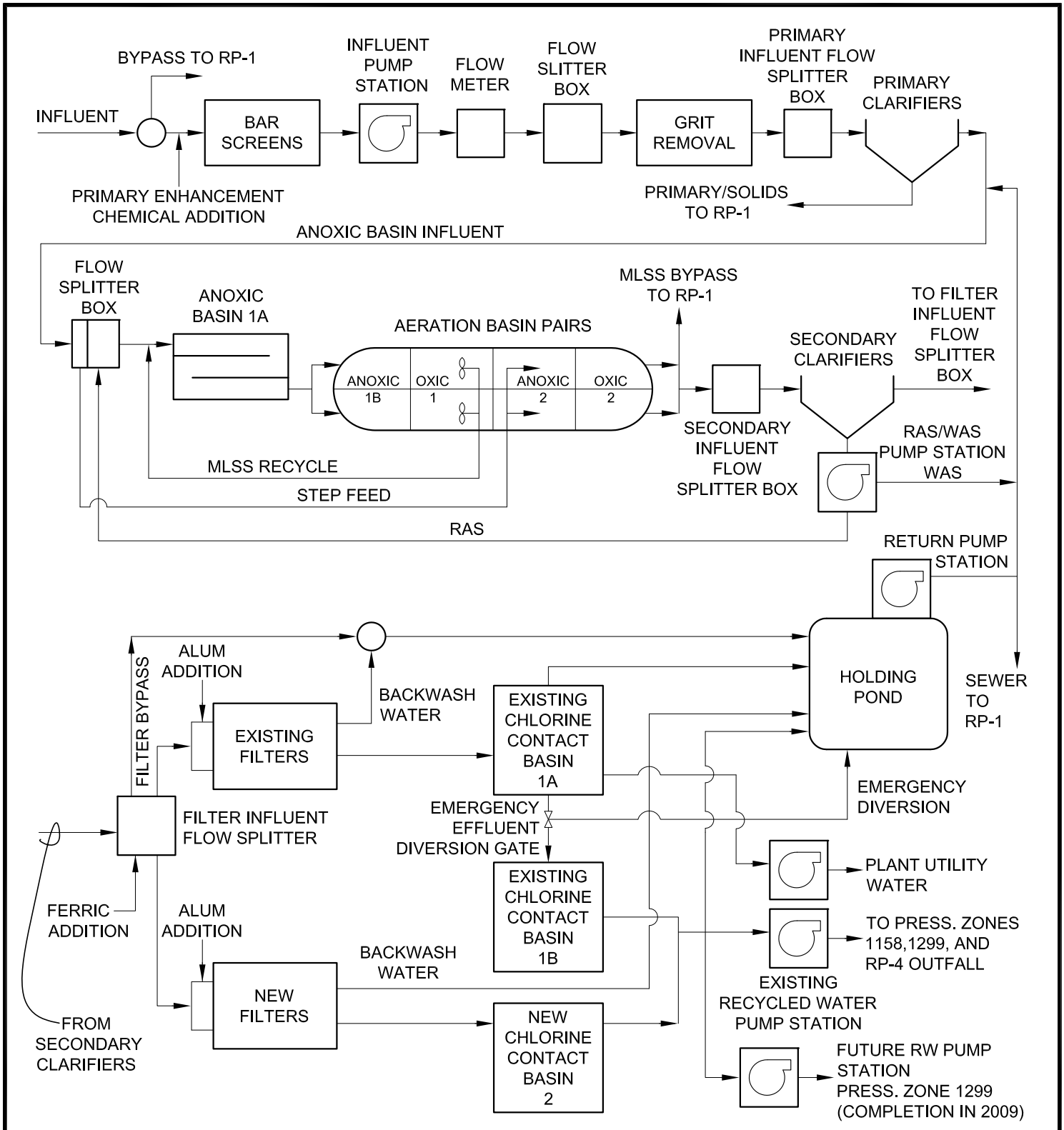


FIGURE 4-3
REGIONAL TREATMENT PLANT NO. 4
EXPANSION - PROCESS FLOW DIAGRAM
INLAND EMPIRE UTILITIES AGENCY

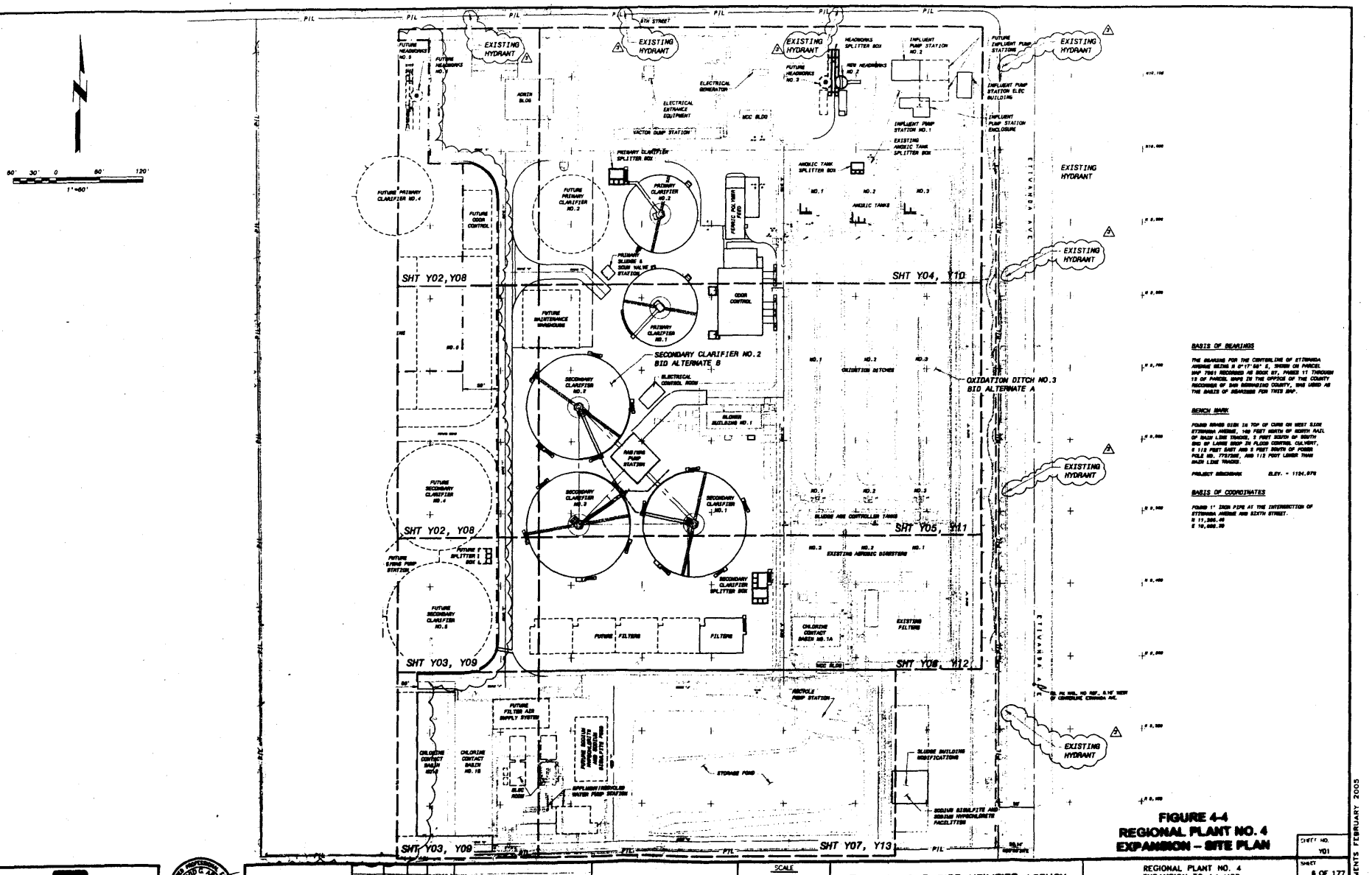


FIGURE 4-4
REGIONAL PLANT NO. 4
EXPANSION – SITE PLAN

BLACK & VEATCH Corporation

INLAND EMPIRE UTILITIES AGENCY
A Municipal Water District

REGIONAL PLANT NO. 4
EXPANSION TO 14 MGD
PROJECT NO. EN04011
YARDWORK
SITE PLAN

SCALE: AS SHOWN

SHEET NO. Y01
SHEET 6 OF 177
JOB NO. 65447
DRAWING NO. D-6578-6

BID DOCUMENTS FEBRUARY 2005

4.2 Design Flowrates

RP-4 is being expanded to an average annual day flow (AADF) rated capacity of 14 mgd. The Peak Hour Dry Weather Flow (PHDWF) peaking factor is conservatively assumed to be 2.0 based on IEUA experience, making the PHDWF rate 28.0 mgd. The Peak Hour Wet Weather Flow (PHWWF) peaking factor for the plant is 2.3, and the PHWWF rate is 32.2 mgd, based on the Black and Veatch design drawings, sheet 5 (IEUA, 2005).

IEUA (IEUA, 2000a and 2000b) generally uses the following formula for PHDWF:

$$PHDWF = 1.8 * (AADF)^{0.94}$$

Based on the expansion design AADF of 14 mgd for RP-4, this formula gives a PHDWF of:

$$PHDWF = 1.8 * (14)^{0.94} = 21.5 \text{ mgd}$$

This is equivalent to a dry weather peaking factor of 1.54 (21.51 mgd/14 mgd). Using a dry weather peaking factor of 2.0 for the design PHDWF is conservative. Table 4-1 summarizes the flowrates and peaking factors for RP-4 that are used as the basis of this report.

Table 4-1
Summary of RP-4 Flowrates and Peaking Factors for Title 22 Compliance

Parameter	Flowrate (mgd)[1]	Peaking Factor[2]
Raw Influent Flow		
Average Annual Day Flow (AADF)	14.0	1.0
Maximum Month Flow (MMF)	16.1	1.15
Peak Day Flow (PDF)	28.0	2.0
Peak Hour Dry Weather Flow (PHDWF)	28.0	2.0
Peak Hour Wet Weather Flow (PHWWF)	32.2	2.3

1. Source: IEUA, 2005, and Black & Veatch, 2004, (Table 5-1).
2. Peaking factor = $\frac{\text{PHWWF (mgd)}}{\text{AADF(mgd)}}$ (or PHDWF (mgd))

4.3 Design Wastewater Characteristics

The typical chemical composition of the raw influent wastewater to RP-4, based on 2000-2001 data, is summarized in Table 4-2. These data were used for the design of the modifications and expansion to 14 mgd.

Table 4-2
Design Raw Wastewater Characteristics [1]

Parameter	Units	Value	Reference
Annual Average Raw Influent Quality:			
BOD-5 day	mg/L	245	See Note 2
TSS	mg/L	256	See Note 2
Ammonia	mg/L	28	See Note 2
TKN	mg/L	43	See Note 2
Average temperature	degrees C	23	See Note 2
Annual Average Raw Influent Loadings at 14 mgd:			
BOD-5 day	lbs/day	28,600	calculated [3]
TSS	lbs/day	29,880	calculated [3]
Peak Month Average Raw Influent Quality:			
BOD-5day	mg/L	294	See Note 2
TSS	mg/L	308	See Note 2
Ammonia	mg/L	34	See Note 2
TKN	mg/L	52	See Note 2
Winter temperature	degrees C	20	See Note 2
Summer temperature	degrees C	26	See Note 2
Peak Month Average Raw Influent Loadings at 14 mgd:			
BOD-5 day	lbs/day	34,320	calculated [3]
TSS	lbs/day	35,960	calculated [3]

1. Raw wastewater characteristics based on RP-4 data from June 2000 through July 2001.
2. Black & Veatch, 2002.
3. For more information on calculated values, see Appendix B.

4.4 Preliminary Treatment

The preliminary treatment process at RP-4 consists of two mechanical bar screens ahead of Influent Pump Stations Nos. 1 and 2, a 42-inch diameter magnetic flow meter (replacing the original Parshall flume), a headworks splitter box and two vortex-type grit chambers with grit concentrators. Table 4-3 presents design criteria for the preliminary treatment facilities.

Table 4-3
Headworks Design Criteria

Parameter	Units	Value	Reference
Mechanical Bar Screens:			
Number	units	2	See Note 1
Channel width	feet	6.0	See Note 1
Channel depth	feet	18.0	See Note 1
Bar clear opening	inches	0.375	See Note 1
Max velocity through screen	feet/second	1.5	See Note 1
Peak flow capacity	mgd, each	36.2	See Note 1
Total peak flow capacity	mgd	72.4	calculated [2]
Screenings Press:			
Number	units	1	See Note 1
Capacity	cu ft/hour	32	See Note 1
Percent solids	percent	8	See Note 1
Influent Pump Stations Nos. 1 & 2:			
Pump Station Number 1:			
Number of pumps	units	5	See Note 1
Type	type	centrifugal	See Note 1
Motor horsepower, each	hp	50	See Note 1
Rated Capacity per pump	gpm	3,275	See Note 1
Rated head @ 870 rpm	ft	38	See Note 1
Pump Station Number 2:			
Number of pumps	units	3	See Note 1
Type	type	submersible	See Note 1
Motor horsepower, each	hp	100	See Note 1
Rated Capacity per pump	gpm	6,000	See Note 1
Rated head	ft	40	See Note 1
Reliable capacity with 7 pumps	mgd	40.8	calculated [2]
Magnetic Flow Meter:			
Number	units	1	See Note 3
Throat size	inches	42	See Notes 1 & 3
Maximum capacity	mgd	48.3	See Notes 1 & 3
Grit Chambers:			
Number	units	2	See Note 1
Type	type	vortex	See Note 1
Diameter	feet	16	See Note 4
Depth	feet	2.92	See Note 4
Volume, each	gallons	4,400	calculated [2]

Table 4-3
Headworks Design Criteria

Parameter	Units	Value	Reference
Detention time at PHWWF, all units in service	minutes	0.39	calculated [2]
Peak design capacity, each	mgd	20	See Note 1
Grit Pumps:			
Number	units	3	See Note 5
Type	type	Recessed impeller, centrifugal	See Note 5
Motor horsepower	hp	2 @ 5; 1 @ 7.5	See Note 5
Capacity, each	gpm	250	See Note 1
Rated head	feet	30	See Note 1
Grit Dewatering Equipment:			
Number of cyclones	units	2	See Notes 5 & 6
Number of classifiers	units	2	See Notes 5 & 6

1. Black & Veatch, 2004.
2. For more information on calculated values, see Appendix B.
3. Black & Veatch, 2002.
4. NBS/Lowry, 2000.
5. IEUA staff, 2004-2009.
6. IEUA, 2005.

The raw wastewater flow entering RP-4 is controlled by diversion manholes and the influent pump station. Raw influent flow enters the plant through a 42-inch gravity sewer from a diversion manhole in the Etiwanda Trunk Sewer in Etiwanda Avenue. The diverted wastewater flows by gravity to another diversion manhole upstream of the plant's influent pumps. Flows exceeding the designated influent pumping rate are diverted via a weir back to the Etiwanda Trunk Sewer for conveyance to RP-1. Below the diversion point, the Etiwanda Trunk Sewer is 24-inches in diameter as it flows to RP-1.

As it enters RP-4, the gravity flow passes through a mechanical bar screen with a maximum capacity of 36.2 mgd. A second mechanical bar screen of the same flow capacity is available as standby. With both screens in service, the peak flow capacity of the screening process is 72.4 mgd. Therefore, no additional screening capacity is required for the expansion of plant capacity to a PHWWF of 32.2 mgd.

After screening, the influent flow is pumped up to the headworks splitter box utilizing the existing Pump Station No. 1, with five constant speed units at about

4.7 mgd each, and the new Influent Pump Station No. 2, with three submersible pumps, two of which have adjustable frequency drives. The two pump stations share an interconnected wet well and their flows join into a 42-inch diameter force main containing a magnetic flow meter prior to reaching the splitter box. Each of the new pumps is capable of delivering 6,000 gpm or 8.6 mgd. With one of the new pumps out of service, the combined peak capacity of the other seven pumps is 40.8 mgd. This is equivalent to an average reliable capacity (with one of the larger pumps out of service) of 17.7 mgd (40.8 mgd / 2.3 peaking factor under PHWWF conditions = 17.7 mgd AADF capacity). The peak capacity of all eight pumps is 49.5 mgd.

The magnetic flow meter is designed for a peak flow of 48.3 mgd, which is equivalent to an average flow of 21 mgd, based on a peaking factor of 2.3 under PHWWF conditions. It is in a 42-inch line and has a bypass around it to facilitate maintenance.

The headworks splitter box divides the flow between the existing and new vortex grit basins (Grit Basins Nos. 1 and 2). The design peak capacity of each grit basin is 20.0 mgd (Black & Veatch 2002 and 2004 and NBS/Lowry 1996). It should be noted that optimum grit removal is not essential to the plant's overall treatment ability. Operating with one grit chamber out of service, grit would still be removed with waste solids from the primary clarifiers. This flexibility allows the grit removal process to comply with Title 22 because a downstream process would still remove grit.

Based on these criteria, the capacity of each preliminary treatment unit process, as defined in Section 4.1, is summarized in Table 4-4.

Table 4-4
Preliminary Treatment Capacity

Process	Peak Capacity (mgd)	Annual Average Capacity With All Units in Service (mgd)	Title 22 Reliable Annual Average Capacity (mgd)
Bar screens	72.4	31.5 [1]	15.7 [2]
Influent Pump Stations	49.5	21.5 [3]	17.7 [4,7]
Magnetic flow meter	48.3	21 [3]	21 [3]
Grit chambers	40.0 [5]	17.4 [6]	17.4 [6,7]

1. Peak Capacity/PHWWF Peaking Factor = 72.4/2.3 = 31.5
2. Peak Capacity with one screen out of service/PHWWF Peaking Factor = 36.2/2.3 = 15.7
3. Peak Capacity/PHWWF Peaking Factor = 49.5/2.3 = 21.5; 48.3/2.3 = 21.0;
4. Reliable Annual Average Capacity = Peak Capacity with one large pump out of service/PHWWF Peaking Factor = 40.8 / 2.3 = 17.7.
5. Black & Veatch 2002 and 2004 and NBS/Lowry 1996.
6. Annual Average Capacity = Peak Capacity/PHWWF Peaking Factor = 40.0 / 2.3 = 17.4
7. See discussion above regarding reliable capacity of these processes.

In summary, the preliminary treatment facilities comply with Title 22 requirements by providing standby units and back-up treatment capacity. The preliminary treatment processes can effectively handle an annual average flow of 15.7 mgd.

4.5 Primary Treatment

The expansion includes construction of two 7-mgd-capacity primary clarifiers in order to reduce the load on the secondary treatment system. A third clarifier is not considered necessary as a standby because the downstream treatment systems can handle the additional load for short periods if one of the two clarifiers is out of service. The design criteria for the primary clarifiers are presented in Table 4-5.

Table 4-5
Primary Treatment Design Criteria

Parameter	Units	Value	Reference
Primary Clarifiers:			
Number	units	2	See Note 1
Diameter	ft	105	See Note 1
Side Water Depth	ft	13	See Note 1
Surface Area, each	sq. ft.	8,659	Calculated[2]
Volume, each	gallons	844,254	Calculated[2]
Design Capacity, each	mgd	7	See Note 1
Overflow rate at AADF, all units in service	gpd/sf	810	See Note 1
Overflow rate at PHWWF, all units in service	gpd/sf	1,860	Calculated[2]
Annual Average Title 22 Capacity	mgd	14	See Note 3

1. Black & Veatch, 2004.
2. For more information on calculated values, see Appendix B.
3. See above discussion.

4.6 Secondary Treatment

The plant expansion includes major revisions to the flow patterns for the biological treatment system and the addition of final clarifiers to convert the existing structures into a more conventional secondary treatment system.

4.6.1 Biological Secondary Treatment Facilities

As part of the plant expansion, the existing anoxic basins and oxidation ditches are being modified into a multi-stage Bardenpho configuration to provide activated sludge biological treatment with biological nitrogen removal. The existing BOAT™ clarifiers will be removed and each of the three existing

oxidation ditches will be divided into a pair basins, which have the ability to operate in the plug flow or step feed mode, for a total of six basins. Each basin will be further divided into anoxic and oxic zones through the installation of baffles. Each pair of basins provides a 7 mgd treatment train. Two of the three trains will provide the design capacity of 14 mgd and the third will be available as a standby or redundant system.

A flow splitter box divides the primary effluent flow among the three biological treatment trains. The existing anoxic tanks provide stage 1A and additional anoxic capacity (1B) is provided by a baffled section at the head of converted oxidation ditch. This is followed by Oxic Zone 1, Anoxic Zone 2, and Oxic Zone 2. Anoxic Zone 2 is divided by a baffle into zones 2A and 2B. Anoxic tanks 1A are constructed of three concentric rings, but they are being baffled to provide a serpentine flow pattern from one side of the outside ring to the other. Primary effluent enters the outside ring on the east side and mixes with the recycled mixed liquor suspended solids (MLSS) coming into the outside ring from the south side. The flow is then directed by baffles through the other rings and to the overflow launders in the outside ring on the southwest side. The launders discharge the mixed flow through 42-inch gravity lines to the east and west halves of each 7 mgd treatment train. Submersible mixers have been located in the serpentine channel to maintain the flow and keep the mix of primary effluent and MLSS in suspension.

The effluent from the 1A anoxic tanks enters the treatment trains in each basin in Anoxic Zone 1B at the head end of the aeration tanks. The flow then passes sequentially through Oxic Zone 1, Anoxic Zone 2A and Oxic Zone 2B. Diffused aeration is provided in each oxic zone and submersible mixers in each anoxic zone. Mixed liquor suspended solids (MLSS) are recycled from the end of Oxic Zone 1 to Anoxic Tank 1A at rates of 1 to 4 times the annual average day flow (AADF). A portion of the primary effluent (up to 15% of plant influent flow, 1 mgd minimum) may be diverted from the Anoxic Basin Splitter Box through a 14-inch gravity line to the head end of Anoxic Zone 2A to provide a step feed configuration.

The purpose of the alternating anoxic and oxic zones, accompanied by recirculation and step feed, is to both treat the carbonaceous BOD and reduce nitrogen compounds to achieve an effluent TIN level below 8 mg/L. It is anticipated that the MLSS will average about 4,000 mg/L and that the solids inventory will exceed 15,000 lbs per mgd treated.

Biological secondary treatment design criteria are summarized in Table 4-5. The secondary system is designed to treat 21 mgd, because the three treatment trains already existed as oxidation ditches before their conversion to Bardenpho. Therefore, one-third of the equipment and tanks in Table 4-6 are redundant for the design capacity of 14 mgd.

Table 4-6
Biological Secondary Treatment Design Criteria

Parameter	Units	Value	Reference
Anoxic Tanks 1A:			
Number	units	3	See Note 1
Volume, each	gallons	339,315	See Note 1
Detention Time, based on annual average flow of 7 mgd, each, without recycle	hours	1.16	Calculated[2]
Anoxic Tank 1A Mixers:			
Type	type	Flygt submersible propeller	See Note 1
Number per tank	units	3	See Note 1
Motor horsepower, each	hp	6.2	See Note 1
Size	inches	63	See Note 1
Process Trains:			
Number	trains	3	See Note 1
Basins per train	units	2	See Note 1
Volume, each basin	gallons	1,486,000	See Note 1
Length	feet	383.5	See Note 1
Width	feet	35	See Note 1
Side Water Depth	feet	16	See Note 1
Average flow per basin	mgd	3.5	See Note 1
Hydraulic Detention Time, based on annual average incoming flow of 3.5 mgd per basin (not including mixed liquor recycle flow)	hours	10.2	Calculated[2]
Anoxic Zone 1B:			
Number	units	6	See Note 1
Volume, each	gallons	120,000	See Note 1
Anoxic Zone 1B Mixers:			
Type	type	submersible propeller	See Note 1
Number per zone	units	1	See Note 1
Motor horsepower, each	hp	20	See Note 3
Size	inches	30	See Note 3
Average flow	mgd	3.5	See Note 3
Oxic Zone 1:			
Number	units	6	See Note 1
Volume, each	gallons	863,500	See Note 3

Table 4-6
Biological Secondary Treatment Design Criteria

Parameter	Units	Value	Reference
Anoxic Zone 2A:			
Number	units	6	See Note 1
Volume, each	gallons	117,300	See Note 1
Anoxic Zone 2B:			
Number	units	6	See Note 1
Volume, each	gallons	117,300	See Note 1
Anoxic Zone 2 Mixers:			
Type	type	submersible propeller	See Note 1
Number per zone	units	1	See Note 1
Motor horsepower, each	hp	20	See Note 1
Size	inches	30	See Note 1
Average flow	mgd	3.5	See Note 1
Oxic Zone 2:			
Number	units	6	See Note 1
Volume, each	gallons	228,300	See Note 3
Diffused Aeration System:			
Type	type	Fine Bubble Aerostrip	See Note 1
Oxic Zone 1:			
No. of diffusers per zone	units	338	See Note 3
Air requirements, per zone:			
Average	scfm	2,105	See Note 1
Max month (summer)	scfm	3,515	See Note 1
Peak Day	scfm	3,750	See Note 1
Oxic Zone 2:			
No. of diffusers per zone	units	80	See Note 3
Air requirements, per zone:			
Average	scfm	243	See Note 1
Max month (summer)	scfm	371	See Note 1
Peak Day	scfm	1,255	See Note 1
Air Blowers:			
Number	units	3	See Note 1
Rated capacity, each	scfm	8,000	See Note 1
Discharge pressure	psia	22.93	See Note 3
Motor hp, each	hp	2 @ 500; 1 @ 450	See Note 1
Mixed Liquor Recycle Pumps:			
Number	units	6	See Note 1
Number per basin	unit	1	See Note 1

Table 4-6
Biological Secondary Treatment Design Criteria

Parameter	Units	Value	Reference
Type	type	submersible horizontal propeller	See Note 1
Capacity range, each, at rated head	mgd	3.5 – 7.0	See Note 1
Motor hp, each	hp	40	See Note 1
Rated head	ft	1.4 to 4.5	See Note 1

1. Black & Veatch, 2004.
2. For more information on calculated values, see Appendix B.
3. IEUA, 2005.

4.6.2 Secondary Clarification

Secondary clarification is being added to RP-4 in the form of 3 circular clarifiers that replace the in-channel BOAT™ clarifiers that were within the former oxidation ditches. Each clarifier is 145 feet in diameter and equipped with an energy dissipating inlet, hydraulic flocculating feedwell, spiral shaped rotating scrapers, full-radius ducking scum skimmers and a rotating pipe weir assembly for scum collection. Each clarifier will serve one of the three 7.0 mgd biological treatment trains.

The design criteria for the secondary clarifiers are presented in Table 4-7. Secondary activated sludge is wasted from the system by using manual control valves with a local flow meter on the return activated sludge (RAS) pumps' discharge line and the mixed liquor return pumps' discharge line. Waste solids are sent directly to the sewer that conveys wastewater flow to RP-1.

Table 4-7
Secondary Clarifier Design Criteria

Parameter	Units	Value	Reference
Secondary Clarifiers:			
Number	units	3	See Note 1
Diameter	ft	145	See Note 1
Side Water Depth	ft	18	See Note 1
Surface area, each	sf	16,500	See Note 1
Volume, each	gallons	2,212,000	Calculated[2]
Average flow, each	mgd	7.0	See Note 1
Peak Capacity, each	mgd	16.1	Calculated[2]
Overflow rate at 16.1 mgd	gpd/sf	976	Calculated[2]
Inlet well diameter (minimum)	ft	10	See Note 3
Flocculating feedwell	ft	30	See Note 3

Table 4-7
Secondary Clarifier Design Criteria

Parameter	Units	Value	Reference
diameter (minimum)			
Collector Drive	Hp	1	See Note 1
Return Activated Sludge (RAS) Pumps			
Type	--	Horizontal non-clog centrifugal	See Note 1
Number	units	4 (3 duty, 1 standby)	See Note 1
Rated Capacity, each	gpm	7,072	See Note 1
Rated Head, each	ft	48	See Note 1
Motor hp, each	hp	100	See Note 1
Drive type	--	Variable frequency drive	See Note 1
RAS Flow, each train	mgd	2 – 8.75	See Note 1
Waste Activated Sludge (WAS)			
Number of Flow Control Valves	units	2	See Notes 1 & 4
WAS Production, annual average	ppd	11,214	See Note 1
WAS Production, maximum month	ppd	14,390	See Note 1
WAS Continuous Flow Rate, annual average	gpm	115	See Note 1
WAS Continuous Flow Rate, maximum month	gpm	141	See Note 1

1. Black & Veatch, 2004.
2. For more information on calculated values, see Appendix B.
3. IEUA, 2005.
4. WAS system has two flow control valves: one valve wastes Mixed Liquor and the other valve wastes RAS from the RAS pumps' discharge line.

Based on these criteria, the capacity for the RP-4 secondary treatment process, as described in Section 4.6, is summarized in Table 4-8.

Table 4-8
Secondary Treatment Capacity

Process	Peak Capacity (mgd)	Annual Average Capacity With All Units in Service (mgd)	Title 22 Reliable Annual Average Capacity (mgd)
Bardenpho anoxic/oxic tanks,	16.1 [1]	21 [2]	14 [2]
Secondary Clarifiers	28.0 [3]	21 [4]	14

1. Peak Capacity based on Maximum Month loading per Black & Veatch, 2004,
2. Based on evaluation summarized in Black & Veatch, 2004. Each biological train rated at 7 mgd average capacity.
3. Peak Capacity based on Peak Day loading per Black & Veatch, 2004.
4. Based on two tanks in operation. See discussion below regarding reliable capacity.

The average treatment capacity of the secondary treatment process is 21 mgd with all three trains in service and operating effectively. The average Title 22 design capacity of 14 mgd can be handled with two of the three treatment trains, so the third train provides standby capacity or redundancy for either of the two trains in operation. Short term wet weather flows with a peaking factor of 2.3 can be handled through the biological system with short term overloading or the redundant train can be placed in operation, if necessary. In addition, there is currently sufficient capacity in the trunk sewer and at RP-1 to divert up to 7 mgd, the average capacity of one RP-4 train, in the event of a problem with the quality of the recycled water produced by one of the two operating trains. If for any reason the RP-4 effluent quality is poor, partially treated flow can be sent to the on-site storage pond. From there, it can be pumped to the sewer, which flows to RP-1 for treatment. More detail about emergency on-site storage is available later in this Section. This ability to partially divert the flow to RP-1 provides additional reliability for the recycled water stream.

The secondary clarifiers are rated at 50.1 mgd of peak hydraulic capacity, including incoming flows, RAS, filter backwash, return flows, and future solids handling return flows for their design (Black & Veatch, 2004). The secondary clarifiers are designed for a peak hour incoming flow capacity of 34.2 mgd, which is more than the PHWWF capacity of 32.2 mgd (PHWWF peaking factor 2.3 times 14 mgd = 32.2 mgd). However, they can be operated at higher loading rates for short periods and still perform satisfactorily with the addition of coagulant for the downstream filters. Since one clarifier is devoted to each of the three biological treatment trains, their average capacity is 7 mgd each. With a wet weather (PHWWF) peaking factor of 2.3, their peak capacity is 16.1 mgd each, or 48.3 mgd total, for short-term hourly peak flows. With one clarifier available as a standby unit, the reliable average capacity of the clarifier system is 14.0 mgd. It is highly unlikely that a clarifier would be totally out of service during

wet weather, since maintenance activities can be scheduled during dry weather periods.

The existing permit (RWQCB, 2009) sets a maximum TIN limit of 8 mg/L on a 12-month average basis on combined discharges from IEUA plants (RP-1, RP-4, RP-5 and CCWRF). RP-4 effluent TIN has recently averaged approximately 6 mg/L, indicating that its secondary treatment processes achieve good levels of nitrogen removal.

4.7 Tertiary Treatment

The Title 22 Water Recycling Criteria (California, 2001) require that "filtered wastewater" be an oxidized wastewater that has passed through a mono, dual or mixed media gravity, upflow or pressure filtration system at a rate that does not exceed 5 gallons per minute per square foot of surface area. Cloth filters have been approved at a rate not exceeding 6 gpm/sf (CDPH, 2005). The turbidity of the filtered wastewater must not exceed (a) an average of 2 NTU within a 24-hour period, (b) 5 NTU more than 5 percent of the time within a 24-hour period, and (c) 10 NTU at any time. Under Title 22 requirements, the maximum filtration process capacity is calculated with the largest filter out of service.

The filtered effluent is disinfected with sodium hypochlorite using chlorine contact tanks. A new chlorine contact tank has been added as part of the expansion to provide the modal contact time required by Title 22 regulations. The Title 22 quality effluent is then available for reuse or is discharged through a dedicated pipeline to RP-1 where it mixes and is dechlorinated before being discharged to either Prado Park Lake through Discharge Point 001 or to Cucamonga Creek through outfall Discharge Point 002. If necessary, disinfected tertiary effluent can also be dechlorinated with sodium bisulfite at RP-4.

4.7.1 Previous Filtration System

The previously existing filtration system utilizes dual-media gravity filters preceded by a coagulation/flocculation/clarification step.

4.7.1.1 Coagulation/Flocculation/Clarification

For the existing dual-media gravity filters, a combined coagulation, flocculation, and clarification step is the first-stage, or upflow "contra-clarifier" component, of the filtration facilities. As described in the following section, the US Filter Co. "Trident" contact clarifier/filter unit is comprised of eight separate contact coagulation/flocculation/clarifier cells, or one cell per filter. The "contra-clarifier" compartment uses floating media, and an air blower provides air scouring for backwashing solids captured by the filter media. Alum is typically continuously fed as the coagulant. If necessary, polymer can also be added. The upflow action through the floating media serves to pre-treat and clarify the filter influent. Table 4-9 summarizes the design criteria for the

coagulation/flocculation/clarification facilities. Because the "contra-clarifiers" are integral with the filters, the capacity of this pretreatment process is essentially the same as that for the filtration process for Title 22 compliance, a peak flow of 2.25 mgd per cell.

Table 4-9
Dual-Media Filtration
Coagulation/Flocculation/Clarification Facilities Design Criteria

Parameter	Units	Value	Reference
Type	type	"Contra-clarifier" upflow	See Notes 1, 2 & 3
Number of "contra-clarifier" cells	units	8	See Notes 1, 2 & 3
Length per cell	feet	14	See Note 3
Width per cell	feet	10	See Note 3
Side water depth	feet	9.5	See Note 3
Volume per cell	gallons	9,950	calculated[4]
Total volume, all cells in service	gallons	79,600	calculated[4]
Detention time at average flow, all cells in service	minutes	14.7	calculated[4]
Detention time at peak flow, all filter cells in service	minutes	6.4	calculated[4]
Alum storage and feed system			
Total Storage Bulk Tank (new) Day Tanks (2 X existing)	gallons	2,600 1,800 400 each	See Note 5
Number of pumps	units	2	See Note 3
Maximum dose	mg/L	20	See Note 1
Polymer storage and feed system – not typically used			
Total Storage	gallons	250	See Note 5
Number of pumps	units	2	See Note 3
Maximum dose	mg/L	1	See Note 1
Maximum coagulation/flocculation /clarification capacity, all cells in service	mgd	18.0 [1]	See Note 6
Annual average capacity (Title 22 reliable capacity), one cell out for maintenance	mgd	6.8 [3]	See Note 6

1. Black & Veatch, 2004.
2. NBS/Lowry, 1996.
3. NBS/Lowry and North American Treatment Systems, 2000.
4. For more information on calculated values, see Appendix B.
5. North American Treatment Systems, Inc., 1997.
6. Capacity is the same as that for the filtration process because the "contra-clarifiers" are an integral component of the dual-media gravity filters. See Table 4-10.

4.7.1.2 Dual-Media Filtration

The existing filter system is comprised of eight separate cells, each of which is comprised of a first-stage upflow "contra clarifier", described in the previous section, followed by a downflow dual-media anthracite coal/sand filtration stage. These filters will be maintained in operation and a new cloth filter system (described in Section 4.7.2) will be installed to increase the combined capacity of the filter system to a reliable maximum of 14 mgd. Based on CDPH approvals for use of dual-media gravity filters for Title 22 compliance, the filtration rate is restricted to no more than 5 gpm/sf (CDPH, 2005) or 2.25 mgd per filter. Cloth filters have been approved by CDPH at a maximum rate of 6 gpm/sf (CDPH, 2005) or 5.6 mgd per filter. Reliability of the entire filtration system is based on one dual media filter cell being in backwash and one cloth filter out of service.

Table 4-10 presents design criteria for the existing RP-4 tertiary filtration facilities. Alum and polymer are fed upstream of the filtration systems. Sodium hypochlorite is added as necessary to maintain a clean filter. An air blower provides air scouring before each backwash. Backwash water is discharged to the on-site storage pond, from which it is pumped to RP-1 or to the RP-4 secondary influent flow splitter box.

Each existing filter is a "Trident" clarifier/filter unit manufactured by US Filter Co. Each cell of the filter provides 313 sf of surface area (downflow dual-media filter). Each filter cell has a flowmeter to measure the flowrate. The plant flow is divided among the existing and new filters at the secondary effluent splitter box using weir gates. When the flow to the operating filter cells reaches a filtration rate of 4 gpm/sf, which is a conservative set point, another cell is opened to make sure the filtration rate complies with Title 22 at all times.

Table 4-10
Dual-Media Filter Design Criteria

Parameter	Units	Value	Reference
Number of filters	units	1	See Note 1
Number of cells per filter	units	8	See Note 1
Type	type	Dual media	See Note 1
Media	type	Anthracite/sand	See Note 1
Depth	inches	Anthracite : 18 Sand : 12	See Note 2
Length per filter cell	feet	31.3	See Note 2
Width per filter cell	feet	10	See Note 2
Surface area per filter cell	sf	313	See Note 1
Total surface area, all filter cells in service	sf	2,504	See Note 1

Table 4-10
Dual-Media Filter Design Criteria

Parameter	Units	Value	Reference
Firm surface area, one filter cell out for maintenance or backwash	sf	2,191	calculated[3]
Maximum filtration rate, (Title 22 reliable capacity), one filter cell out for maintenance or backwash	gpm/sf	5	See Note 4
Maximum capacity per filter cell	mgd	2.25	See Note 1 and calculated[3]
Maximum capacity, all filter cells in service	mgd	18.0	See Note 1
Maximum capacity, (Title 22 reliable capacity), one filter cell out for backwash	mgd	15.7 [5]	calculated[3]
Annual average capacity (Title 22 reliable capacity), one filter cell out for backwash	mgd	6.8 [6]	calculated[3]
Filter backwash pumping			
Number of pumps	units	2	See Note 7
Type	type	Vertical turbine	See Note 7
Capacity per pump	gpm	8,500	See Note 7
Total capacity	gpm	17,000	See Note 7

1. Black & Veatch, 2004.
2. NBS/Lowry and North American Treatment Systems, 2000.
3. For more information on calculated values, see Appendix B.
4. California, 2001. Maximum filtration rate of 5 gpm/sf is used for calculations in this table.)
5. See discussion above regarding reliable capacity (7 of 8 filter cells in service and 1 filter cell in backwash).
6. Annual average capacity is based on maximum reliable capacity/PHWWF peaking factor (15.7/2.3 =6.8 mgd).
7. IEUA, 2004-2009.

4.7.2 New Filtration System

The RP-4 expansion to 14 mgd includes a new cloth media disc filter installation in parallel with the existing dual-media filters. When the expansion is complete, the effluent from the secondary clarifiers flows via gravity to the secondary effluent/filter influent splitter box which divides the flow between the existing dual-media gravity filters and the new cloth filters. Each set of filters is designed to treat about half of the plant average flow.

Title 22 reliable capacity is conservatively based on having one dual-media filter cell in backwash (out of service) and one cloth filter out of service (for maintenance) at the same time, while still staying at or below the maximum approved filtration loading rates. For RP-4, the Title 22 reliability requirement is that the system be able to treat a peak flow with one of the largest (cloth) filters out of service and without exceeding the approved loading rates. he eight existing dual-media gravity filter cells have a peak capacity of 2.25 mgd each at the approved loading rate of 5 gpm/sf. The peak capacity of each of the four cloth filters is 5.6 mgd at the approved loading rate of 6 gpm/sf. Therefore, the peak capacity of the entire filtration system with one of the dual-media filters in backwash and one of the cloth filters out of service is 32.5 mgd (7 x 2.25 plus 3 x 5.6 = 32.5). This is more than the required peak flow of 32.2 mgd (2.3 PHWWF peaking factor times 14 mgd).

The new cloth disc filters follow chemical addition and flocculation facilities which are described below.

4.7.2.1 Vertical Flocculators

Three vertical flocculating mixers installed in three flocculating basins in series precede the new cloth disc filters. The flocculating/mixing equipment effectively flocculates the filter-aid in order to obtain optimum floc formation with minimum chemical usage. The velocity gradient "G" applied by the mixers decreases from 60, to 40, to 20 1/second as flow travels through the three flocculating basins. Design criteria are summarized in Table 4-11.

Table 4-11
Cloth Disc Filtration
Vertical Flocculation Design Criteria

Parameter	Units	Value	Reference
Flocculator type	type	Vertical Impeller	See Note 1
Number per flocculation basin	each	1	See Note 1
Number of flocculation basins	each	3, in series	See Note 1
Length per basin	feet	16.5	See Note 1
Width per basin	feet	16.5	See Note 1
Side water depth	feet	10.8 to 12.1	See Note 1
Average Volume per basin	gallons	23,300 ±	calculated[2]
Total volume, all 3 basins	gallons	70,000±	calculated[2]
Detention time at average flow (7 mgd), all 3 basins	minutes	13.8	calculated[2]
Detention time at peak flow (22.4 mgd), all basins in service	minutes	4.5	calculated[2]
Range of velocity gradient "G"	1/seconds	20 to 60	See Note 1

Table 4-11
Cloth Disc Filtration
Vertical Flocculation Design Criteria

Parameter	Units	Value	Reference
Maximum capacity, all filters in service	mgd	22.4 [3]	calculated[2]
Maximum capacity, (Title 22 reliable capacity), one filter out for maintenance	mgd	16.8 [4]	calculated[2]
Annual average capacity (Title 22 reliable capacity), one filter out for maintenance	mgd	7.3 [5]	calculated[2]

1. IEUA, 2005.
2. For more information on calculated values, see Appendix B.
3. Maximum flow with four cloth filters operating at 6 gpm/sf, or 5.6 mgd each.
4. Based on three filters operating at 5.6 mgd per filter; one not in service.
5. Based on the maximum capacity of three filters and a PHWWF Peaking Factor of 2.3.

4.7.2.2 Cloth Disc Filters

In order to provide filtering capacity for a peak flow of 32.2 mgd for RP-4 while still providing reliability, it is assumed that one of the existing dual-media filters will be in backwash and the remaining seven will be in operation at 5 gpm/sf for a total reliable peak capacity of 15.7 mgd (7 times 2.25 mgd per filter). The remaining required 16.5 mgd (32.2 less 15.7 mgd) will be provided by new cloth disc filters. Allowing for one of the cloth disc filters to be out of service, the total peak capacity of the cloth disc filters (3 operating and one standby) is actually 16.8 mgd (3 times 5.6 mgd each). The cloth disc filters have a smaller footprint than dual-media gravity filters and can operate at higher flux rates since they are approved to operate at peak flow rates of 6 gpm/sf. In addition, the cloth disc filters are able to automatically backwash while maintaining filtration production. In total, the cloth filters and the existing dual-media filters reliability provide 32.5 mgd of peak filtration capacity. The design criteria for the cloth disc filters are presented in Table 4-12.

Table 4-12
Cloth Disc Filter Design Criteria

Parameter	Units	Value	Reference
Filter backwash pumping:			
Number of pumps per filter	units	2	See Note 1
Type	type	horizontal centrifugal	See Note 1
Capacity per pump	gpm	130	See Note 1

Table 4-12
Cloth Disc Filter Design Criteria

Parameter	Units	Value	Reference
Total dynamic head	ft	41	See Note 1
Number of filters	units	4	See Note 1
Number of discs per filter	units	12	See Note 1
Submerged surface area per disc	sf	53.8	See Note 1
Maximum hydraulic loading rate	gpm/sf	6	See Note 2
Maximum capacity per filter	mgd	5.6	calculated[3]
Total submerged surface area, all filter discs in service	sf	2,582	calculated[3]
Firm submerged surface area, one filter out for maintenance	sf	1,937	calculated[3]
Maximum capacity, all filters in service	mgd	22.4 [4]	calculated[3]
Maximum capacity, (Title 22 reliable capacity), one filter out for maintenance	mgd	16.8 [5]	calculated[3]
Annual average capacity (Title 22 reliable capacity), one filter out for maintenance	mgd	7.3 [6]	calculated[3]

1. IEUA, 2005.
2. Black & Veatch, 2004.
3. For more information on calculated values, see Appendix B.
4. Maximum flow with four cloth filters operating at 6 gpm/sf, or 5.6 mgd each.
5. Based on three filters operating at 5.6 mgd per filter; one filter not in service.
6. Based on the maximum capacity of three filters and a PHWWF Peaking Factor of 2.3.

4.7.3 Filtration Summary

In summary, the combination of the older dual-media filters and new cloth disc filters will result in the filtration capacity listed in Table 4-13. Reliability for Title 22 compliance is based on one dual-media filter cell in backwash and one cloth disc filter out of service. On this basis, the rated reliable annual average capacity of the filtration process is 14.1 mgd.

Flows to the filters are controlled by weir gates at the secondary effluent/filter influent splitter box. The weir gates are set to split the flow between the dual media and cloth disc filters. The weir gates can be adjusted to balance the flow and maintain compliance with the maximum allowable filtration rates (5 gpm/sf for the dual-media filters and 6 gpm/sf for the cloth disc filters), although the weir gates are not designated as flow control gates.

The dual media filters have a modulating control valve located at the inlet of each filter, which maximizes the filter's loading to each filter before placing another filter online.

The cloth filters are manually regulated by a weir gate at the secondary effluent/filter influent splitter box, as well as the inlet to each filter. There are flow meters on each filter to monitor filter loading at all times.

On this basis, the rated reliable annual average capacity of the filtration process is 14.1 mgd.

Table 4-13
Summary of Filtration Treatment Capacity

Process	Peak Capacity (mgd) All in service [1]	Annual Average Capacity With All Units in Service (mgd) [2]	Title 22 Reliable Annual Average Capacity (mgd) [3]
Dual-media gravity filters	18.0	7.8	6.8
Cloth disc filters	22.4	9.7	7.3
Total	40.4	17.5	14.1

1. Peak Capacity = All filters in service at maximum allowable loading rates.
2. Based on all filters in service and a PHWWF Peaking Factor of 2.3
3. Based on one dual-media filter in backwash and one cloth filter out of service and PHWWF Peaking Factor of 2.3

4.8 Disinfection

Disinfection of the recycled water will be accomplished by adding sodium hypochlorite to the filter effluent prior to the chlorine contact basins. The existing chlorine contact basins are comprised of two basins in sequence (1A and 1B) as described in the Title 22 Engineering Report for the 7 mgd RP-4 facility (DDB Engineering, Inc., 2005). A new chlorine contact basin, No. 2, was added with the objective of bringing the average treatment capacity to 14 mgd. Generally, the flow from the dual-media filters is directed to Contact Basin 1A and flow from the cloth disc filters is directed to Contact Basin No. 2, although the flow from the new filters can also be directed to Contact Basin 1B. Sodium bisulfite will be available for addition at the end of Basin 1B and the flow from Basin 2 can be directed to the dechlorination chamber when necessary to provide dechlorination of the recycled water flows. However, this sodium bisulfite system will not be used unless it is needed to reduce chlorine residuals for a recycled water user taking water directly from the RP-4 outfall because RP-4 effluent to the creek is dechlorinated at RP-1.

4.8.1 Sodium Hypochlorite System

Table 4-14 summarizes the design criteria for the existing sodium hypochlorite system provided at the time of the expansion to 7 mgd. This equipment will remain in service and be supplemented by the addition of an additional metering pump to deliver sodium hypochlorite to Basin 2, as summarized in Table 4-15. Each contact basin has dedicated and backup chemical feed pumps. The system includes enhanced monitoring, alarms, and controls to integrate the sodium hypochlorite system controls into the existing plant control system (See Section 4.13).

The plant effluent flow is measured using ultrasonic level sensors to track the head over the contact basin overflow weirs in Basin 1B and Basin 2 (IEUA, 2005). The signals from the filter effluent flow meters are used to flow pace the addition of sodium hypochlorite to the head end of Contact Basins 1A and 2. Chlorine residual recorders at the head and tail ends of the basins are used to regulate the dosage and maintain the required residuals.

Table 4-14
Existing Sodium Hypochlorite System Design Criteria

Parameter	Units	Value	Reference
Sodium hypochlorite concentration	percent available Cl_2	12.5	See Note 1
Maximum Cl_2 dose @ average flow	mg/L	25	See Note 1
Bulk Storage System:			
Number of tanks	units	3	See Note 2
Volume per tank	gallons	2,250	See Note 2
Total volume	gallons	6,750	calculated[3]
Feed System:			
Number of metering pumps	units	2	See Note 2
Capacity per pump	gph	180	See Note 1
Treatment Capacity:			
Peak capacity at 10 mg/L Cl_2 feedrate, all units in service	mgd	103.6	calculated[3]
Annual average capacity at 9 mg/L Cl_2 feedrate, all units in service	mgd	50.0	calculated[3]
Annual average capacity at 9 mg/L Cl_2 feedrate, one pump out of service	mgd	21.7	calculated[3]

1. Black & Veatch, 2004.
2. IEUA, 2004-2009.
3. For more information on calculated values, see Appendix B.

Table 4-15
New Sodium Hypochlorite System Design Criteria

Parameter	Units	Value	Reference
Sodium hypochlorite concentration	percent available Cl_2	12.5	See Note 1
Maximum Cl_2 dose @ average flow	mg/L	25	See Note 1
Number of metering pumps	units	2	See Note 1
Capacity per pump	gph	19 to 117	See Note 4
Annual average capacity at 9 mg/L Cl_2 feedrate, one pump out of service	mgd	16.3	calculated[2,3]

1. Black & Veatch, 2003 and IEUA, 2009.
2. For more information on calculated values, see Appendix B.
3. (117 gal/hr * 1 lb/gal * 24 hrs/day)/(9 mg/L * 8.34 lb/mil gal/mg/L * 2.3 PHWWF peaking factor) = 16.3 mgd
4. IEUA, 2005.

4.8.2 Chlorine Contact Basins

4.8.2.1 Existing Chlorine Contact Basins 1A and 1B

The existing disinfection system for 7 mgd utilizes two chlorine contact basins in series: Basins 1A and 1B are connected by a pipeline that provides additional contact time. The existing chlorine contact basin design parameters are presented in Table 4-16. The Title 22 requirement is that there be a CT of 450 mg-min/L at all times and a modal contact time of at least 90 minutes during the dry weather peak hour flow. For RP-4, the dry weather peak hour flow (PHDWF) peaking factor is 2.0 times the average annual day flow of 14.0 mgd, which is equal to 28.0 mgd

In January 2005, IEUA completed chlorine contact testing at RP-4 that demonstrated that the modal contact time of Basins 1A and 1B plus the interconnecting piping was 130 minutes at a flow rate of 9.912 mgd (SFE Global, 2005). Appendix C contains a copy of the Modal Contact Time Report. Based on the dimensions of contact basins at that time, the study demonstrated that the modal contact time was approximately 91 percent of the calculated hydraulic detention time. Based on the results of that study, it was determined that these existing facilities would handle a peak flow of 14.3 mgd while providing the required modal contact time of 90 minutes at peak dry weather flow. ((130 minutes x 9.912 mgd)/90 minutes = 14.3 mgd). At that time, the peak dry weather and peak wet weather flows were both 14.0 mgd based on a peaking factor of 2.0 (DDB Engineering, Inc., 2005). This peaking factor yielded an annual average reliable Title 22 capacity rating of 7.1 mgd for the existing chlorine contact tanks and associated interconnecting piping.

Since the previous Title 22 Engineering Report was prepared, however, record drawings of Basin 1B have confirmed that the actual length of Basin 1B apparently changed during construction from 130 ft to 163 ft, increasing the calculated hydraulic detention time. Using this longer length with the results of the Modal Contact Time Report (SFE Global, 2005), the modal contact time may be as low as 78 percent of the calculated hydraulic detention time of Basins 1A and 1B, plus the interconnecting pipe. In other words, the total calculated volume of the existing chlorine contact system is actually larger, 1,150,080 gallons, because of the longer Basin 1B. At the test flow of 9.912 mgd, this equates to a calculated hydraulic detention time of 167 minutes. Because of short-circuiting and inefficiencies, the modal contact time demonstrated by the test was only 130 minutes. This is equivalent to 78 percent of the calculated hydraulic detention time.

The expanded RP-4 is designed to handle a higher dry weather PHDWF peaking factor of 2.0, or 28.0 mgd (2.0 times 14 mgd). Based on the previous Modal Contact Time Report (SFE Global, 2005), for the demonstrated peak flow capacity of 14.3 mgd, the annual average flow capacity corresponding to this peak flow would be approximately 7.2 mgd for the existing Basins 1A and 1B plus piping (14.3 mgd / 2.0 PHDWF peaking factor = 7.2 mgd).

Table 4-16
Existing Chlorine Contact Basin Design Criteria

Parameter	Units	Value	Reference
Number of tanks	units	2	See Note 1
Chlorine Contact Basin 1A:			
Overall footprint	feet x feet	69 x 39	See Note 1
Number of passes	units	5	See Note 1
Length of each pass	feet	65.5	See Note 1
Effective overall length	feet	327.5	See Note 1
Channel width	feet	7.33	See Note 2
Side water depth	feet	13	See Note 1
Length : width	ratio	45 : 1	calculated[3]
Length : depth	ratio	25 : 1	calculated[3]
Volume	gallons	233,430	calculated[3]
Chlorine Contact Basin 1A Effluent Channel:			
Length	feet	63.6	See Note 4
Width	feet	7.0	See Note 4
Side water depth	feet	2.75	See Note 4
Volume	gallons	9,160	calculated[3]
Interconnecting Pipe (on-site):			
Length of 42-in. diam. Pipe	feet	140	See Note 5
Volume of 42-in. diam. Pipe	gallons	10,080	calculated[3]

Table 4-16
Existing Chlorine Contact Basin Design Criteria

Parameter	Units	Value	Reference
Length of 36-in. diam. Pipe	feet	370	See Note 4
Volume of 36-in. diam. Pipe	gallons	19,560	calculated[3]
Total pipe volume	gallons	29,640	calculated[3]
Chlorine Contact Basin 1B:			
Overall footprint	feet x feet	163 x 49	See Note 1
Number of passes	units	6	See Note 1
Length of each pass	feet	163	See Notes 1 and 4
Effective overall length	feet	978	See Note 1
Channel width	feet	7.5	See Note 2
Side water depth	feet	16	See Note 1
Length : width	ratio	130 : 1	calculated[3]
Length : depth	ratio	61 : 1	calculated[3]
Volume	gallons	877,850	calculated[3]
Totals:			
Total Volume (Basins 1A & 1B, 1A Effluent Channel, & Interconnecting Pipe)	gallons	1,150,080	calculated[3]
Required modal contact time (at PHDWF)	minutes	90	See Note 6
Required CT (at PHDWF)	mg-min/L	450	See Note 6
Estimated Peak (dry weather) capacity, at 90 minutes modal contact time, all units in service	mgd	14.3 [7]	See Note 9
Estimated Annual Average capacity, at 90 minutes modal contact time, all units in service	mgd	7.2 [8]	calculated[3]
Estimated Peak (wet weather) capacity, all units in service	mgd	16.5 [10]	calculated[3]

1. Black & Veatch, 2004.
2. NBS/Lowry and North American Treatment Systems, 2000.
3. For more information on calculated values, see Appendix B.
4. IEUA, 2004-2009.
5. Black & Veatch, 2003.
6. California, 2001.
7. Based on dye test results. See Appendix C.
8. Based on PHDWF capacity divided by the peaking factor (14.3/2.0 = 7.2)
9. SFE Global, 2005.
10. Based on AADF capacity times the wet weather peaking factor (7.2 x 2.3 = 16.5)

4.8.2.2 New Chlorine Contact Basin No. 2

Chlorine Contact Basin No. 2 has been recently constructed adjacent to Basin 1B with the intent of bringing the reliable annual average capacity of the disinfection system up to at least 14 mgd. It is comprised of two 3-pass trains in parallel and so arranged that one can be taken out for cleaning while the other is in operation. Ultrasonic level detectors ahead of the effluent weirs are used to monitor flow and permit flow pacing of the chlorine addition at the head end of the tanks. A water champ mixer is used to obtain rapid mixing of the sodium hypochlorite as it enters the basin. Residual chlorine analyzers are located near the head and tail ends of each train to facilitate regulation of the dosage to assure a CT value of at least 450 mg-min/L is maintained. The design criteria for Contact Basin No. 2 are presented in Table 4-17.

Table 4-17
New Chlorine Contact Basin No. 2 Design Criteria

Parameter	Units	Value	Reference
Number of basins	units	1	See Note 1
Number of trains per basin	units	2	See Note 1
Number of passes per train	units	3	See Note 1
Overall basin footprint	feet x feet	53.33 x 198	See Note 1
Length of each pass	feet	188	See Note 1
Effective overall length per train	feet	564	calculated[2]
Width of each pass, or channel	feet	7.5	See Note 1
Side water depth	feet	16	See Note 1
Length : width per train	ratio	74 : 1	calculated[2]
Length : depth per train	ratio	35 : 1	calculated[2]
Volume per train	gallons	506,250	calculated[2]
Length : width, total basin	ratio	150 : 1	calculated[2]
Length : width, total basin	ratio	70 : 1	calculated[2]
Total Volume per basin	gallons	1,012,500	calculated[2]
Required modal contact time (at PHDWF)	minutes	90	See Note 3
Required CT (at PHDWF)	mg-min/L	450	See Note 3
Estimated Peak (dry weather) capacity, at 90 minutes modal contact time, all units in service	mgd	14.0	calculated[2]
Estimated Annual Average capacity, at 90 minutes modal contact time, all units in service	mgd	7.0	See Note 1
Estimated Peak (wet weather) capacity, all units in service	mgd	16.1 [5]	calculated[2]

1. Black & Veatch, 2004.
2. For more information on calculated values, see Appendix B.
3. California, 2001.
4. Based on AADF capacity times the PHWWF peaking factor (7.0 x 2.3 = 16.1)

Using the annual average capacity of 7.0 mgd from basis of design (Black & Veatch, 2004), the estimated peak dry weather capacity of the new chlorine contact basin is 14.0 mgd based on providing 90 minutes modal contact time. The actual modal contact time and associated rated capacity of the new Contact Basin 2 will be confirmed by dye/salt testing.

4.8.2.3 Overall Chlorine Contact Capacity

In summary, the combination of the existing and new chlorine contact basins results in the total capacity listed in Table 4-18.

Table 4-18
Summary of Chlorine Contact Capacity

Process	Peak Capacity All units in service [1] (mgd)	Annual Average Capacity With All Units in Service[2] (mgd)	Title 22 Reliable Annual Average Capacity [3] (mgd)
Existing chlorine contact basins (Nos. 1A & 1B)	14.3 (dry) 16.5 (wet)	7.2	7.2
New chlorine contact basin (No. 2)	14.0 (dry) 16.1 (wet)	7.0[4]	7.0[4]
Total	28.3 (dry) 32.6 (wet)	14.2	14.2

1. Peak capacity shown under dry and wet weather conditions. For example, total dry weather peak capacity is 28.3 mgd to provide the minimum 450 mg-min/L CT and 90 minute modal contact time required by Title 22 for peak dry weather flows based on modal contact time test (SFE Global, 2005). Total wet weather peak capacity is based on annual average capacity times the wet weather PHWWF peaking factor of 2.3 (14.2x2.3=32.6 mgd).
2. Total average annual capacity is based on the dry weather PHDWF peaking factor of 2.0 (28.3/2.0=14.2 mgd). Based on all contact basins in service and a dry weather PHDWF peaking factor of 2.0 (See Tables 4-17 and 4-18).
3. See discussion below regarding reliable capacity.
4. Black & Veatch, 2004. Dye/salt testing will be conducted to confirm the actual capacity.

The peak dry weather capacity of all contact basins is the sum of the capacities for Basins 1A/1B and 2, which comes to 28.3 mgd. This equates to a Title 22 reliable average flow of 14.2 mgd based on the dry weather PHDWF peaking factor of 2.0. Thus, the total peak contact basin capacity (28.3 mgd for basins 1A/1B and 2) complies with Title 22 annual average rating of the chlorine contact process.

During the dry weather peak flow periods, the required chlorine residual at the end of the contact basins would be approximately 5 mg/L (90 minutes modal contact time times 5 mg/L chlorine residual = 450 mg-min/L). The existing

sodium hypochlorite system has sufficient feed capacity, standby equipment, and alarms, as described elsewhere in this Section, to maintain an adequate chlorine residual and comply with the CT requirement under dry weather peak flow conditions.

With regard to reliability of the chlorine contact tanks, it is highly unlikely that the tanks would ever be out of service because they have no mechanical equipment to malfunction. Thus, it is reasonable to use the annual average capacity of all chlorine contact tanks as the reliable capacity for Title 22 compliance.

4.8.3 Dechlorination

The existing dechlorination chamber located at the end of Chlorine Contact Basin 1B will generally not be used because recycled water produced at RP-4 is reused and discharged with a chlorine residual. Any excess effluent from RP-4 is combined with effluent from RP-1 and dechlorinated at RP-1 prior to being discharged at either Prado Park Lake (Discharge Point No. 001) or Cucamonga Creek (Discharge Point No. 002). If necessary, the RP-4 dechlorination facilities could be used to trim the chlorine residual of RP-4's effluent.

While use of the RP-4 dechlorination system is unlikely, it could be used to serve the flows from Chlorine Contact Basins 1B and 2. Dechlorination could be accomplished with a 38 percent solution of sodium bisulfite instead of the 25.4 percent solution formerly used. No changes are being made to the sodium bisulfite storage or delivery systems except that the two existing metering pumps are being replaced with one larger pump as part of the expansion to 14 mgd. The design parameters for the storage, feed and dechlorination system are presented in Table 4-19.

Table 4-19
Dechlorination Design Criteria
(Typically Not Used at RP-4)

Parameter	Units	Value	Reference
Influent Average Dry Weather Flow	mgd	14	See Note 1
Sodium Bisulfite Dosage Range	mg/L	0-23.8	See Note 1
Sodium Bisulfite Storage:			
Number of tanks	units	1	See Note 1
Volume	gallons	2,000	See Note 1
Capacity @ Avg. Flow Rate and 10 mg/L feedrate	days	5.4	calculated[2]
Solution Strength	percent	38	See Notes 3 and 4
Sodium Bisulfite Feed Pumps:			
Number of pumps	units	1	See Note 1
Capacity per pump	gph	115	See Note 3

Table 4-19
Dechlorination Design Criteria
(Typically Not Used at RP-4)

Parameter	Units	Value	Reference
Max Feed rate	gpd	2,760	calculated[2]
Capacity at 20 mg/L feedrate, all units in service	mgd	52	calculated[2]
Capacity at 10 mg/L feedrate, all units in service	mgd	104	calculated[2]
Capacity at 10 mg/L, one pump out of service	mgd	0	calculated[2]
Dechlorination Chamber:			
Overall footprint	feet x feet	10 x 10	See Notes 1 and 3
Approximate depth	feet	10.5	See Note 1
Volume	gallons	7,854	calculated[2]
Mixer horsepower	hp	15	See Note 5

1. Black & Veatch, 2004, and IEUA, 2009.
2. For more information on calculated values, see Appendix B.
3. Black & Veatch, 2003. Specification Section 11727.
4. 3.17 lb/gal for a 38% solution.
5. Black & Veatch, 2002.

4.9 On-Site Storage Pond and Return Pumping

RP-4 features a 4 million gallon on-site storage pond and return pumping facilities at the south end of the plant. The existing return pump station returns stored water from the emergency storage and drain holding pond to the sewer to RP-1 at a flowrate of 4.7 mgd using one constant speed pump with one standby pump. It can also pump to the splitter box upstream of the anoxic tanks. Table 4-20 presents design criteria for the storage pond and return pump station.

Table 4-20
On-Site Storage Pond and Return Pumping Design Criteria

Parameter	Units	Value	Reference
On-Site Storage Pond:			
Number of basins	units	1	See Note 1
Volume	million gallons	4	See Note 1
Volume as a percent of annual average flow	percent	28.5	calculated[2]
Retention time at annual average flow	hours	6.85	calculated[2]

Table 4-20
On-Site Storage Pond and Return Pumping Design Criteria

Parameter	Units	Value	Reference
Return Pumping:			
Number of pumps	units	2	See Note 1
Type of pumps	type	Self-priming centrifugal	See Note 1
Capacity per pump	gpm	3,275	See Note 1
Rated head @ 870 rpm	feet	38	See Note 1
Motor horsepower	hp	50	See Note 1

1. Black & Veatch, 2004.
2. For more information on calculated values, see Appendix B.

The on-site storage pond can be used to hold secondary effluent, filter effluent or final effluent during short-term emergency conditions. Backwash water is also directed to the storage pond from which it is pumped back to the splitter box ahead of the anoxic basins or to the sewer to RP-1. At an annual average flow of 14 mgd, the short-term storage basin provides up to 6.85 hours of emergency on-site holding capacity. However, such storage will generally not be required because of the ability to regulate the number of influent pumps in service and divert peak flows in excess of the plant design flow to RP-1 for treatment.

4.10 Recycled Water Pump Station

From the end of the final chlorination basins, plant effluent is directed to a recycled water pump station for delivery to recycled water users in Pressure Zones 1158 and 1299 and to the RP-4 Outfall that also carries unused recycled water to RP-1. Recycled water from RP-4 is discharged to the RP-4 Outfall, which can operate as either a gravity line or as a pressurized pipeline with a design pressure rating of 250 psi. The recycled water pump station pressurizes the RP-4 Outfall for recycled water distribution to customers. There is no recycled water storage tank on site. The existing recycled water pump station design parameters are presented in Table 4-21 and 4-22.

Table 4-21
1158 Recycled Water Pump Station Design Criteria

Parameter	Units	Value	Reference
Recycled Water Pumps:			
Number	units	3	Note 1
Type	type	Peerless Vertical Turbine	Note 1
Motor horsepower, each	hp	200	Note 1
Rated Capacity per pump	gpm	2,700	Note 1
Rated Head @ 1775 rpm	feet	223	Note 1
Motor Drive	type	Variable Frequency	Note 1
Number	units	2	Note 2
Type	type	Flowserve Vertical Turbine	Note 2
Motor horsepower, each	hp	300	Note 2
Rated Capacity per pump	gpm	7280	Note 2
Rated Head @ 1185	feet	119	Note 2
Motor Drive	type	Variable Frequency	Note 2

1. Black & Veatch, 2004.
2. IEUA 2009

A new Recycled Water Pump Station and two 5.5 million gallon offsite reservoirs are scheduled to be completed in 2009. This additional pump station will discharge recycled water from RP-4 to future users in Pressure Zone 1299.

Table 4-22
1299 Recycled Water Pump Station Design Criteria

Parameter	Units	Value	Reference
Recycled Water Pumps:			
Number	units	7	Note 2
Type	type	Flowserve Vertical Turbine	Note 2
Motor horsepower, each	hp	350	Note 2
Rated Capacity per pump	gpm	4600	Note 2
Rated Head	feet	202	Note 2
Motor Drive	type	Variable Frequency	Note 2

Recycled water can be brought back into the plant to be used for plant utility water either through a 10-inch connection to the discharge line from the RP-4 recycled water pump station or through a 6-inch connection to the RP-4 outfall pressure line in Etiwanda Avenue.

4.11 Solids Handling

RP-4 does not have any on-site solids treatment facilities. All primary solids and secondary waste activated sludge and scum is returned to the trunk sewer for conveyance to RP-1 for removal, treatment and disposal.

4.12 Power Supply

The primary source of power to RP-4 is from Southern California Edison (SCE). The other power source is a 2-megawatt Caterpillar diesel generator on standby.

4.13 Monitoring and Alarms

Title 22 requires that alarm devices be provided for: (1) loss of power from the normal supply, (2) failure of the biological treatment process, (3) failure of the disinfection process, (4) failure of the coagulation process, and (5) failure of the filtration process. Operation of these systems is constantly monitored and alarms are provided. RP-4 has a state-of-the-art supervisory control and data acquisition (SCADA) system that monitors all vital functions of the plant and assists operations staff. The control system records data on process operation and for permit compliance and provides information on the status of equipment and plant operation. The RP-4 control system also provides a communication link to other IEUA treatment facilities and to standby operators when the plant is not staffed.

The RP-4 alarm devices monitor the following functions:

- Loss of normal power
- Failure of the influent pump station
- Failure of the biological treatment process
- Failure of the coagulation process (see below)
- Failure of the filtration process
- Failure of the disinfection process

Plant alarms are automatically powered by the emergency (standby) generator if the primary power supply is interrupted. With regard to coagulation, the new cloth disc filters have alarms for the failure of the alum feed pumps; however, the existing Trident clarifier/filters are not equipped with alarms to indicate failure of the alum feed pumps. While it is not staffed continuously, the RP-4 operation is monitored remotely by the assigned standby operator via cell phone through the SCADA system. Alarms that occur during any unmanned periods are annunciated through the SCADA system. A cell phone paging system is used to

notify the standby operator of any alarms, if the plant operation is not being actively monitored. Standby operators have laptop computers for remote SCADA system access to enable them to address alarm conditions and remotely monitor and control plant operations. A summary of key alarms is presented in Table 4-23. A detailed list of the RP-4 alarms is included in Appendix D.

Table 4-23
Summary of Principle Alarms

System Component	Parameter/Equipment	Alarm Conditions
Power	Primary electrical service	Failure
	Standby generator	On
Influent Pumping	Pumps	Failure
	Water level	High and low
Biological	Dissolved oxygen level	Low
	Blowers	On and failure
	Mixers	Failure
Mixed Liquor Return	Pumps	Failure
Coagulation	Turbidity	High
Filtration Filtration	Filter influent turbidity	High
	Valves	Failure
	Flow	High
	Effluent turbidity [1]	High
Chlorination	Chlorine Residual	Low, High
	CT [2]	Low [2]
Effluent	pH	Low, High

1. Measured at Chlorine Contact Tanks 1A and 2.
2. Measured at the end of Chlorine Contact Tanks 1B and 2 based on filter effluent flow meters.

Power supply reliability is discussed in the preceding section. RP-4 has two electrical power sources: (1) Southern California Edison, and (2) an emergency generator. The diesel powered emergency generator is activated automatically during a power failure to maintain critical equipment and alarms.

As shown in Table 4-24, RP-4 utilizes on-line instruments to monitor continuous compliance with Title 22 requirements.

Table 4-25 lists instruments used in the operation and control of the filtration and disinfection systems along with the associated alarm conditions and contingency actions.

Table 4-24
Continuous Monitoring for Title 22 Compliance

Tag #'s	Description	Measures	Control/Monitoring Action
AIT4110	Secondary Effluent Turbidity	Filter Influent Turbidity	If influent turbidity increases above the setpoint, the alarm notifies the operator to check the turbidimeter and/or the alum feed pumps.
AIT5210	Filtered Effluent turbidity	Compliance with Title 22 requirements for Turbidity	If effluent turbidity increases above a warning setpoint an alarm is annunciated and operators respond. If effluent turbidity continues to increase the effluent is diverted to storage pond and RP1.
AIT-6110A, 6110B, AIT-6120A, 6120B,	Residual Chlorine analyzers	Compliance with Title 22 requirements for CT. Residual chlorine is used with effluent flow and CT is calculated.	Alarm annunciated if effluent is not in compliance with CT. Effluent is diverted by the operator to storage pond and RP1 until chlorine residual re-established.
FIT-6110, 6120, 6130, 6140	Chlorinated Effluent Flow meters	Compliance with Title 22 requirements for CT. Residual chlorine is used with effluent flow and CT is calculated.	Alarm annunciated if effluent is not in compliance with CT. Effluent is diverted by the operator to storage pond and RP-1 until flowmeter is re-established.

Table 4-25
Alarms and Contingency Actions for Filtration and Disinfection Processes

Tag #	Description	Alarm Condition	Consequence	Contingency Action
AIT4110	Secondary Effluent Turbidity	Turbidity High	Filter influent exceeds 5 NTU design specification.	Alarm annunciated. Operator checks turbidimeter and/or alum feed pumps.
MPCP-7530 MPCP-7540	Alum Metering Pump 7530/7540 (For new cloth filters only)	Metering Pump Failure	No alum addition, possible increase in effluent soluble phosphorus, and high turbidity.	Alarm annunciated. Operator switches to standby pump.
MPCP-7530 MPCP-7540	Alum Metering Pump 7530/7540 (For new cloth filters only)	Pressure Switch High	Low or No alum addition, possible increase in effluent soluble phosphorus and high turbidity.	Alarm annunciated. Operator switches to standby pump. Blockage removed.
FCP-7500	Alum storage tank level 7500 (Bulk alum storage tank) (Day storage tanks are filled by the bulk tank. Day tanks have visual level check only.)	Bulk storage tank level indication (no alarm)	Low or No alum addition, possible increase in effluent soluble phosphorus and high turbidity.	Bulk storage tank level indication (no alarm) for operator to refill tank. Effluent diverted to RP1 if grab sample effluent P or effluent turbidity goes above specification.
LCP-5001	Coagulant Rapid Mixer Local Control Panel	Mixer Failure	Alum is not well mixed into secondary effluent, therefore higher soluble P and turbidity.	Alarm annunciated. Maintenance called out. Effluent diverted to RP-1 if grab sample effluent or effluent turbidity goes above specification.

Table 4-25
Alarms and Contingency Actions for Filtration and Disinfection Processes

Tag #	Description	Alarm Condition	Consequence	Contingency Action
FLC-5110 FLC-5120 FLC-5130	Flocculator 5110 Flocculator 5120 Flocculator 5130	YA = Flocculator Failure	Alum floc is not well formed.	Alarm annunciated. Maintenance called out. If 2 out of the three flocculators are in operation floc should form. If 2 or more flocculators fail, effluent will be diverted to RP-1
FLCP-1/2	Filter 1 Level Filter 2 Level Filter 3 Level Filter 4 Level	High Level in Filtration	Overflow of filter or backflow.	Alarm annunciated. Operator performs additional backwash or isolates filter.
FLCP-1/2	Filter backwash tank level	Low level in Backwash tank	Filter backwash will stop for all filters.	Alarm annunciated. Maintenance called out. Will not deteriorate effluent quality unless remaining in fault.
AIT5210	Filtered Effluent turbidity	Turbidity high	Will exceed Title 22 specification for turbidity if continues to increase.	Alarm annunciated. Effluent diverted to storage pond and RP-1.
LCP-6010	MX-6010 NaOCl (Chlorine) Injection Mixer	YA = Mixer Failure	Chlorine injector mixer failure will reduce efficiency of chlorine contact tank.	Alarm annunciated. Effluent diverted to storage pond and RP-1.
AIT-6110A, 6110B, AIT-6120A, 6120B,	Residual Chlorine analyzers	Residual chlorine low	Effluent fails to meet Title 22 requirements for CT.	Alarm annunciated. Effluent is diverted by the operator to storage pond and RP-1 until chlorine residual is re-established.

Table 4-25
Alarms and Contingency Actions for Filtration and Disinfection Processes

Tag #	Description	Alarm Condition	Consequence	Contingency Action
FIT-5510, 5520,5530,5540	Filter Effluent Flow meters	Flow meter fails	Effluent fails to meet Title 22 requirements for CT when in flow proportional control.	Alarm annunciated. Effluent is diverted by the operator to storage pond and RP-1 until flowmeter is re-established.
NAOC-P7410	Sodium Hypochlorite dosing pump control	Pump Fails	No NaOCl addition. Fail to meet CT specification.	Alarm annunciated. Operator switches to standby pump.
NAOC-P7410	Sodium Hypochlorite dosing pump control	High discharge pressure	No NaOCl addition. Fail to meet CT specification.	Alarm annunciated. Operator switches to standby pump. Clears blockage in NaOCl system. If blockage in common pipe then divert effluent to storage pond and RP-1 until problem resolved.
MPCP-7310, 7320	Sodium Bisulfite dosing pump control	Pump Fails	No NAHS addition. Fail to dechlorinate effluent	Alarm annunciated. Operator switches to standby pump.
MPCP – 7310, 7320	Sodium Bisulfite dosing pump control	High discharge pressure	No NAHS addition. Fail to dechlorinate effluent.	Alarm annunciated. Operator switches to standby pump. Clears blockage in NAHS system. If blockage in common pipe then divert effluent to storage pond and RP-1 until problem resolved.

Section 5
Monitoring Program

This section demonstrates how the RP-4 monitoring program complies with Title 22 Water Recycling Criteria.

5.1 Sampling and Analysis

Water quality monitoring is required under Title 22 Water Recycling Criteria and RP-4's discharge permit. Monitoring locations are specified in the permit, which is included in Appendix A. Title 22 requires that effluent samples be taken at least daily for suspended solids and coliform bacteria. Continuous turbidity monitoring and recording is required.

Specific guidelines and parameters are established in Order No. R8-2009-0021 for sampling and analysis of the influent and effluent streams. Depending on the constituent, sampling is required to be a continuous, 24-hour composite, or grab specimen taken on regularly scheduled intervals (daily, weekly, monthly, quarterly, or annually).

5.2 Monitoring Program

The performance of each of the treatment processes is closely monitored at RP-4. Influent flow is measured continuously by a magnetic flow meter at monitoring location M-INF1B. RP-4 effluent flow is also metered continuously prior to discharge to the RP-1 for subsequent reclamation and discharge to Cucamonga Creek. RP1/RP-4 combined effluent turbidity, pH and conductivity are monitored continuously at monitoring location M-002A prior to discharge to Cucamonga Creek. The chlorine residual of treated effluent produced at RP-4 is monitored at the chlorine contact tanks for compliance with the disinfection CT requirement. Prior to discharge to Cucamonga Creek, the combined RP-1/RP-4 effluent chlorine residual is continuously monitored at M-002A to be sure that the dechlorination facilities are functioning properly. Other constituents that are monitored and the frequency of the sampling and analyses are listed in Tables 5-1, 5-2, 5-3, 5-4, 5-5 and 5-6. In conformance with its permit, IEUA prepares an annual water quality report summarizing all monitoring data and relating any operational incidents.

Table 5-1
Influent Monitoring Program Summary[1]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[6]
Flow	mgd	Recorder/ totalizer	Continuous	--
pH	pH Units	Recorder	Continuous	--
Specific conductance	µmhos/cm	Recorder	Continuous	--
TOC	mg/L	Composite	Weekly	5310C
BOD_5[2]	mg/L	Composite	Weekly	405.1
Total Suspended Solids	mg/L	Composite	Weekly	160.2
TDS	mg/L	Composite	Weekly	2540C
Ammonia-Nitrogen	mg/L	Grab	Weekly	4500NH3H
Total Nitrogen	mg/L	Composite	Weekly	4500NO3F
TIN	mg/L	Composite	Weekly	--
Cyanide (Free)[3]	µg/l	Grab	Quarterly	335.3
Total Hardness	mg/L	Composite	Quarterly	200.7
Boron	mg/L	Composite	Quarterly	200.7
Chloride	mg/L	Composite	Quarterly	300.0
Fluoride	mg/L	Composite	Quarterly	300.0
Sodium	mg/L	Composite	Quarterly	200.7
Sulfate	mg/L	Composite	Quarterly	300.0
Arsenic	µg/l	Composite	Quarterly	200.8
Cadmium	µg/l	Composite	Quarterly	200.8
Total Chromium / Chromium, IV	µg/l	Composite	Quarterly	200.7
Total Recoverable Copper	µg/l	Composite	Quarterly	200.8
Total Recoverable Lead	µg/l	Composite	Quarterly	200.8
Total Recoverable Mercury	µg/l	Composite	Quarterly	200.8
Total Recoverable Nickel	µg/l	Composite	Quarterly	200.8
Selenium	µg/l	Composite	Quarterly	200.7
Total Recoverable Silver	µg/l	Composite	Quarterly	200.8
Total Recoverable Zinc	µg/l	Composite	Quarterly	200.8

Table 5-1
Influent Monitoring Program Summary[1]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[6]
Bis (2-ethylhexyl) phthalate	µg/l	Grab	Quarterly	525.2
2,3,7,8-TCDD (Dioxin)[4]	µg/l	Composite	Semi-Annually	1613B
Volatile organic portion of EPA Priority Pollutants[5]	µg/l	Grab	Annually	524.2
Remaining EPA Priority Pollutants[5]	µg/l	Composite	Annually	200.8

1. Source: RWQCB, 2009.
2. BOD_s is calculated base on a BOD_5/TOC correlation approved by the RWQCB.
3. Free cyanide is measured as aquatic free cyanide (ASTM Method D7237 without sodium hydroxide (NaOH) preservation.
4. Applies at M-INF 3B & 3D and M-INF 4 only.
5. See waste discharge permit (Order No. R8-2009-0021) (RWQCB, 2009) for complete list or description.
6. Suggested laboratory methods from U.S. Environmental Protection Agency and Standard Methods for the Examination for Water and Wastewater (American Public Health Association, American Water Works Association and Water Environment Federation) and the reportable detection limits (RDL) or minimum levels (ML) for the associated laboratory methods are shown. Test Methods correspond with the reportable detection limits. It should be noted that there are other test methods allowed. Refer to 40 CFR 136.

Table 5-2
Effluent Monitoring Program Summary for Recycled Water
(Without 20:1 Dilution in the Receiving Water)[1]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Recorder/ totalizer	Continuous	--
Specific conductance[3]	µmhos/cm	Recorder	Continuous	--
pH	pH units	Recorder	Continuous	--
Turbidity[4]	NTU	Recorder	Continuous	--
Total Chlorine Residual[3]	mg/L	Recorder	Continuous	--
Coliform Organisms[5,6]	MPN per 100 ml[13]	Grab	Daily	9221B
CT	mg-minutes/L	Recorder	Continuous[7]	--
TOC	mg/L	Composite	Daily	5310C
BOD_5[8]	mg/L	Composite	Daily	405.1
Total Suspended Solids[3]	mg/L	Composite	Daily	160.2
Ammonia-Nitrogen	mg/L	Grab	Weekly	4500NH3H
Temperature	°C	Grab	Weekly	--
TDS	mg/L	Grab	Monthly	2540C
TIN	mg/L	Composite	Monthly	--
Total Nitrogen	mg/L	Composite	Monthly	4500NO3F
Cyanide (Free)[9]	µg/L	Grab	Monthly	335.3
Total Recoverable Copper	µg/L	Composite	Monthly	200.8
Toxicity[3]	TUc	Composite	Monthly	--
Total Hardness	mg/L	Grab	Monthly	200.7
Bicarbonate	mg/L	Composite	Monthly	--
Boron	mg/L	Composite	Monthly	200.7
Calcium	mg/L	Composite	Monthly	200.7
Carbonate	mg/L	Composite	Monthly	2340B
Chloride	mg/L	Composite	Monthly	300.0
Fluoride	mg/L	Composite	Monthly	300.0
Magnesium	mg/L	Composite	Monthly	200.7
Sodium	mg/L	Composite	Monthly	200.7
Sulfate	mg/L	Composite	Monthly	300.0
Total Recoverable Cadmium	µg/L	Composite	Monthly	200.8
Chromium (VI) or Total Chromium[10]	µg/L	Composite	Monthly	200.7
Total Recoverable Lead	µg/L	Composite	Monthly	200.8
Total Recoverable Mercury	µg/L	Composite	Monthly	200.8

Table 5-2
Effluent Monitoring Program Summary for Recycled Water
(Without 20:1 Dilution in the Receiving Water)[1]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total Recoverable Selenium	µg/L	Composite	Monthly	200.8
Total Recoverable Silver	µg/L	Composite	Monthly	200.7
Total Recoverable Zinc	µg/L	Composite	Monthly	200.8
Bis-(2-ethylhexyl) phthalate	µg/L	Grab	Monthly	525.2
Bromodichloromethane[11]	µg/L	Grab	Monthly	524.2
Aluminum	mg/L	Composite	Quarterly	200.8
Antimony	mg/L	Composite	Quarterly	200.8
Arsenic	µg/l	Composite	Quarterly	200.8
Barium	µg/l	Composite	Quarterly	200.8
Cobalt	µg/l	Composite	Quarterly	200.7
Total Recoverable Nickel	µg/l	Composite	Quarterly	200.8
2,3,7,8-TCDD (Dioxin)[12]	µg/l	Composite	Quarterly	1613B
Volatile organic portion of EPA Priority Pollutants[2]	µg/l	Grab	Annually	524.2
Remaining EPA Priority Pollutants[2]	µg/l	Composite	Annually	5310C

1. Source: RWQCB, 2009. Effluent compliance is for tertiary treated effluent for DP-001, DP-002, DP-003 and DP-004 at Monitoring Locations M-001B, M-002A, M-003 and M-004.
2. See waste discharge permit (Order No. R8-2009-0021) (RWQCB, 2009) for complete list or description.
3. Except M-001B.
4. Turbidity analysis shall be continuous, performed by a continuous recording turbidimeter. Compliance with the daily average operating filter effluent turbidity shall be determined by averaging the levels or recorded turbidity taken at a minimum of four-hour intervals over a 24-hour period. The results of the daily average turbidity determinations shall be reported monthly.
5. Samples for total coliform bacteria shall be collected daily. Samples shall be taken from the disinfected effluent.
6. M-001B is the coliform monitoring location for DP 001 & DP002. Alternative monitoring at M-002B is available if gate is closed between Chlorine Contact Basin 2 and 3.
7. The CT and modal contact time shall be continuously calculated and recorded. The minimum daily value shall be reported monthly. Modal contact time and CT shall be calculated based on the minimum one-hour average value in a 24-hour period.
8. BOD_5 is calculated daily based on a BOD_5/TOC correlation approved by the Regional Water Board.
9. Free Cyanide is measured as aquatic free cyanide (ASTM Method D7237) without NaOH preservations.
10. If Total Chromium test result is greater than 11 µg/L, the following sample shall be tested for Chromium VI, until directed otherwise.
11. Applies at M-003 only.
12. Applies at M-003 and M-004 only.

Table 5-3
Effluent Monitoring Program Summary for Diluted Discharges
(With 20:1 Dilution in the Receiving Water)[1]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Test Method
Flow	mgd	Recorder/ totalizer	Continuous	--
pH	pH units	Recorder/ totalizer	Continuous	--
Total Residual Chlorine	mg/L	Recorder/ totalizer	Continuous	--
BOD_5	mg/L	Grab	Daily (when discharging)	405.1
Total Dissolved Solids	mg/L	Grab	Daily (when discharging)	2540C
Coliform Organisms	MPN per 100 ml[3]	Grab	Daily (when discharging)	9221B
Suspended Solids	mg/L	Grab	Daily (when discharging)	160.2
Total Hardness	mg/L	Grab	When Discharge	200.7
EPA Priority Pollutants[2]	µg/L	Grab	Annually[4]	200.8/200.7

1. Source: RWQCB, 2009. Effluent compliance is for disinfected secondary treated effluent for DP-001 at Monitoring Locations M-002A.
2. See waste discharge permit (Order No. R8-2009-0021) (RWQCB, 2009) for complete list or description.
3. MPN/100mL – Most Probable Number per 100 milliliters.
4. Sample is collected from the first discharge, once a year.

Table 5-4
Reclamation Monitoring Program Summary[1]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Recorder/ totalizer	Continuous	--
pH	Standard units	Recorder/ totalizer	Continuous	--
Turbidity[2]	NTU	Recorder	Continuous	--
CT	mg-minutes/L	Recorder	Continuous[3]	--
Coliform Organisms	MPN per 100 mL	Grab	Daily	9221B
BOD_5	mg/L	Composite	Daily	405.1
Total Suspended Solids	mg/L	Composite	Daily	160.2
TDS	mg/L	Composite	Monthly	2540C

1. Source: RWQCB, 2009. Reclamation monitoring locations at REC-001 to REC-004.
2. Turbidity samples shall be collected at M-001A, M-002A, M-003 and M-004, respectively.
3. The CT and modal contact time shall be continuously calculated and recorded. Modal contact time and CT shall be calculated based on the minimum one-hour average value in a 24-hr period.

Table 5-5
Receiving Water Monitoring Program Summary
(At Monitoring Location R-002U)[1]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Estimate	Weekly	--
Dissolved Oxygen	mg/L	Grab	Weekly	--
Temperature	°C	Grab	Weekly	--
pH	pH unit	Grab	Weekly	--
Total Dissolved Solids	mg/L	Grab	Monthly	2540C
Total Inorganic Nitrogen	mg/L	Grab	Monthly	--
Total Hardness	mg/L	Grab	Quarterly	200.7
Total Suspended Solids	mg/L	Grab	Quarterly	160.2
EPA Priority Pollutants[2]	µg/L	Grab	Annually	200.8/200.7

1. Source: RWQCB, 2009. Monitoring Location R-002U is within 500 feet upstream of the point of discharge DP-002 in Cucamonga Creek.
2. See waste discharge permit (Order No. R8-2009-0021) (RWQCB, 2009) for complete list or description.

Table 5-6
Receiving Water Monitoring Program Summary
(At Monitoring Location R-002D)[1]

Parameter	Units	Sample Type	Minimum Sampling & Testing Frequency	Required Analytical Test Method
Dissolved Oxygen	mg/L	Grab	Weekly	--
Temperature	°C	Grab	Weekly	--
pH	pH unit	Grab	Weekly	--
Color change, foam, deposition of material, odor	--	Observe	Weekly	2120B
Total Hardness	mg/L	Grab	Quarterly	200.7
Total Suspended Solids	mg/L	Grab	Quarterly	160.2
EPA Priority Pollutants[2]	µg/L	Grab	Annually	200.8/200.7

1. Source: RWQCB, 2009.

Section 6
Contingency Plan

IEUA's contingency plan to maintain continuous, high-level treatment at RP-4 is described in this section.

6.1 Contingency Plan

The basis for the RP-4 contingency plan relies on the use of multiple treatment units and standby equipment, storage, and the ability to divert flow to RP-1. As described for each process in Section 4 of this report, RP-4 has capacity to treat flows averaging at least 14 mgd and peaks up to 32.2 mgd for all units. Reliability is provided by a combination of the following:

- standby treatment units and equipment,
- reliance on downstream treatment processes,
- standby engine generator for emergency power,
- on-site, short-term emergency storage, and
- diversion of flow to RP-1.

For pumping stations and similar mechanical facilities, standby units are available in the event that duty units are out of service. For major processes, such as the biological secondary treatment process, full redundancy for one of the two treatment trains is available.

The plant headworks allows RP-4 to divert raw wastewater back to the trunk sewer for conveyance to RP-1. The influent pump discharge flowrate is continuously monitored by the influent flow meter.. The flowrate to the tertiary filters and chlorine contact tanks is monitored continuously to ensure these processes are operated properly and in compliance with Title 22. As discussed in Section 4.6 on Monitoring and Alarms, if any critical unit process fails or approaches the limit of its Title 22 capacity, an alarm is annunciated and the operator takes appropriate action, including the possibility of shutting down one of the influent pumps to limit the flow into the plant or divert flow to the on-site storage pond, i.e. when the tertiary filters reach Title 22 capacity, the influent pumps reduce flow to maintain Title 22 compliance for recycled water. If the plant is unmanned, the on-call operator can log-on remotely to the SCADA system to review the alarm condition and determine the appropriate course of action. If necessary, RP-1 currently has the capacity to handle limited amounts of RP-4 diverted flow.

Another important part of RP-4's contingency plan involves IEUA's preventive maintenance program. Described in Section 7, this program ensures that all mechanical equipment is kept in reliable working order. RP-4 has an excellent operating and monitoring record, which also helps to avert problems before they become serious concerns.

Section 7
Operation and Maintenance Plan

Operation and maintenance of RP-4 are described in this section. IEUA's plans for staffing the facility and performing preventive maintenance are discussed.

7.1 Staffing

RP-4 is fully staffed with operation and maintenance personnel. Operators are physically working at the plant 10 hours per day and are on-call 14 hours per day, 7 days per week. Certified operators at the plant are listed in Table 7-1. In addition to these personnel, IEUA has a Deputy Manager of Operations for RP-4 and RP-1, who is a Grade V wastewater operator. IEUA also has a Manager of Operations, who is a Grade V operator, in charge of wastewater administration for the entire IEUA service area.

Table 7-1
Operations Staff

Operator Grade[1]	Position	Number of Persons[2]
V	Operations Supervisor	1
III - V	Senior Operator	1
III-V	Operator	2

1. State Wastewater Certification
2. Source: IEUA, 2007.

Mechanical, electrical, and instrumentation maintenance personnel are also on duty as required. Table 7-2 lists the maintenance staff available to RP-4 and shared with RP-1.

7.2 Preventive Maintenance Program

Under IEUA's preventive maintenance program, inspections, lubrications, and operational rotation and repair of all mechanical, electrical, and support equipment are regularly scheduled. In addition to retaining manufacturers' maintenance manuals, files are kept for all major equipment. Routine or regularly scheduled maintenance activities are carried out with the aid of detailed checklists to ensure that important checks and servicing are not overlooked and that complete records are kept for all major equipment components. An organized system, based on work orders with priority determined on a "need" basis, coordinates the operation and maintenance personnel at the plant. The maintenance department normally keeps lists of replacement parts necessary for specific equipment, and in many cases, stocks the replacement parts at the plant site.

Table 7-2
Plant Maintenance Staff

Position	Number of Persons[1]
RP-1 and RP-4 Plant Maintenance	
Plant Maintenance Technician II	4
Senior Maintenance Technician	1
Senior Mechanic	1
Mechanic II	4
Machinist	1
RP-1 and RP-4 Electrical and Instrumentation Maintenance	
Senior Electrical and Instrumentation Technician	1
Electrical Technician II	5
Instrumentation Technician II	6
Office Assistant	1

1. Source: IEUA, 2008b.

Section 8
Recycled Water Use

This section of the report describes the recycled water users, demands, distribution system, and on-site user facilities.

8.1 Users and Demands

Water reclamation has been practiced within IEUA for some time and is specified in the RP-1/RP-4 waste discharge permit, which notes that treated effluent is recycled for landscape irrigation, agricultural, industrial applications, dust control, and groundwater recharge. Besides these uses, treated effluent is used as utility water for in-plant needs. With the recent startup of the Joint IEUA/County Sanitation Districts of Los Angeles County Inland Empire Regional Composting Facility, RP-4 supplies utility water to that complex as well. Based on customer needs, peak recycled water demands occur primarily during the summer months; however, RP-4 can meet high recycled water demands on a year-round basis, if needed. Current and proposed users on the system are listed in Table 8-1.

With the completion of the RP-4 recycled water pumping station, the RP-4 Outfall has been converted from a 1270 pressure zone to an 1158 pressure zone to convey recycled water in a pressurized distribution pipeline from RP-4 to RP-1.

To produce more recycled water at RP-4, IEUA is constructing a 6 mgd (average daily flow) sewage pump station on San Bernardino Avenue in Fontana. Completion is expected in 2009. The project will reroute raw wastewater to RP-4 that is now flowing to RP-1. It will include a force main pipeline to RP-4. The existing gravity sewer with limited capacity will continue to be used to convey wastewater to RP-4. The project will allow more recycled water to be utilized at RP-4 to ensure recycled water system reliability and pumping cost savings.

By 2009, IEUA plans to add a second recycled water pump station at RP-4 to create two pressure zones. The new RP-4 pump station will serve pressure zone 1299. A reservoir will be purchased and retrofitted to serve this pressure zone by 2010. The existing pump station will lift recycled water to two new reservoirs which have already been purchased and retrofitted in 2009. These reservoirs serve the 1158 pressure zone, which includes RP-4, and the RP-4 Outfall If the 1158 pump station experiences low flow due to low RP-4 influent flow or high recycled water demand, the 1158 reservoirs have the capability of supplying recycled water to the suction header of the 1299 pump station. The Inland Empire Regional Composting Facility is served by the 1299 pressure zone.

Table 8-1
Existing and Potential Recycled Water Users and Demands Served by RP-4

User Name[1]	Purveyor	Use Type	Service Source	Avg. Annual Demand (afy)[1]
Arical Properties, Inc	CVWD	Irrigation	RP-4 West Ext. Phase II	49
Bank/America CAINLE030	Ontario	Irrigation	RP-4 Outfall	9
Bernt Comm School	Ontario	Irrigation	San Antonio Seg. A	9
Bluefield Association	CVWD	Irrigation	San Antonio Seg. A	5
Bradshaw International, Inc	CVWD	Irrigation	RP-4 West Ext. Phase I	29
Buena Vista Elem School	MVWD	Irrigation	San Antonio Seg. B	1
Cal Industrial Properties	CVWD	Irrigation	RP-4 West Ext. Phase I	41
Cal Trans - I-10 (4th to Vineyard)	Ontario	Irrigation	San Antonio Seg. A	44
Chaffey High School (150 W 4th St)	Ontario	Irrigation	San Antonio Seg. B	16
Chaffey High School (245 N Euclid Ave)	Ontario	Irrigation	San Antonio Seg. B	68
Chaffey High School (500 W 4th)	Ontario	Irrigation	San Antonio Seg. B	15
City of Ontario - Colony Park	Ontario	Irrigation	San Antonio Seg. B	14
City of Ontario - Mem. Grove Park	Ontario	Irrigation	San Antonio Seg. A	6
City of Ontario - Sunrise Park	MVWD	Irrigation	San Antonio Seg. B	8
City of Ontario (2931 E Philadelphia Ave)	Ontario	Irrigation	RP-4 Outfall	7
City of Ontario (900 E I st)	Ontario	Irrigation	San Antonio Seg. A	5
City of Ontario (City-4/Harvard)	Ontario	Irrigation	Calaveras St Lateral	11
City of Rancho Cucamonga (10500 4th St)	CVWD	Irrigation	San Antonio Seg. A	4
City of Rancho Cucamonga (Milliken Ave & 4th St)	CVWD	Irrigation	San Antonio Seg. A	9
Corona Elementary School	Ontario	Irrigation	(7th & 8th St or San Antonio Seg. A)	21
County of San Bernardino	CVWD	Irrigation	RP-4 Outfall	78
Del Norte Elementary School	Ontario	Irrigation	Calaveras St Lateral	22
E L Yeager	Ontario	Irrigation	(Wineville or RP-4 Outfall)	78
Edwards Theater Bk Chp11	Ontario	Irrigation	RP-4 West Ext. Phase I or Phase II	25
Empire Lakes Golf Course	CVWD	Irrigation	RP-4 West Ext. Phase I	600
Flex-Trim Moldings	CVWD	Irrigation	RP-4 West Ext. Phase I	7
Frito Lay Inc	CVWD	Irrigation	RP-4 West Ext. Phase I	16
Fruit Growers Supply	Ontario	Industrial	Wineville	30
Fujita California Partners	CVWD	Irrigation	RP-4 West Ext. Phase II	19

Table 8-1
Existing and Potential Recycled Water Users and Demands Served by RP-4

User Name[1]	Purveyor	Use Type	Service Source	Avg. Annual Demand (afy)[1]
GATX LOGISTICS	Ontario	Irrigation	Wineville	26
General Dynamics	CVWD	Industrial	RP-4 West Ext. Phase I	659
Griffin Industries (2400 E 4th St)	CVWD	Irrigation	RP-4 West Ext. Phase II or San Antonio Seg. A	18
Griffin Industries (Springbrook Ct)	CVWD	Irrigation	RP-4 West Ext. Phase II	10
Guasti Regional Park	Ontario	Irrigation	Rp-4 West Ext. Phase II	202
Haven Business Center	CVWD	Irrigation	RP-4 West Ext. Phase I	33
Inland Paperboard & Packaging I (5100 Jurupa Ave)	Ontario	Industrial	Wineville	1,400
Insigna-O'Donnell Commercial (Trademark Pkwy #3)	CVWD	Irrigation	RP-4 West Ext. Phase II	6
Insignia-O'Donnell Commercial (9481 Haven Ave)	CVWD	Irrigation	RP-4 West Ext. Phase II	23
K MART #8287	Ontario	Irrigation	RP-4 Outfall or Wineville	3
Kraftmaid Cabinets	Ontario	Industrial	RP-4 Outfall	4
Kushwood MFG	Ontario	Irrigation	RP-4 Outfall	7
L A Dpt Airports	Ontario	Irrigation	RP-4 Outfall or Wineville	10
Landmark Inn	Ontario	Irrigation	RP-4 Outfall	1
Leisure Crats	CVWD	Irrigation	RP-4 West Ext. Phase I	14
Lincoln Rancho Cucamonga Assoc	CVWD	Irrigation	RP-4 Outfall or Wineville	12
LOGISTICS & REPAIR	Ontario	Irrigation	RP-4 Outfall or Wineville	20
Longs Drug Store	CVWD	Irrigation	RP-4 Outfall	29
M. S. Vickers	CVWD	Irrigation	RP-4 Outfall	5
Monte Vista Elem School	MVWD	Irrigation	San Antonio Seg. B	14
Oltmans Investment Co	CVWD	Irrigation	RP-4 West Ext. Phase I	17
Ont/Mont School Dist - Elem School	MVWD	Irrigation	San Antonio Seg. B	11
Ontario Hotel Assoc	Ontario	Irrigation	RP-4 West Ext. Phase II	8
Ontario Montclair (429 W 4th St)	Ontario	Irrigation	San Antonio Seg. B	31
Ontario Montclair (890 N Del Norte)	Ontario	Irrigation	7th & 8th St. or San Antonio Seg. A	37
Our Lady of Lourdes	MVWD	Irrigation	San Antonio Seg. B	8
PFS Inc	CVWD	Irrigation	RP-4 Outfall	26
Pic-N-Save Corp	CVWD	Irrigation	Etiwanda Ave	26
Proficient Food Company	CVWD	Irrigation	RP-4 West Ext. Phase I	8

Table 8-1
Existing and Potential Recycled Water Users and Demands Served by RP-4

User Name[1]	Purveyor	Use Type	Service Source	Avg. Annual Demand (afy)[1]
Proulx Manufacture Inc	CVWD	Irrigation	RP-4 West Ext. Phase I	15
Rancho Verde Village/Apt Mang	CVWD	Irrigation	7th & 8th St.	41
RCDC I	CVWD	Irrigation	RP-4 West Ext. Phase I or Phase II	5
RPM Transportation	CVWD	Irrigation	RP-4 Outfall	16
State Farm	CVWD	Irrigation	RP-4 West Ext. Phase II	5
TA Operation COR, DBA	Ontario	Irrigation	RP-4 Outfall	34
The Abulafia Trust	CVWD	Irrigation	RP-4 West Ext. Phase I	19
The Villas at Terra Vista	CVWD	Irrigation	RP-4 West Ext. Phase I	14
Travelcenter OF	Ontario	Irrigation	RP-4 Outfall	28
Unifirst Corp	Ontario	Irrigation	RP-4 Outfall or Wineville	75
Vernon Middle School	MVWD	Irrigation	San Antonio Seg. B	25
Viana Tool & Machine Inc	CVWD	Irrigation	RP-4 West Ext. Phase I	5
Vineyard Elementary School	Ontario	Irrigation	7th & 8th St.	36
Vineyard Park	Ontario	Irrigation	7th & 8th St.	41
Wohl/Empire Lakes LLC (10860 6th St)	CVWD	Irrigation	RP-4 West Ext. Phase II	8
Wohl/Empire Lakes LLC (9160 Cleveland Ave)	CVWD	Irrigation	7th & 8th St.	8
Wohl/Empire Lakes LLC (9220 Cleveland Ave)	CVWD	Irrigation	7th & 8th St.	7
California Commerce Center - North	Ontario	Irrigation	RP-4 Outfall	20
Catellus Development	Ontario	Irrigation	RP-4 Outfall	5
Ontario Mills Pkwy Development (Piamonte)	Ontario	Irrigation	RP-4 Outfall	15
Cintas I	Ontario	Industrial	RP-4 Outfall	150
Chrysler Dealer	Ontario	Irrigation	Wineville	2
Coca-Cola	Ontario	Irrigation	Wineville Extension	80
Sketchers USA	Ontario	Irrigation	Wineville Extension	16
Cintas II	Ontario	Industrial	Wineville Extension	75
Crothall	Ontario	Industrial	Wineville Extension	176
Fairfield Development	Ontario	Irrigation	RP-4 West Extension	5
John Galvin Park	Ontario	Irrigation	San Antonio Seg A	52
Ontario Montclair (Seg A)	Ontario	Irrigation	San Antonio Seg A	2

Table 8-1
Existing and Potential Recycled Water Users and Demands Served by RP-4

User Name[1]	Purveyor	Use Type	Service Source	Avg. Annual Demand (afy)[1]
Griffin Industries 1	Ontario	Irrigation	San Antonio Seg A	2
City of Ontario (Seg A)	Ontario	Irrigation	San Antonio Seg A	2
Ontario Montclair (Seg B)	Ontario	Irrigation	San Antonio Seg B	2
City of Ontario (Seg B)	Ontario	Irrigation	San Antonio Seg B	2
Gibbs Park	Ontario	Irrigation	San Antonio Seg B	37
Mountain Shadow Assoc.	Ontario	Irrigation	San Antonio Seg B	18
Bellevue Cemetery	Ontario	Irrigation	San Antonio Seg B	200
7th & 8th Basins	Ontario	Recharge	7th & 8th Street	1,220
6th Street Customers	CVWD	Irrigation	RP-4 West Extension	40
6th Street Customers	MVWD	Irrigation	San Antonio Seg B	16
Kingsley Elementary School	MVWD	Irrigation	San Antonio Seg B	37
Kingsley Little League	MVWD	Irrigation	San Antonio Seg B	1
Buena Vista Elementary School	MVWD	Irrigation	San Antonio Seg B	51
Montclair Highschool	MVWD	Irrigation	San Antonio Seg B	15
Alma Hoffman Park	MVWD	Irrigation	San Antonio Seg B	5
City Hall	MVWD	Irrigation	San Antonio Seg B	18
Lehigh Elementary School	MVWD	Irrigation	San Antonio Seg B	23
Sunset Park	MVWD	Irrigation	San Antonio Seg B	20
Brooks Basin	Ontario	Recharge	San Antonio Seg A	2,100
First Methodist Church	Ontario	Irrigation	San Antonio Seg A	21
City of Ontario (100 E I Street)	Ontario	Irrigation	San Antonio Seg A	8
City of Ontario (101 E I Street)	Ontario	Irrigation	San Antonio Seg A	24
G Street Apartments	Ontario	Irrigation	San Antonio Seg A	15
Griffin Indsutries 3	Ontario	Irrigation	San Antonio Seg A	6
Good Night Inn	Ontario	Irrigation	San Antonio Seg A	4
Sheraton Hotel	Ontario	Irrigation	San Antonio Seg A	2
Super 8 Lodge	Ontario	Irrigation	San Antonio Seg A	52
Ontario Convention Center	Ontario	Irrigation	San Antonio Seg A	2
Red Roof Inn	Ontario	Irrigation	San Antonio Seg A	1

Table 8-1
Existing and Potential Recycled Water Users and Demands Served by RP-4

User Name[1]	Purveyor	Use Type	Service Source	Avg. Annual Demand (afy)[1]
Country Side Suites	Ontario	Irrigation	San Antonio Seg A	55
Coastal Ontario LLC	Ontario	Irrigation	San Antonio Seg A	2
Lexington Hotel Suites	Ontario	Irrigation	San Antonio Seg A	20
Double Tree Hotel	Ontario	Irrigation	San Antonio Seg A	2
Best Western Hotel	Ontario	Irrigation	San Antonio Seg A	10
Marriott (2158 E Holt Blvd)	Ontario	Irrigation	San Antonio Seg A	14
Marriott (2200 E Holt Blvd)	Ontario	Irrigation	San Antonio Seg A	100
Future Ontario Business Center @ Ontario Airport	Ontario	Irrigation	7th & 8th Street Basin	45
Valley View High School	Ontario	Irrigation	7th & 8th Street Basin	25
Dorothy Gibson CS	Ontario	Irrigation	Auto Center Lateral	7
Exclusively Volvo	Ontario	Irrigation	Auto Center Lateral	6
Superior Pontiac	CVWD	Irrigation	RP-4 West Ext. Phase II	49
Reliant Energy Power Station	IEUA	Industrial	RP-4 Outfall	3,000
Caltrans	Ontario	Irrigation	RP-4 Outfall	69
City of Ontario	Ontario	Irrigation	RP-4 Outfall	1
Inland Paperboard	Ontario	Industrial	RP-4 Outfall	1,100
Whispering Lakes Golf Course	Ontario	Irrigation	Philadelphia Pipeline [2]	1,036
Banana Recharge Basin	IEUA	Recharge	RP-4	785
Hickory Recharge Basin	IEUA	Recharge	RP-4	704
Ely Recharge Basin	IEUA	Recharge	RP-4	373
Turner Recharge Basin	IEUA	Recharge	RP-4	831
TOTAL Average Annual Demand (afy)				***17,072***

1. IEUA, 2007a.
2. Whispering Lakes Golf Course is typically served recycled water from RP-1, but it can be served from RP-4.

IEUA utilizes RP-4 recycled water for IEUA's Phase I and Phase II Chino Basin Recycled Water Groundwater Recharge System (Groundwater Recharge Project). The Groundwater Recharge Project is part of a comprehensive water supply enhancement program jointly sponsored by IEUA and the Chino Basin Watermaster, Chino Basin Water Conservation District, and San Bernardino County Flood Control District to improve the quality of local drinking water wells, enhance water supply reliability, and lower the cost of water to residents throughout the Chino Groundwater Basin. IEUA is the lead agency for the project. The Phase I Groundwater Recharge Project features up to seven recharge basins that are used to recharge a blend of up to about 44,000 afy of recycled water, stormwater, and imported water. The initial project utilizes approximately 8,000 afy of recycled water from RP-1 and RP-4. Ultimately under Phase II, it is planned for the Groundwater Recharge Project to be expanded to approximately 19 recharge sites and up to 134,000 afy of recycled water, stormwater, and imported water. Regulatory compliance is addressed in the "Title 22 Engineering Report for the Phase I Chino Basin Recycled Water Groundwater Recharge Project" (CH2M Hill, 2003) and the associated CDPH Findings of Fact (DHS, 2004), plus the "Phase II Chino Basin Recycled Water Groundwater Recharge Project Title 22 Engineering Report" (DDB Engineering, Inc. and Wildermuth Environmental, Inc., 2006) and the associated CDPH Findings of Fact (DHS, 2007), which address current CDPH groundwater recharge draft regulations (DHS, 2008). In June, 2007, the RWQCB approved Order No. R8-2007-0039 (RWQCB, 2007a) that establishes water recycling requirements for the Phase I and Phase II Chino Basin Recycled Water Groundwater Recharge Program.

8.2 Distribution System

Recycled water is supplied from the recycled water pump station described in Section 4.10. The new 1299 Pump Station supplies a series of pressurized pipelines which supply recycled water to the IEUA northeast and northwest service areas. The 1299 pressure zone pipeline currently serves the nearby Reliant Energy Power Station, Empire Lakes Golf Course, Groundwater Recharge, RP-4 utility water, utilized for plant use and landscaping, and the City of Rancho Cucamonga. The existing 1158 pressure zone pipeline currently serves Caltrans freeway irrigation as well as other users along the pressurized RP-4 Outfall pipeline from RP-4 to RP-1. Additional users will be added to the RP-4 recycled water distribution system.

8.3 Recycled Water User Facilities

IEUA Ordinance No. 69 (IEUA, 2000a), adopted by the IEUA Board of Directors in May, 2000, establishes rules, requirements, and responsibilities, under which, recycled water service is provided to customers. Applicants for recycled water service agree to comply with the terms of their Recycled Water Use Permit, as well as applicable Federal, State and Local statutes, to protect public health. The

on-site operational controls must be appropriate for the beneficial use approved in the Recycled Water Use Permit for the safe and reliable delivery of recycled water. Specific identification, signage, and cross-connection prevention requirements include the following measures:

- All recycled water valves, outlets, quick couplers, and sprinkler heads shall be of a type, or secured in a manner that only permits operation by personnel authorized by the customer.
- All recycled water valves and outlets shall be appropriately tagged to warn the public and employees that the water is not intended nor allowed for drinking.
- All piping, valves and outlets shall be color-coded (purple) or otherwise marked to differentiate recycled water from non-recycled water facilities.
- Hose bibs shall not be used in the recycled water system; quick couplers or comparable connection devices shall be used instead.
- Adequate means of notification shall be provided to inform the public, employees and others that recycled water is being used. Such notification shall include the posting of conspicuous recycled water information signage with proper wording in both English and Spanish of sufficient size to be clearly read, which shall be posted at adequate intervals around the use area. Signage shall be in conformance with CDPH Title 22 regulations.
- Cross-connection prevention measures, such as backflow preventers or reduced pressure principle devices, shall be installed and maintained to comply with requirements of CDPH and local potable water purveyors.

The current users are served by the City of Ontario, or in the case of the Reliant Energy Power Station, directly by IEUA. The City of Ontario has a Recycled Water Use Ordinance (City of Ontario) that requires recycled water users to complete a Title 22 engineering report and obtain a user permit from the City. IEUA has a contract with Reliant Energy that requires them to comply with IEUA's Ordinance No. 69 and have an approved Title 22 engineering report.

IEUA encourages the maximum use of recycled water for beneficial purposes. As part of this effort, IEUA maintains guidance to educate and support local member agencies and recycled water customers in the proper design, installation, operation, and maintenance of their on-site recycled water systems.

IEUA maintains an employee training program that covers procedures used when working with recycled water, rules and regulations associated with recycled water use, hazards of working with recycled water, and basic cross-connection prevention and backflow principles and procedures.

Section 9
Conclusions and Recommendations

This chapter summarizes the findings of the evaluation of RP-4 for compliance with Title 22 Water Recycling Criteria. Conclusions and recommendations are presented.

9.1 Conclusions

This Title 22 Engineering Report demonstrates how IEUA's RP-4 provides reliable treatment capacity in compliance with Title 22 Water Recycling Criteria for an annual average flow of 14 mgd, peak dry weather capacity of 28 mgd, and peak wet weather capacity of 32.2 mgd for all facilities. Table 9-1 on the following page summarizes the rated capacity of each treatment process. Described in detail in Section 4, capacity is based on the following criteria:

- Design criteria and actual operating parameters;
- Provision for redundant, standby, or alternative equipment or treatment processes; and
- Improvements currently under construction.

Because the expansion project is currently under construction at RP-4, this Engineering Report is based on the facilities that will exist with the completion of the expansion. These modifications and additions include the conversion of the oxidation ditch biological treatment system into a Bardenpho nutrient removal plug-flow or step-feed arrangement. As part of the 7 mgd modifications that were completed in early 2005, the UV disinfection system was replaced with sodium hypochlorite disinfection and chlorine contact tanks to achieve the required 90-minute modal contact time.

The construction schedule for the expansion is taking place in phases. Phase 1 converted the existing 7-mgd oxidation ditch plant to an activated sludge process with 7 mgd of capacity became operational in July 2007. Phase 2 is construction of another 7 mgd of new activated sludge capacity, increasing the total plant permit-rated capacity to 14 mgd. This is expected to be completed by summer 2009.

Table 9-1
RP-4 Process Capacity Summary [1]

Process	Peak Capacity [2] (mgd)	Annual Average Capacity With All Units in Service [3] (mgd)	Title 22 Reliable Annual Average Capacity [4] (mgd)
Preliminary Treatment:			
Bar screens	72.4	31.5	15.7
Influent P.S.	49.5	21.5	17.7
Flow meter	48.3	21	21
Grit chamber	40.0	17.4	17.4
Primary Treatment	32.2	14	14
Secondary Treatment:			
Bardenpho activated sludge	16.1 [8]	21	14
Clarifiers	28.0 [9]	21	14
Tertiary Treatment:			
Dual-Media Filters [5]			
Coagulation	18.0	7.8	6.8
Filtration	18.0	7.8	6.8
Cloth Disc Filters [5]			
Coagulation	22.4	9.7	7.3
Filtration	22.4	9.7	7.3
Total of Filters [5]	40.4	17.5	14.1
Disinfection			
Sodium hypochlorite	103.6	82.6	38.0
Contact tanks [6]	28.3 (dry) 32.6 (wet)	14.2	14.2
Dechlorination [7]	52	104	0

1. Capacity shown is for the treatment configuration that will exist after completion of the expansion to 14 mgd capacity in summer 2009.
2. Peak Capacity = total peak flow capacity with all units in service.
3. Annual Average Capacity with all units in service equals Peak Capacity/2.3
4. Title 22 Reliable Annual Capacity = annual average flow capacity conforming to the reliability requirements set forth in Title 22. Reliability may be provided by redundant, standby, or alternative equipment or processes. The specific means of establishing reliability is described in Section 4 for each treatment process.
5. Filtration Title 22 Annual Average Capacity is based on having one dual-media filter in backwash and one cloth disc filter out of service.
6. Dry weather peak capacity is 28.3 mgd to provide the minimum 450 mg-min/L CT and 90 minute modal contact time required by Title 22 for peak dry weather flows based on modal contact time test for Basins 1A and 1B (SFE Global, 2005) and estimated modal contact time for Basin 2. Average annual capacity is based on the dry weather PHDWF peaking factor of 2.0 (28.3/2.0=14.2 mgd). Wet weather peak capacity is based on the wet weather peaking factor of 2.3 (14.2x2.3=32.6 mgd).
7. Dechlorination will typically not be used at RP-4 because recycled water is delivered to customers from the pressurized RP-4 Outfall. Discharges to Cucamonga Creek (001) and

Prado Park Lake (002) are dechlorinated at RP-1. Peak capacity based on 20 mg/L dosage. Average capacity based on 10 mg/L. No standby at RP-4. Standby pump at RP-1.
8. Peak capacity based on maximum month loadings (Black & Veatch, 2004).
9. Black & Veatch, 2004.

9.2 Recommendations

RP-4 currently complies with Title 22 Water Recycling Criteria at an annual average capacity of 7 mgd.

In summer 2009, the expansion to 14 mgd of capacity should be complete for all facilities. As described above, the expanded facilities comply with Title 22 Water Recycling Criteria at an annual average capacity of 14 mgd. It is recommended that modal contact time testing be conducted at the chlorine contact basins to re-evaluate their capacity to handle peak flows.

Flow monitoring will be important to assure that the next RP-4 expansion is completed in a timely manner and the capacity of the overflow bypass to RP-1 remains sufficient to handle any flows that may exceed the plant's peak capacity.

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Producer/User Water Reclamation Requirements for the Inland Empire Utilities Agency Regional Water Recycling Plants No. 1 & No. 4", May 2006.

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Appendix A

ORDER NO. R8-2006-0010
NPDES NO. CA0105279

WASTE DISCHARGE AND PRODUCER /USER RECLAMATION REQUIREMENTS
FOR THE
INLAND EMPIRE UTILITIES AGENCY
REGIONAL WATER RECYLING PLANTS NO. 1 & NO. 4
DISCHARGE TO REACH 3 OF SANTA ANA RIVER

AND

ORDER NO. R8-2007-0045

AMENDING ORDER NO. R8-2006-0010, NPDES NO. CA0105279

WASTE DISCHARGE AND PRODUCER/USER REQUIREMENTS
FOR
INLAND EMPIRE UTILITIES AGENCY
RECYCLED WATER RECYCLING PLANTS NO. 1 & NO. 4

California Regional Water Quality Control Board
Santa Ana Region

July 20, 2009

ITEM: ***7**

SUBJECT: Issuance of Waste Discharge and Producer/User Reclamation Requirements for the Inland Empire Utilities Agency's Regional Water Recycling Facilities, Surface Water Discharges and Recycled Water Use, Order No. R8-2009-0021, NPDES No. CA8000409, San Bernardino County

DISCUSSION:

See attached Fact Sheet

RECOMMENDATIONS:

Adopt Order No. R8-2009-0021, NPDES No. CA8000409 as presented.

COMMENT SOLICITATION:

Comments were solicited from the discharger and the following agencies:

U.S. Environmental Protection Agency, Permits Issuance Section (WTR-5) – Doug Eberhardt
U.S. Army District, Los Angeles, Corps of Engineers - Regulatory Branch
U.S. Fish and Wildlife Service, Carlsbad – Christine Medak
State Water Resources Control Board, Office of the Chief Counsel – David Rice
State Department of Fish and Game, Los Alamitos - Ms. Latonio
California Department of Public Health, San Bernardino – Sean McCarthy
California Department of Public Health, Carpenteria - Jeff Stone
State Department of Water Resources, Glendale – Charles Keene
Santa Ana Watershed Project Authority – Celeste Cantu
Santa Ana River Dischargers Association – Ed Filadelfia
Orange County Water District - Nira Yamachika
San Bernardino County Transportation/Flood Control District – Naresh Varma
San Bernardino County Environmental Health Services – Daniel Avera
City of Chino, Public Works Department – Jose Alire
City of Chino Hills - Public Works Department
City of Fontana – Chuck Hays, chays@fontana.org
City of Montclair - Nicole Greene
City of Ontario – Mohamed El-Amamy
City of Upland – Maria Linzay
Cucamonga Valley Water District -
Inland Empire Waterkeeper – Autumn DeWoody
Orange County Coastkeeper - Garry Brown
Lawyers for Clean Water C/c San Francisco Baykeeper
Natural Resources Defense Council – David Beckman
Inland Empire Utilities Agency - Patrick Sheilds

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

SANTA ANA REGION

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ORDER NO. R8-2009- 0021
NPDES NO. CA8000409

WASTE DISCHARGE AND PRODUCER/USER RECLAMATION REQUIREMENTS FOR INLAND EMPIRE UTILITIES AGENCY REGIONAL WATER RECYCLING FACILITIES SURFACE WATER DISCHARGES AND RECYCLED WATER USE

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 1. Discharger Information

Discharger/ Operator	Inland Empire Utilities Agency			
Name of Facility	Regional Water Recycling Plant No. 1 (RP-1)	Regional Water Recycling Plant No. 4 (RP-4)	Regional Water Recycling Plant No. 5 (RP-5)	Carbon Canyon Water Reclamation Facility (CCWRF)
Facility Address	2450 East Philadelphia Street	12811 Sixth Street	6068 Kimball Ave, Building "C".	14950 Telephone Avenue
	Ontario, CA 91761	Rancho Cucamonga, CA 91729	Chino, CA 91708	Chino, CA 91710
	San Bernardino County			
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a major discharge.				

The discharge by Inland Empire Utilities Agency (IEUA) from the discharge points identified below is subject to waste discharge requirements as set forth in this Order:

Table 2. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Tertiary treated effluent from RP-1	N33°56'39"	W117°38'34"	Prado Park Lake, overflow from the lake to an unnamed creek, then to Reach 1A of Chino Creek, a tributary to Reach 3 of Santa Ana River in Prado Basin
002	Tertiary treated effluent from RP-1&RP-4	N34°01'31"	W117°33'56"	Reach 1 of Cucamonga Creek, then to Mill Creek, then to Reach 1A of Chino Creek, a tributary to Reach 3 of Santa Ana River in Prado Basin
003	Tertiary treated effluent from RP-5	N33°57'44"	W117°40'41"	Reach 1B of Chino Creek, a tributary to Reach 3 of Santa Ana River
004	Tertiary treated effluent from CCWRF	N33°58'56	W117°41'48"	Reach 2 of Chino Creek, a tributary to Reach 3 of Santa Ana River
005	Recycled water from RP-1	N34°01'29"	W117°35'57"	Use area overlying Chino North "Max Benefit" GMZ (or Chino 1, 2, and 3 "Antidegradation" GMZs – see Fact Sheet)
006	Recycled water from RP-4	N34°04'59"	W117°31'35"	
007	Recycled water from RP-5	N33°57'51"	W117°40'24"	
008	Recycled water from CCWRF	N33°58'47"	W117°41'37"	
S-001	Stormwater from RP-1	N34°01'36"	W117°35'59"	Stormwater runoff to Reach 1 of Cucamonga Creek
S-002	Stormwater from RP-1	N34°01'28"	W117°35'58"	Stormwater runoff to Reach 1 of Cucamonga Creek

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	July 20, 2009
This Order shall become effective on:	July 20, 2009
This Order shall expire on:	July 1, 2014
The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:	January 2, 2014

I, Gerard J. Thibeault, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Santa Ana Region, on July 20, 2009.

Gerard J. Thibeault, Executive Officer

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List of Attachments

I. FACILITY INFORMATION

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 4. Facility Information

Discharger/Operator	Inland Empire Utilities Agency			
Name of Facility (RWRF)	RP-1	RP-4	RP-5	CCWRF
Address	2450 East Philadelphia Street	12811 Sixth Street	6068 Kimball Avenue Building "C"	14950 Telephone Avenue
	Ontario, CA 91761	Rancho Cucamonga, CA 91729	Chino, CA 91708	Chino, CA 91710
	San Bernardino County			
Facility Contact, Title and Phone	Patrick O. Sheilds, Executive Manager of Operations, (909) 993-1806			
Authorized Person to Sign and Submit Reports	Patrick O. Sheilds, Executive Manager of Operations, (909) 993-1806			
Address	6075 Kimball Avenue, Chino, CA 91708			
Mailing/Billing Address	P.O. Box 9020, Chino Hills, CA 91709			
Type of Facility	POTW			
Facilities Permitted Flow	84.4 million gallons per day (mgd)			
Facility Design Flow	44 mgd	14 mgd	15 mgd (and 1.3 mgd RP-2 sludge treatment system wastewater flows)	11.4 mgd

II. FINDINGS

The California Regional Water Quality Control Board, Santa Ana Region (hereinafter Regional Water Board), finds:

A. Background. The Inland Empire Utilities Agency (hereinafter Discharger, or IEUA) owns and operates a regional wastewater collection system and four regional water recycling facilities (hereinafter, Facilities), including Regional Water Recycling Plants Nos. 1, 4, and 5 and the Carbon Canyon Water Reclamation Facility (CCWRF). The Discharger is currently discharging from these Facilities pursuant to the following waste discharge and producer/user water reclamation requirements:

1. Order No. R8-2006-0010, National Pollutant Discharge Elimination System (NPDES) Permit No. CA0105279, as amended by Orders No. R8-2007-0045 and No. R8-2007-0078, for treated wastewater discharges from Regional Water Recycling Plant No. 1 (RP-1) and Regional Water Recycling Plant No. 4 (RP-4);

2. Order No. R8-2008-0028, NPDES No. CA8000402 for treated wastewater discharges from Regional Water Recycling Plant No. 5 (RP-5); and

3. Order No. R8-2004-0020, NPDES No. CA8000073, as amended by Orders No. R8-2006-0038 and No. R8-2007-0078, for treated wastewater discharges from Carbon Canyon Water Reclamation Facility (CCWRF).

The Discharger submitted a Report of Waste Discharge (ROWD), dated January 27, 2009, and applied for a NPDES permit to consolidate the three waste discharge and producer/user water reclamation requirements identified above into one permit to regulate a total discharge of up to 84.4 million gallons per day (mgd) of tertiary treated wastewater from RP-1, RP-4, RP-5, and CCWRF.

For the purposes of this Order, references to the “discharger” or “permittee” in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

B. Facility Description. IEUA owns and operates a regional wastewater collection system and four water recycling plants. Wastewater can be diverted to different plants via available routing options built into the regional system (see Figure 1 of Attachment C for further detail). After treatment, effluent/recycled water can be discharged to nearby outfall(s) or it can be recycled for industrial uses, irrigation and groundwater recharge. The wastewater treatment systems consist of primary, secondary, and tertiary treatment. Treated wastewater is discharged from various discharge points either to Prado Park Lake, Reach 1 of Cucamonga Creek, or Chino Creek. The lake and the creeks are tributaries to Reach 3 of the Santa Ana River within the Prado Basin Management Zone. Recycled water is used in areas overlying the Chino North “Maximum Benefit” Groundwater Management Zone (GMZ) (or Chino 1, 2, and 3 “Antidegradation” GMZs). Groundwater recharge of recycled water is regulated under separate waste discharge requirements. Attachment B provides maps of the area

around these Facilities. Attachment C provides flow schematics at each Facility, the IEUA System-Wide influent flow interrelationship diagram, and a schematic of the IEUA System-Wide Water Recycling Distribution System.

C. Legal Authorities. This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this Facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, Division 7 of the Water Code (commencing with section 13260).

D. Background and Rationale for Requirements. The Regional Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through E and G through K are also incorporated into this Order.

E. California Environmental Quality Act (CEQA). Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code section 21000 et seq. (*County of Los Angeles v. California State Water Resources Control Board* (2006) 143 Cal.App.4th 985, mod. (Nov. 6, 2006, B184034) 50 Cal.Rptr.3d 619, 632-636). This action also involves the re-issuance of waste discharge requirements for an existing facility that discharges treated wastewater to land and as such, is exempt from the provisions of California Environmental Quality Act (commencing with Section 21100) in that the activity is exempt pursuant to Title 14 of the California Code of Regulations Section 15301.

F. Technology-based Effluent Limitations. Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations[1], require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at Part 133 and/or Best Professional Judgment (BPJ) in accordance with Part 125, section 125.3. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).

[1] *All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.*

G. Water Quality-Based Effluent Limitations. Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. This Order contains requirements, expressed as a technology equivalence requirement, more stringent than secondary treatment requirements. These requirements are necessary to meet applicable water quality standards.

The rationale for these requirements, which consist of tertiary or equivalent treatment requirements and other provisions, is discussed in the Fact Sheet.

Section 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

H. Water Quality Control Plans. The Regional Water Board adopted a revised Water Quality Control Plan for the Santa Ana Region (hereinafter Basin Plan) that became effective on January 24, 1995. The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters in the Santa Ana Region addressed through the plan. More recently, the Basin Plan was amended significantly to incorporate revised boundaries for groundwater subbasins, now termed "management zones", new nitrate-nitrogen and TDS objectives for the new management zones, and new nitrogen and TDS management strategies applicable to both surface and ground waters.

This Basin Plan Amendment was adopted by the Regional Water Board on January 22, 2004. The State Water Resources Control Board (State Water Board) and Office of Administrative Law (OAL) approved the Amendment on September 30, 2004 and December 23, 2004, respectively. EPA approved the surface water standards components of the N/TDS Amendment on June 20, 2007.

In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which established State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Based on the criteria specified in the State Water Board Resolution, the Basin Plan specifies that Reaches 1A, 1B, and 2 of Chino Creek, Reach 1 of Cucamonga Creek and Reach 5 of the Santa Ana River, beginning at the intersection of Orange Avenue in the City of Redlands, and downstream reaches are excepted from the municipal and domestic supply beneficial use.

As discussed in detail in the Fact Sheet (Attachment F), beneficial uses applicable to the Prado Basin Management Zone, Reach 1 of Cucamonga Creek, Reaches 1A, 1B, and 2 of Chino Creek, and Reach 3 of the Santa Ana River are as follows:

Table 5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
001	Prado Park Lake overflow from the lake to an unnamed creek, then to Reach 1A of Chino Creek	Present or Potential: Water contact recreation (REC-1), non-contact water recreation (REC-2), warm freshwater habitat, wildlife habitat (WILD), and rare, threatened and endangered species. Recreational use at Prado Park Lake is restricted to fishing and boating. Excepted from Municipal and Domestic Supply.
002	Reach 1 of Cucamonga Creek, then to Mill Creek, thence to Reach 1A of Chino Creek	Present or Potential: Groundwater Recharge, Water contact recreation (REC-1), non-contact water recreation (REC-2), Limited warm freshwater habitat, and wildlife habitat (WILD). Excepted from Municipal and Domestic Supply.
003	Reach 1B of Chino Creek	Present or Potential: Water contact recreation (REC-1), non-contact water recreation (REC-2), warm freshwater habitat, wildlife habitat (WILD), and rare, threatened and endangered species. Excepted from Municipal and Domestic Supply.
004	Reach 2 of Chino Creek	Present or Potential: Groundwater Recharge, Water contact recreation (REC-1), non-contact water recreation (REC-2), Cold freshwater habitat, and wildlife habitat (WILD). Excepted from Municipal and Domestic Supply.
001, 002, 003, 004, S-001, & S-002	Reach 3 of Santa Ana River within Prado Basin Area	Present or Potential: Agricultural supply, groundwater recharge, water contact recreation, non-contact water recreation, warm freshwater habitat, wildlife habitat, and rare, threatened or endangered species. Excepted from Municipal and Domestic Supply.
001, 002, 003, 004, 005, 006, 007, 008, S-001, & S-002	Chino North “Max Benefit” GMZ/Chino 1, 2 and 3 “antidegradation” GMZs	Present or Potential: Municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.
	Orange GMZ (affected GMZ downstream of discharge points)	Present or Potential: Municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.

Requirements of this Order implement the Basin Plan.

I. National Toxics Rule (NTR) and California Toxics Rule (CTR). USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.

J. Compliance Schedules and Interim Requirements – Not Applicable

K. State Implementation Policy. On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

L. Alaska Rule. On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes. (40 C.F.R. section 131.21; 65 Fed. Reg. 24641 (April 27, 2000).) Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000 may be used for CWA purposes, whether or not approved by USEPA.

M. Stringency of Requirements for Individual Pollutants. This Order contains both technology-based and water quality based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD_5 and Suspended Solids. Restrictions on the same pollutants are discussed in Section IV.B.2. of Attachment F. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, this Order contains effluent limitations more stringent than the minimum, federal technology-based requirements that are necessary to meet water quality standards. These limitations are not more stringent than required by the CWA.

Water quality-based effluent limitations have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to section 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations for priority pollutants are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. With the exception of certain surface water standards changes adopted as part of the Nitrogen/TDS Basin Plan Amendment (see Section H, above), all beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to section 131.21(c)(1). The surface water standards changes adopted as part of the Nitrogen/TDS Basin Plan Amendment were approved by USEPA on June 20, 2007.

N. Antidegradation Policy. Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. As discussed in the Fact Sheet, discharges in accordance with the terms and conditions of this Order will not result in a lowering of water quality. Therefore, the permitted discharges are consistent with the antidegradation provisions of section 131.12 and State Water Board Resolution No. 68-16.

O. Anti-Backsliding Requirements. Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit. With the exception of the average monthly limitation for free cyanide, all effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Orders and are consistent with the anti-backsliding requirements of the CWA and federal regulations.

P. Endangered Species Act. This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

Q. Monitoring and Reporting. Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment E.

R. Pretreatment: The Discharger has established an approved regional pretreatment program. The approved pretreatment program and its components, such as Ordinance No.97-OR5, local limits (adopted by the Discharger in 2000), and control mechanisms, among others, are hereby made an enforceable condition of this Order.

S. Biosolids Requirements. On February 19, 1993, the USEPA issued a final rule for the use and disposal of sewage sludge, 40 CFR, Part 503. This rule requires that producers of sewage sludge meet certain reporting, handling, and disposal requirements. The State of California has not been delegated the authority to implement this program, therefore, the U.S. Environmental Protection Agency is the implementing agency. However, this Order includes Regional Water Board biosolids requirements.

T. State General Waste Discharge Requirements for Sanitary Sewer Systems. The State Water Board issued General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003 on May 2, 2006, requiring public agencies that own sanitary sewer systems comprised of more than one mile of pipes or sewer lines, to enroll for coverage under the General Order. The General Order requires agencies to develop sanitary sewer management plans (SSMPs) and report all sanitary sewer overflows (SSOs).

This Order requires the Discharger and other governmental agencies[2] to obtain enrollment for regulation under the General Water Quality Order No. 2006-0003. The Discharger has already enrolled.

[2] *Member agencies and sewering agencies discharging wastewater into the Facility.*

U. Standard and Special Provisions. Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. The rationale for the special provisions contained in this Order is provided in the attached Fact Sheet.

V. Provisions and Requirements Implementing State Law. The provisions/requirements in subsections IV.B, IV.C, V.B, and VI.C. of this Order are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

W. Notification of Interested Parties. The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet of this Order.

X. Consideration of Public Comment. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet of this Order.

IT IS HEREBY ORDERED, that this Order supersedes Order No. R8-2006-0010 as amended by Orders No. R8-2007-0045 and No. R8-2007-0078; Order No. R8-2008-0028, and Order No. R8-2004-0020 as amended by Order Nos. R8-2006-0038, and R8-2007-0078, except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

III. DISCHARGE PROHIBITIONS

A. The direct discharge of secondary treated wastewater to Chino Creek and Reach 1 of Cucamonga Creek other than when the flow[3] in the creeks results in a dilution of 20:1 or more at the point of discharge is prohibited.

B. Discharge of wastewater at a location or in a manner different from those described in this Order is prohibited.

C. The bypass or overflow of untreated wastewater or wastes to surface waters or surface water drainage courses is prohibited, except as allowed in Standard Provision I.G. of Attachment D, Federal Standard Provisions.

D. The discharge of any substances in concentrations toxic to animal or plant life is prohibited.

E. The discharge of any radiological, chemical, or biological warfare agent or high level radiological waste is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations –Discharge Points (DP) 001, 002, 003, and 004

Unless otherwise specifically specified hereinafter, compliance with the following effluent limitations is measured at monitoring locations M-001, M-002, M-003 and M-004 as described in the attached MRP (Attachment E).

1. Final Effluent Limitations for discharges under conditions <u>without</u> 20:1 dilution in the receiving water – DPs 001, 002, 003 and 004

a. The Discharge shall maintain compliance with the following effluent limitations at:

(1) DPs 001, 002, 003 and 004 with compliance measured at Monitoring Locations M-001A & B, M-002A & B, M-003 and M-004, respectively, as described in the attached MRP:

Table 6. Effluent Limitations at DP 001 through DP 004

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	20	30	--	--	--
Total Suspended Solids	mg/L	20	30	--	--	--
Ammonia-Nitrogen	mg/L	4.5	--	--	--	--
Total Chlorine Residual[3]	mg/L					0.1

(2) DPs 001 and 002 with compliance measured at Monitoring Locations M-001B and M-002A, respectively, as described in the attached MRP:

[3] *See Section VII.M. – Compliance Determination.*

Table 7. Effluent Limitations Applicable at DP 001 and DP 002 only

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
Free Cyanide	µg/L	4.2	--	8.5
Bis(2-ethylhexyl) Phthalate	µg/L	5.9		11.9
Selenium	µg/L	4.1		8.2

(3) DP 003 with compliance measured at Monitoring Location M-003, as described in the attached MRP:

Table 8. Effluent Limitations Applicable at DP 003 only

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
Free Cyanide	µg/L	4.6	--	7.3
Bromodichloromethane	µg/L	46	--	92

(4) DP 004 with compliance measured at Monitoring Location M-004, as described in the attached MRP:

Table 9. Effluent Limitations Applicable at DP 004 only

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
Free Cyanide	µg/L	4.3	--	8.5
Bis(2-ethylhexyl) Phthalate	µg/L	5.9	--	11.9

b. **Percent Removal:** The average monthly percent removal of BOD 5-day 20°C and total suspended solids shall not be less than 85 percent. (See Compliance Determination Section VII.N.)

c. **TDS Limitations** - The lower of the two total dissolved solids (TDS) limits specified in (1) or (2), below, is the limit.

(1) The 12-month flow weighted running average TDS constituent concentration and mass emission rates shall not exceed 550 mg/L and 366,960 lbs/day[4], respectively. This limitation may be met on an agency-wide basis using flow weighted averages of the discharges from the Discharger's RP-1, RP-4, RP-5 and CCWRF, or

(2) The 12-month flow weighted running average TDS concentration shall not exceed the 12-month flow weighted running average TDS concentration in the water supply by more than 250 mg/L[5]. This limitation may be met on an agency-wide basis using flow weighted averages of the water supplied to the Discharger's RP-1, RP-4, RP-5 and CCWRF service areas.

d. The 12-month flow weighted running average Total Inorganic Nitrogen (TIN) concentration and mass emission rates shall not exceed 8 mg/L and 5,338 lbs/day[6], respectively. This limitation may be met on an agency-wide basis using flow weighted averages of the discharges from the Discharger's RP-1, RP-4, RP-5 and CCWRF.

e. The discharge shall at all times be adequately oxidized, filtered, and disinfected treated wastewater and shall meet the following limitations.

(1) The turbidity of the filtered wastewater shall not exceed any of the following:

(a) Average of 2 Nephelometric Turbidity Unit (NTU) within any 24-hour period;

(b) 5 NTU more than 5 percent of the time in any 24-hour period; and

(c) 10 NTU at any time.

(2) The disinfected effluent shall meet the following:

(a) When chlorine disinfection process is utilized following filtration, a CT (the product of total chlorine residual and modal contact time measured at the same point) value of not less than 450 milligram-minutes per liter at all times with a modal contact time of at least 90 minutes[7], based on peak dry weather design flow[8;] shall be provided[9].

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4 *Based on wasteload allocation volume of 80 mgd and concentration of 550 mg/L.*

5 *See Section VII.L. - Compliance Determination.*

6 *Based on wasteload allocation volume of 80 mgd and concentration of 8 mg/L.*

7 *The modal contact time requirement is applicable only to the use of recycled water and not to surface water discharges, provided the receiving water provides a 1:1 dilution. The receiving water considered here shall exclude upstream POTW effluent flow.*

8 *"Peak Dry Weather Flow" means the arithmetic mean of the maximum peak flow rates sustained over some period of time (for example three hours) during the maximum 24-hour dry weather period. Dry weather period is defined as period of little or no rainfall.*

(b) When a disinfection process combined with the filtration process is utilized, the combined process shall demonstrate[10] inactivation and/or removal of 99.999 percent of the plaque-forming units of F-specific bacteriophage MS-2[11], or polio virus in the wastewater. A virus that is at least as resistant to disinfection as polio virus may be used for purposes of the demonstration.

(c) The weekly average concentration of total coliform bacteria shall not exceed a Most Probable Number (MPN) of 2.2 total coliform bacteria per 100 milliliters (ml). (see Compliance Determination VII.J.1., below)

(d) The number of total coliform bacteria shall not exceed an MPN of 23 total coliform bacteria per 100 ml in more than one sample in any 30-day period.

(e) No total coliform bacteria sample shall exceed an MPN of 240 total coliform bacteria per 100 ml.

f. There shall be no visible oil and grease in the discharge.

g. The pH of the discharge shall be within 6.5 to 8.5 pH[12].

h. Wastewater discharged at DP 001 shall be limited to treated and disinfected effluent that meets the conditions in Section IV.A.1.

i. Wastewater discharged at DP 002 through DP 004 shall be limited to treated and disinfected effluent that meets the conditions in Section IV.A.1., except for discharges of treated wastewater that meets the conditions specified in Section IV.A.4., when the flow[13] in Reaches 1B or 2 of Chino Creek or Reach 1 of Cucamonga Creek results in a dilution of 20:1 or more at the point of discharge.

2. Interim Effluent Limitations – Not Applicable

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9 *Modal contact time and CT shall be calculated based on the minimum one-hour average value in a 24-hr period.*

10 *Meeting the discharge limits in A.1.e.(2).(c),(d), and (e) shall constitute the demonstration required by this sub-paragraph.*

11 *F-Specific bacteriophage MS-2 means a strain of a specific type of virus that infects coliform bacteria that is traceable to the American Type Culture Collection (ATCC) 15597B1) and is grown on lawns of E. coli (ATCC 15597).*

12 *See Section VII.K. Compliance Determination.*

13 *Exclusive of discharges to surface waters from upstream publicly owned treatment works.*

3. Toxicity Requirements/Discharge Specifications

a. There shall be no acute or chronic toxicity in the plant effluent nor shall the plant effluent cause any acute or chronic toxicity in the receiving water. All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in human, plant, animal, or indigenous aquatic life. This Order contains no numeric limitation for toxicity. However, the Discharger shall conduct chronic toxicity monitoring.

b. The Discharger shall implement the accelerated monitoring as specified in Attachment E when the result of any single chronic toxicity test of the effluent exceeds 1.0 TUc.

4. Effluent Limitations at DPs 002, 003, and 004, Under Conditions <u>with</u> 20:1 or More Dilution

The discharge of treated and disinfected effluent when the creek flow[14] at monitoring locations R-002U, R-003U, and/or R-004U results in a dilution of 20:1 (receiving water flow : wastewater flow) or more shall maintain compliance with the following effluent limitations at DPs 002, 003, and/or 004 with compliance measured at Monitoring Locations M002, M003 and M-004, respectively, as described in the attached MRP.

a. Numeric Effluent Limitations

Table 10. Effluent Limitations Under 20:1 Dilution

Parameter	Units	Effluent Limitations			
		Average Monthly	Average Weekly	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	30	45	- -	- -
Total Suspended Solids	mg/L	30	45	- -	- -
Total Residual Chlorine	mg/L	-	-	-	2.1

b. Treated wastewater shall at all times be adequately oxidized and disinfected wastewater and shall meet the following limitations:

(1) The weekly average number of coliform bacteria does not exceed a median of 23 per 100 milliliters as determined from the daily coliform bacteria values for the last seven (7) days. (see also Compliance Determination VII.J.2., below)

[14] *Exclusive of discharges to surface waters from upstream publicly owned treatment works.*

(2) The discharge shall be considered adequately oxidized if the 5-day @ 20°C Biochemical Oxygen Demand and Total Suspended Solids constituent concentrations of the discharge are less than or equal to the limitations shown in IV.A.4.a., above.

c. The monthly average biochemical oxygen demand and suspended solids concentrations of the discharge shall not be greater than fifteen percent (15%) of the monthly average influent concentration.

d. The pH of the discharge shall be within 6.5 to 8.5 pH[15].

B. Land Discharge Specifications – Not Applicable

C. Reclamation Specifications – DP 005 through DP 008

1. Upon the effective date of this Order, the use of recycled water for parks, landscape irrigation, and/or other similar uses shall maintain compliance with the following effluent limitations at DP 005 through DP 008 with compliance measured at monitoring locations REC-001 through REC-004, respectively, and where representative samples of recycled water can be obtained for laboratory testing and analysis as described in the attached Monitoring and Reporting Program (Attachment E). The Discharger shall submit for approval by the Executive Officer a list of other monitoring location(s) not specified herein where representative samples of recycled water could be obtained for laboratory testing and analysis.

   a. Physical/Biological Limitations:

Table 11. Recycled Water Effluent Limitations

Parameter	Units	Effluent Limitations	
		Average Monthly	Average Weekly
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	20	30
Total Suspended Solids	mg/L	20	30

   b. TDS Limitations: The following TDS limitations apply to recycled water uses, except groundwater recharge, that would affect underlying local Groundwater Management Zone(s). These limitations may be met on an agency-wide basis using flow-weighted averages of the discharges from the Discharger's RP-1, RP-4, RP-5 and CCWRF.

[15] *See Section VII.K. Compliance Determination*

(1) If maximum benefit is demonstrated (see Provisions VI.C.6.), the 12-month flow weighted running average total dissolved solids concentration shall not exceed 550 mg/L.

(2) If maximum benefit is not demonstrated (see Provisions VI.C.6.), the 12-month flow weighted running average total dissolved solids concentration shall not exceed the following:

Table 12. Recycled Water Effluent TDS Limitations

Groundwater Management Zone	TDS limit, mg/L
Chino 1	280
Chino 2	250
Chino 3	260

c. Recycled water described in Section 60307(a) of Division 4, Chapter 3, Title 22, California Code of Regulations and for irrigation of food crops, parks and playground, school yards, residential landscaping and other irrigation uses not specified in Section 60304(a) of Division 4, Chapter 3, Title 22, California Code of Regulations or not prohibited in other Sections of the California Code of Regulations shall at all times be adequately oxidized, filtered, and disinfected tertiary treated wastewater and shall meet the following limitations:

(1) The turbidity of the filter effluent when filtration is through natural undisturbed soils or a bed of filter media shall not exceed any of the following:

(a) Average of 2 Nephelometric Turbidity Units (NTU) within any 24-hour period;
(b) 5 NTU more than 5 percent of the time in any 24-hour period; and
(c) 10 NTU at any time.

(2) The disinfected effluent shall meet the following:

(a) The weekly average total coliform bacteria[16] shall not exceed a Most Probable Number (MPN) of 2.2 total coliform bacteria per 100 milliliters (ml).
(b) The number of total coliform organism shall not exceed an MPN of 23 total coliform bacteria per 100 ml in more than one sample in any 30-day period.
(c) No total coliform sample shall exceed an MPN of 240 total coliform bacteria per 100 ml.

[16] *See Compliance Determination Section VII.J.1.*

(d) A chlorine disinfection process following filtration that provides a CT (the product of total chlorine residual and modal contact time[17] measured at the same point) value of not less than 450 milligram-minutes per liter at all times with a modal contact time of at least 90 minutes, based on peak dry weather design flow.

d. Recycled water used for irrigation of food crops where the edible portion is produced above ground and not contacted by the recycled water shall at all times be adequately oxidized and disinfected so that average weekly total coliform bacteria in the disinfected effluent does not exceed a most probable number (MPN) of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed, and the number of total coliform bacteria does not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30-day period.

e. Recycled water used for the uses listed below shall be an oxidized and disinfected water so that the average weekly total coliform bacteria[18] in the disinfected effluent does not exceed a most probable number (MPN) of 23 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed, and the number of total coliform bacteria does not exceed an MPN of 240 per 100 milliliters in more than one sample in any 30 day period.

(1) Industrial boiler feed, nonstructural fire fighting, backfill consolidation around nonpotable piping, soil compaction, mixing concrete, dust control on roads and streets, cleaning roads, sidewalks and outdoor work areas and industrial process water that will not come into contact with workers.
(2) Irrigation of cemeteries, freeway landscaping, restricted access golf courses, ornamental nursery stock and sod farms where access by the general public is not restricted, pasture for animals producing milk for human consumption, and any nonedible vegetation where access is controlled so that irrigated area cannot be used as if it were part of a park, playground or school yard.

f. For recycled water uses specified in Sections 60304 and 60307 of Title 22 where filtration is provided pursuant Section 60301.320(a) and coagulation is not used as part of the treatment process, the Discharger shall comply with the following:

(1) The turbidity of the influent to the filters is continuously measured and the influent turbidity does not exceed 5 NTU for more than 15 minutes and never exceeds 10 NTU;
(2) The filtered wastewater turbidity shall not exceed 2 NTU within any 24-hour period; and;

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[17] *Modal contact time and CT shall be calculated daily based on the minimum one-hour average value in a 24-hour period.*

[18] *See Compliance Determination Section VII.J.2.*

(3) Should the filter influent turbidity exceed 5 NTU for more than 15 minutes, chemical addition shall be automatically activated if available, if not, the wastewater shall be diverted.

2. For new reuse sites, the use of recycled water shall only commence after the California Department of Public Health (CDPH) grants final approval for such use. The Discharger shall provide the Regional Water Board with a copy of the CDPH approval letter within 30 days of the approval notice.

3. The Discharger shall be responsible for assuring that recycled water is delivered and utilized in conformance with this Order, the recycling criteria contained in Title 22, Division 4, Chapter 3, Sections 60301 through 60355, California Code of Regulations. The Discharger shall conduct periodic inspections of the facilities of the recycled water users to monitor compliance by the users with this Order.

4. The Discharger shall establish and enforce Rules and Regulations for Recycled Water users, governing the design and construction of recycled water use facilities and the use of recycled water in accordance with the uniform statewide recycling criteria established pursuant to the California Water Code Section 13521.

   a. Use of recycled water by the Discharger shall be consistent with its Rules and Regulations for Recycled Water Use.

   b. Any revisions made to the Rules and Regulations shall be subject to the review of the Regional Water Board, the California Department of Public Health, and the County Environmental Health Department. The revised Rules and Regulations or a letter certifying that the Discharger's Rules and Regulations contain the updated provisions in this Order, shall be submitted to the Regional Water Board within 60 days of adoption of this Order by the Regional Water Board.

5. The Discharger shall, within 60 days of the adoption of this Order, review and update as necessary its program to conduct compliance inspections of recycled water reuse sites. Inspections shall determine the status of compliance with the Discharger's Rules and Regulations for Recycled Water Use.

6. The storage, delivery, or use of recycled water shall not individually or collectively, directly or indirectly, result in a pollution or nuisance, or adversely affect water quality, as defined in the California Water Code.

7. Prior to delivering recycled water to any new user, the Discharger shall submit to the California Department of Public Health and the County Environmental Health Department a report containing the following information for review and approval:

   a. The average number of persons estimated to be served at each use site area on a daily basis.

b. The specific boundaries of the proposed use site area including a map showing the location of each facility, drinking water fountain, and impoundment to be used.

c. The person or persons responsible for operation of the recycled water system at each use area.

d. The specific use to be made of the recycled water at each use area.

e. The methods to be used to assure that the installation and operation of the recycled system will not result in cross connections between the recycled water and potable water piping systems. This shall include a description of the pressure, dye or other test methods to be used to test the system.

f. Plans and specifications which include following:
(1) Proposed piping system to be used.
(2) Pipe locations of both the recycled and potable systems.
(3) Type and location of the outlets and plumbing fixtures that will be accessible to the public.
(4) The methods and devices to be used to prevent backflow of recycled water into the potable water system.
(5) Plan notes relating to specific installation and use requirements.

8. The Discharger shall require the user(s) to designate an on-site supervisor responsible for the operation of the recycled water distribution system within the recycled water use area. The supervisor shall be responsible for enforcing this Order, prevention of potential hazards, the installation, operation and maintenance of the distribution system, maintenance of the distribution and irrigation system plans in "as-built" form, and for the distribution of the recycled wastewater in accordance with this Order.

9. Recycled water shall at all times be maintained within the property lines of any user. There shall be no direct or indirect discharge of recycled water into drainage systems that could affect surface water quality standards.

D. Stormwater Discharge Specifications – S-001 and S-002

1. Storm water[19] discharges shall maintain compliance with the following effluent limitations at S-001 and S-002 with compliance measured at monitoring locations STORM-001 and STORM-002 and shall not:

a. Cause or contribute to a violation of any applicable water quality standards contained in the Basin Plan or in the State or Federal regulations.

b. Cause or threaten to cause pollution, contamination, or nuisance.

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19 *Storm water means storm water runoff and surface runoff and drainage.*

c. Contain a hazardous substance equal to or in excess of a reportable quantity listed in 40 CFR Part 117 and/or 40 CFR Part 302.

d. Adversely impact human health or the environment.

e. Result in noncompliance with the lawful requirements of municipalities, counties, drainage districts, and other local agencies on storm water discharges into storm drain systems or other courses under their jurisdiction.

2. Stormwater discharges from this Facility shall comply with the Stormwater Requirements in Attachment J and K.

3. The Discharger must update and implement the Storm Water Pollution Prevention Plan for the Facility in accordance with Attachment J of this Order.

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

1. Receiving water limitations are based upon water quality objectives contained in the Basin Plan. As such, they are a required part of this Order. The discharge shall not cause the following in Prado Park Lake, Reach 1 of Cucamonga Creek, Reaches 1A, 1B and 2 of Chino Creek or Reach 3 of the Santa Ana River and downstream reaches:

   a. Coloration of the receiving waters, which causes a nuisance or adversely affects beneficial uses.

   b. Deposition of oil, grease, wax or other materials in the receiving waters in concentrations which result in a visible film or in coating objects in the water, or which cause a nuisance or affect beneficial uses.

   c. An increase in the amounts of suspended or settleable solids in the receiving waters, which will cause a nuisance or adversely affect beneficial uses as a result of controllable water quality factors.

   d. Taste or odor-producing substances in the receiving waters at concentrations, which cause a nuisance or adversely affect beneficial uses.

   e. The presence of radioactive materials in the receiving waters in concentrations, which are deleterious to human, plant or animal life.

   f. The depletion of the dissolved oxygen concentration below 5.0 mg/L.

   g. The temperature of the receiving waters to be raised above 90°F (32°C) during the period of June through October, or above 78°F (26°C) during the rest of the year.

h. The concentration of pollutants in the water column, sediments, or biota to adversely affect the beneficial uses of the receiving water. The discharge shall not result in the degradation of inland surface water communities and populations, including vertebrate, invertebrate, and plant species.

2. The discharge of wastes shall not cause a violation of any applicable water quality standards for receiving waters adopted by the Regional Water Board or State Water Board, as required by the Clean Water Act and regulations adopted thereunder.

3. Pollutants not specifically mentioned and limited in this Order shall not be discharged at levels that will bioaccumulate in aquatic resources to levels, which are harmful to human health or animal life.

4. The discharge shall not contain constituent concentrations of mercury that will result in the bioaccumulation of methylmercury in fish flesh tissue greater than 0.3 milligram methylmercury/kilogram. (See also Section VI.C.1.e. and VI.C.2.a., below).

B. Groundwater Limitations

The use of recycled water shall not cause the underlying groundwater to be degraded, to exceed water quality objectives, unreasonably affect beneficial uses, or cause a condition of pollution or nuisance.

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.

2. The Discharger shall comply with the following provisions:

   a. Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from this Facility, may subject the Discharger to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Discharger to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.

b. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, discharge limitations (e.g., maximum daily effluent limitation), or receiving water limitation of this Order, the Discharger shall notify the Regional Water Board by telephone (951) 782-4130 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Regional Water Board waives confirmation. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures being taken to remedy the current noncompliance and, prevent recurrence including, where applicable, a schedule of implementation. Other noncompliance requires written notification as above at the time of the normal monitoring report.

c. Neither the treatment nor the discharge of pollutants shall create a pollution, contamination, or nuisance as defined by Section 13050 of the CWC.

d. The Discharger shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this Order, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the noncomplying discharge.

e. This Order may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:

(1) Violation of any terms or conditions of this Order;
(2) Obtaining this Order by misrepresentation or failure to disclose fully all relevant facts, or;
(3) In addition to any other grounds specified herein, this Order may be modified or revoked at any time if, on the basis of any data, the Regional Water Board determines that continued discharges may cause unreasonable degradation of the aquatic environment.

f. If an effluent standard or discharge prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307 (a) of the Clean Water Act for a toxic pollutant which is present in the discharge, and such standard or prohibition is more stringent than any limitation for that pollutant in this Order, this Order may be modified or revoked and reissued to conform to the effluent standard or discharge prohibition.

g. The Discharger shall file with the Regional Water Board a Report of Waste Discharge at least 180 days before making any material change in the character, location, or volume of the discharge. A material change includes, but is not limited to, the following:

(1) Adding a major industrial waste discharge to a discharge of essentially domestic sewage, or adding a new process or product by an industrial facility resulting in a change in the character of the waste.
(2) Significantly changing the disposal method or location, such as changing the disposal to another drainage area or water body.
(3) Significantly changing the method of treatment.
(4) Increasing the treatment plant design capacity beyond that specified in this Order.

h. The provisions of this Order are severable, and if any provision of this Order, or the application of any provision of this Order to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Order, shall not be affected thereby.

i. The Discharger shall maintain a copy of this Order at the site so that it is available to site operating personnel at all times. Key operating personnel shall be familiar with its content.

j. The Discharger shall optimize chemical additions needed in the treatment process to meet waste discharge requirements so as to minimize total dissolved solid increases in the treated wastewater.

k. Collected screenings, sludge, and other solids removed from liquid wastes shall be disposed of in a manner approved by the Regional Water Board's Executive Officer.

l. The Discharger has demonstrated a correlation between the biological oxygen demand (BOD_5) and total organic carbon (TOC) concentrations in the effluent to the satisfaction of the Executive Officer. Therefore, compliance with the BOD_5 limits and monitoring requirements contained in this Order may be determined based on analyses of the TOC of the effluent.

m. In the event of any change in control or ownership of land or waste discharge facility presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be forwarded to the Regional Water Board.

n. The treatment facilities shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.

B. Monitoring and Reporting Program (MRP) Requirements

The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E of this Order. This monitoring and reporting program may be modified by the Executive Officer at any time during the term of this Order, and may include an increase in the number of parameters to be monitored, the frequency of the monitoring or the number and size of samples to be collected. Any increase in the number of parameters to be monitored, the frequency of the monitoring or the number and size of samples to be collected may be reduced back to the levels specified in the original monitoring and reporting program at the discretion of the Executive Officer.

C. Special Provisions

1. Reopener Provisions

a. This Order will be reopened to address any changes in State or federal plans, policies or regulations that would affect the quality requirements for the discharges.

b. This Order may be reopened to include effluent limitations for pollutants determined to be present in the discharge in concentrations that pose a reasonable potential to cause or contribute to violations of water quality standards.

c. This Order may be reopened and modified in accordance with the requirements set forth at 40 CFR 122 and 124, to include the appropriate conditions or limits to address demonstrated effluent toxicity based on newly available information, or to implement any EPA-approved new State water quality standards applicable to effluent toxicity.

d. This Order may be reopened for modification, or revocation and reissuance, as a result of the detection of a reportable priority pollutant generated by special conditions included in this Order. These special conditions may be, but are not limited to, fish tissue sampling, whole effluent toxicity, monitoring requirements on internal waste stream(s), and monitoring for surrogate parameters. Additional requirements may be included in this Order as a result of the special condition monitoring data.

e. This Order may be reopened to include an appropriate bioaccumulation based effluent limit for mercury if test results (as required in Attachment E of this Order) show that the concentration levels of methylmercury in the fish tissue are at or above 0.3 milligrams per kilogram.

f. This Order may be reopened to incorporate appropriate biosolids requirements if the State Water Resources Control Board and the Regional Water Quality Control Board are given the authority to implement regulations contained in 40 CFR 503.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. By September 1, 2009, the Discharger shall notify the Executive Officer of its continuous involvement with the comprehensive mercury investigation program currently being conducted by a group of Santa Ana River system dischargers. If the Discharger discontinues its involvement with this comprehensive program, the Discharger shall, within 60 days of that date, submit for the approval of the Executive Officer its plan for the annual testing of mercury levels in fish flesh samples collected from the Santa Ana River, upstream of, at, and downstream of the point of the discharge point. Upon approval, the Discharger shall implement the plan.

b. Toxicity Reduction Requirements.

(1) The Discharger shall develop an Initial Investigation Toxicity Reduction Evaluation (IITRE) work plan that describes the steps the Discharger intends to follow if required by Toxicity Requirements b.(2), below. The work plan shall include at a minimum:

(a) A description of the investigation and evaluation techniques that will be used to identify potential causes/sources of the exceedance, effluent variability, and/or efficiency of the treatment system in removing toxic substances. This shall include a description of an accelerated chronic toxicity testing program.

(b) A description of the methods to be used for investigating and maximizing in-house treatment efficiency and good housekeeping practices.

(c) A description of the evaluation process to be used to determine if implementation of a more detailed TRE\TIE is necessary.

(2) The Discharger shall implement the IITRE work plan whenever the results of chronic toxicity tests of the effluent exceed:

(a) A two month median value of 1.0 TUc for survival or reproduction endpoint or,
(b) Any single test value of 1.7 TUc for survival endpoint.

(3) The Discharger shall develop a detailed Toxicity Reduction Evaluation and Toxicity Identification Evaluation (TRE/TIE) work plan that shall describe the steps the Discharger intends to follow if the implemented IITRE fails to identify the cause of, or to rectify, the toxicity.

(4) The Discharger shall use as guidance, at a minimum, EPA manuals EPA/600/2-88/070 (industrial), EPA/600/4-89-001A (municipal), EPA/600/6-91/005F (Phase I), EPA/600/R-92/080 (Phase II), and EPA-600/R-92/081 (Phase III) to identify the cause(s) of toxicity. If during the life of this Order the aforementioned EPA manuals are revised or updated, the revised/updated manuals may also be used as guidance. The detailed TRE/TIE work plan shall include:

(a) Further actions to investigate and identify the cause of toxicity;
(b) Actions the Discharger will take to mitigate the impact of the discharge and to prevent the recurrence of toxicity; and
(c) A schedule for these actions.

(5) The Discharger shall implement the TRE/TIE workplan if the IITRE fails to identify the cause of, or rectify, the toxicity, or if in the opinion of the Executive Officer the IITRE does not adequately address an identified toxicity problem.

(6) The Discharger shall assure that adequate resources are available to implement the required TRE/TIE.

3. Best Management Practices and Pollution Prevention

a. Pollutant Minimization Program

(1) The Discharger shall develop and conduct a Pollutant Minimization Program (PMP) as further described below when there is evidence (e.g., sample results reported as DNQ when the effluent limitation is less than the MDL, sample results from analytical methods more sensitive than those methods required by this Order, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling) that a priority pollutant is present in the effluent above an effluent limitation and either:

(a) A sample result is reported as DNQ and the effluent limitation is less than the RL; or
(b) A sample result is reported as ND and the effluent limitation is less than the MDL.

(2) The PMP shall include, but not be limited to, the following actions and submittals acceptable to the Regional Water Board:

(a) An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling;

(b) Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system;

(c) Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant(s) in the effluent at or below the effluent limitation;

(d) Implementation of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy; and

(e) An annual status report that shall be sent to the Regional Water Board including:

i. All PMP monitoring results for the previous year;
ii. A list of potential sources of the reportable priority pollutant(s);
iii. A summary of all actions undertaken pursuant to the control strategy; and
iv. A description of actions to be taken in the following year.

4. Construction, Operation and Maintenance Specifications

a. The Discharger's wastewater treatment plants shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to Title 23, Division 3, Chapter 14, California Code of Regulations.

b. The Discharger shall provide safeguards to assure that should there be reduction, loss, or failure of electric power, the Discharger will comply with the requirements of this Order.

c. The Discharger shall update as necessary, the "Operation and Maintenance Manual(s) (O&M Manual)" which it has developed for the treatment facilities to conform to latest plant changes and requirements. The O&M Manual(s) shall be readily available to operating personnel onsite. The O&M Manual(s) shall include the following:

(1) Description of the treatment plant table of organization showing the number of employees, duties and qualifications and plant attendance schedules (daily, weekends and holidays, part-time, etc). The description should include documentation that the personnel are knowledgeable and qualified to operate the treatment facility so as to achieve the required level of treatment at all times.
(2) Detailed description of safe and effective operation and maintenance of treatment processes, process control instrumentation and equipment.
(3) Description of laboratory and quality assurance procedures.
(4) Process and equipment inspection and maintenance schedules.
(5) Description of safeguards to assure that, should there be reduction, loss, or failure of electric power, the Discharger will be able to comply with requirements of this Order.
(6) Description of preventive (fail-safe) and contingency (response and cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. These plans shall identify the possible sources (such as loading and storage areas, power outage, waste treatment unit failure, process equipment failure, tank and piping failure) of accidental discharges, untreated or partially treated waste bypass, and polluted drainage.

5. Special Provisions for Municipal Facilities (POTWs Only)

a. Sewer Collection System Requirements: The Discharger's collection system is part of the system that is subject to this Order. As such, the Discharger must properly operate and maintain its collection system (40 C.F.R. § 122.41(e)). The Discharger must report any non-compliance (40 C.F.R. § 122.41(l)(6) and (7)) and mitigate any discharge from the collection system in violation of this Order (40 C.F.R. § 122.41(d)). See the Order at Standard Provision VI.A.2.b. and Attachment D, subsections I.D, V.E, V.H, and I.C.

Furthermore, the General Waste Discharge Requirements for Collection System Agencies (Order No. 2006-0003 DWQ) contains requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows. While the Discharger must comply with both Order No. 2006-0003 DWQ and this Order, the General Collection System WDR more clearly and specifically stipulates requirements for operation and maintenance and for reporting and mitigating sanitary sewer overflows. The Discharger and other governmental agencies that are discharging wastewater into the facility are required to obtain enrollment for regulation under Order No. 2006-0003-DWQ.

b. Sludge Disposal Requirements

(1) Collected screenings, sludge, and other solids removed from liquid wastes shall be disposed of in a manner that is consistent with State Water Board and Integrated Waste Management Board's joint regulations (Title 27) of the California Code of Regulations and approved by the Regional Water Board's Executive Officer.
(2) The use and disposal of biosolids shall comply with existing Federal and State laws and regulations, including permitting requirements and technical standards included in 40 CFR 503.
(3) Any proposed change in biosolids use or disposal practice from a previously approved practice should be reported to the Executive Officer and EPA Regional Administrator at least 90 days in advance of the change.
(4) The Discharger shall take all reasonable steps to minimize or prevent any discharge or biosolids use or disposal that has the potential of adversely affecting human health or the environment.

c. Pretreatment Program

(1) The Discharger shall update as necessary and implement an acceptable pretreatment program.

(2) The Discharger shall update as necessary the appropriate contractual agreements with all governmental agencies[20]. The contractual agreements shall give the Discharger the authority to implement and enforce the approved pretreatment program within the sewer service areas of the treatment Facility. The Discharger shall assure that any other steps necessary to provide this implementation and enforcement authority (e.g. adoption of ordinances, etc.) are taken by all governmental agencies. If a governmental agency has an EPA approved pretreatment program for any portion of the service area of the treatment facility, the Discharger's pretreatment program shall contain provisions ensuring that that governmental agency's program is implemented. In the event that any agency discharging to Discharger's facility fails to effectively implement its individual EPA approved pretreatment program, the Discharger shall implement and enforce its approved program within that agency's service area.

[20] *Member agencies and sewering agencies discharging wastewater into the Facility.*

(3) The Discharger shall ensure that the POTW[21] pretreatment program for all contributory agencies discharging to the Discharger's treatment facility are implemented and enforced. The Discharger shall be responsible and liable for the performance of all Control Authority pretreatment requirements contained in 40 CFR 403, including any subsequent regulatory revisions to Part 403. Where Part 403 or subsequent revisions place mandatory actions upon the Discharger as Control Authority but does not specify a timetable for completion of the actions, the Discharger shall submit for approval of the Regional Water Board's Executive Officer, a schedule for implementation of the required actions and shall implement the approved schedule. The schedule for implementation shall be submitted within six months from the date that such mandatory actions are established. For violations of pretreatment requirements, the Discharger shall be subject to enforcement actions, penalties, fines and other remedies by the EPA, or other appropriate parties, as provided in the CWA, as amended (33 USC 1351 et seq.). The EPA or the Regional Water Board may also initiate enforcement action against an industrial user (IU) for non-compliance with applicable standards and requirements as provided in the CWA.

(4) The Discharger shall perform the pretreatment functions as required in 40 CFR Part 403 including, but not limited to:

(a) Enforce the pretreatment requirements under 40 CFR 403.5 and 403.6;

(b) Implement the necessary legal authorities as provided in 40 CFR 403.8(f)(1);

(c) Implement the programmatic functions as provided in 40 CFR 403.8(f)(2);

(d) Publish a list of significant non-compliance as required by 40 CFR 403.8(f)(2)(vii); and

(e) Provide the requisite funding and personnel to implement the pretreatment program as provided in 40 CFR 403.8(f)(3).

(5) The following wastes shall not be introduced into the treatment works:

(a) Wastes which create a fire or explosion hazard in the treatment works;

(b) Wastes which will cause corrosive structural damage to treatment works, but, in no case, wastes with a pH lower than 5.0 unless the works are designed to accommodate such wastes;

[21] *Publicly owned treatment works.*

(c) Wastes at a flow rate and/or pollutant discharge rate which is excessive over relatively short time periods so that there is a treatment process upset and subsequent loss of treatment efficiency;

(d) Solid or viscous wastes in amounts that would cause obstruction to the flow in sewers or otherwise interfere with the proper operation of the treatment works.

(6) The Discharger shall ensure compliance with any existing or future pretreatment standard promulgated by EPA under Section 307 of the CWA or amendments thereto for any discharge to the municipal system.

(7) The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement.

(8) The Discharger shall require each user not in compliance with any pretreatment standard to submit periodic notice (over intervals not to exceed nine months) of progress toward compliance with applicable toxic and pretreatment standards developed pursuant to the CWA or amendments thereto. The Discharger shall forward a copy of such notice to the Regional Water Board and to the EPA Regional Administrator.

(9) The Discharger shall operate the wastewater collection system under a comprehensive industrial pretreatment and pollutant control program for the control of discharge of toxic wastes from point sources. If the California Department of Health Services identifies any contaminants that may pose a risk of contamination to a drinking water supply, it may designate those contaminants for inclusion in the pretreatment and source control program requirements for IEUA to minimize the possibility that the influent wastewater to RP-1 and RP-4 will be contaminated with such toxic chemicals. The source control program shall include:

(a) An assessment of the fate of the specified contaminant compounds through the wastewater and recycled water treatment systems.

(b) A source investigation and monitoring program focused on the specified contaminants.

(c) An outreach program to industrial, commercial and residential communities within the sewage collection agency's service area to manage and minimize the discharge of compounds of concern at the source.

(d) A proactive program for maintaining an inventory of compounds discharged into the wastewater collection system so that new compounds of concern can be evaluated rapidly.

6. Other Special Provisions

a. As necessary based on the consideration of evidence regarding the implementation of the maximum benefit commitments shown in Attachment L , the Regional Water Board will be asked to make a determination of whether those commitments are being satisfied. If the Regional Water Board finds that the maximum benefit commitments are not being satisfied, then the Discharger shall implement a mitigation program approved by the Regional Water Board for recycled water use in the Chino 1, 2 or 3 Groundwater Management Zones using recycled water in excess of the limitations applicable to the Groundwater Management Zones (Sections IV.A.1.c. and IV.A.1.d., and Sections IV.C.1.b.). A proposed mitigation plan and schedule shall be submitted within 60-days of notification by the Regional Water Board Executive Officer of the need to do so. The Discharger shall implement the plan and schedule upon approval by the Regional Water Board.

7. Compliance Schedules – Not Applicable

VII. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in section IV of this Order will be determined as specified below:

A. General.

Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined in the MRP and Attachment A of this Order. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

B. Multiple Sample Data.

When determining compliance with an AMEL or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of “Detected, but Not Quantified” (DNQ) or “Not Detected” (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

1. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

2. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

C. Average Monthly Effluent Limitation (AMEL).

If the average (or when applicable, the median determined by subsection B above for multiple sample data) of daily discharges over a calendar month exceeds the AMEL for a given parameter, this will represent a single violation, though the Discharger will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Discharger will be considered out of compliance for that calendar month. The Discharger will only be considered out of compliance for days when the discharge occurs. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month.

D. Average Weekly Effluent Limitation (AWEL).

If the average or when applicable, the median determined by subsection B above for multiple sample data of daily discharges over a calendar week exceeds the AWEL for a given parameter, this will represent a single violation, though the Discharger will be considered out of compliance for each day of that week for that parameter, resulting in 7 days of non-compliance. If only a single sample is taken during the calendar week and the analytical result for that sample exceeds the AWEL, the Discharger will be considered out of compliance for that calendar week. The Discharger will only be considered out of compliance for days when the discharge occurs. For any one calendar week during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar week.

E. Maximum Daily Effluent Limitation (MDEL).

If a daily discharge or when applicable, the median determined by subsection B above for multiple sample data of a daily discharge exceeds the MDEL for a given parameter, the Discharger will be considered out of compliance for that parameter for that 1 day only within the reporting period. For any 1 day during which no sample is taken, no compliance determination can be made for that day.

F. Instantaneous Minimum Effluent Limitation.

If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both are lower than the instantaneous minimum effluent limitation would result in two instances of non-compliance with the instantaneous minimum effluent limitation).

G. Instantaneous Maximum Effluent Limitation.

If the analytical result of a single grab sample is higher than the instantaneous maximum effluent limitation for a parameter, the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both exceed the instantaneous maximum effluent limitation would result in two instances of non-compliance with the instantaneous maximum effluent limitation).

H. 12-Month Running Average Effluent Limitation (12-MRAEL).

Compliance with the 12-month flow weighted running average limits under Discharge Specification IV.A.1.c., IV.A.1.d., and IV.C.1.b. shall be determined by the arithmetic mean of the last twelve monthly averages.

I. Turbidity Limitations.

The Discharger shall be considered in compliance with Discharge Specifications IV.A.1.e.(1) and IV.C.1.c.(1), if the following conditions are met. If the Discharger is using a properly operating backup turbidimeter, the reading of the backup turbidimeter shall be considered in determining whether there has been an actual noncompliance:

1. There are no excursions above the limits specified in Discharge Specifications IV.A.1.e.(1)(a) and (b) and IV.C.1.c.(1)(a) and (b);
2. Exceedances of the “10 NTU at any time” turbidity requirement do not exceed a duration of one minute.
3. The apparent exceedance was caused by interference with, or malfunction of, the monitoring instrument.

J. Coliform Organism Effluent Limitations.

1. Compliance with the average weekly total coliform limit expressed in Discharge Specification IV.A.1.e.(2)(b), IV.C.1.c.(2)(a), and IV.C.1.d. shall be based on a median of test results from the previous 7 days. To comply with the limit, the 7-day median MPN must not exceed 2.2 per 100 milliliters on any day during the week. However, only one violation is recorded for each calendar week, even if the 7-day median MPN value is greater than 2.2 for more than one day in the week.

2. Compliance with the average weekly total coliform limit expressed in Discharge Specification IV.C.1.e. shall be based on a median of test results from the previous 7 days. To comply with the limit, the 7-day median MPN must not exceed 23 per 100 milliliters on any day during the week. However, only one violation is recorded for each calendar week, even if the 7-day median MPN value is greater than 23 for more than one day in the week.

K. pH Effluent Limitations.

Pursuant to 40 CFR 401.17, the Discharger shall be in compliance with the pH limitations specified in the Discharge Specification IV.A.1.g., IV.A.4.d., above, provided that both of the following conditions are satisfied:

1. The total time during which the pH values are outside the required range of 6.5-8.5 pH values shall not exceed 7 hours and 26 minutes in any calendar month; and
2. No individual excursion from the range of pH values shall exceed 60 minutes.

L. TDS Increment Limit.

Compliance with Discharge Specifications IV.A.1.c.(2) shall be based on IEUA's (RP-1, RP- 4, RP-5, and CCWRF) agency-wide flow weighted TDS water supply quality and shall be determined from TDS analysis of secondary treated wastewater. The Discharger shall provide the necessary calculations showing the overall TDS water supply quality.

M. Total Chlorine Residual Limitation (TCR)

Compliance determinations for total chlorine residual shall be based on 99% compliance. To determine 99% compliance with the effluent limitation for total chlorine residual, the following conditions shall be satisfied:

1. For TCR Limit specified in Section IV.A.1. :
   a The total time during which the total chlorine residual values are above 0.1 mg/L (instantaneous maximum value) shall not exceed 7 hours and 26 minutes in any calendar month;
   b No individual excursion from 0.1 mg/L value shall exceed 5 minutes; and
   c No individual excursion shall exceed 5.0 mg/L.

2. For TCR Limit specified in Section IV.A.4.:
   a The total time during which the total chlorine residual values are above 2.1 mg/L (instantaneous maximum value) shall not exceed 7 hours and 26 minutes in any calendar month;
   b No individual excursion from 2.1 mg/L value shall exceed 5 minutes; and
   c No individual excursion shall exceed 10.5 mg/L.

N. Percent Removal

Compliance with the 85 percent average monthly removal requirement (See Effluent Limitations and Discharge Specifications Section IV.A.1.b.)shall be determined for each individual facility (RP-1, RP-4, RP- 5, and CCWRF).

O. Priority Pollutants.

The Discharger shall be deemed out of compliance with an effluent limitation if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation.

1. Compliance determination shall be based on the reporting level selected from minimum level (ML)[22] specified in Attachment H of this Order, unless an alternative reporting level is approved by the Regional Water Board's Executive Officer. When there is more than one ML value for a given substance, the Discharger shall select the ML value that is below the calculated effluent limitation, and use its associated analytical method, listed in Attachment H of this Order. If no ML value is below the effluent limitation, then the Regional Water Board will select as the reporting level the lowest ML value and its associated analytical method.

2. When determining compliance with an average monthly limit and more than one sample result is available in a month, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of detected but not quantified (DNQ) or not detected (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

   a. The data set shall be ranked from low to high, reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

   b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ. If a sample result, or the arithmetic mean or median of multiple sample results, is below the reporting level, and there is evidence that the priority pollutant is present in the effluent above an effluent limitation and the Discharger conducts a pollutant minimization program (PMP)[23] the Discharger shall not be deemed out of compliance.

P. Non-Priority Pollutants.

The discharge shall be considered to be in compliance with an effluent limitation that is less than or equal to the method detection limit (MDL) specified in 40 CFR 136 if the arithmetic mean of all test results for the monitoring period is less than the constituent effluent limitation. Analytical results that are less than the specified MDL shall be assigned a value of zero.

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[22] *Minimum level is the concentration at which the entire analytical system must give a recognizable signal and acceptable point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.*

[23] *The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation.*

Q. Compliance Determination

Compliance determinations shall be based on available analyses for the time interval associated with the effluent limitation. Where only one sample analysis is available in a specified time interval (e. g., monthly or weekly average), that sample shall serve to characterize the discharge for the entire interval. If quarterly sample results show noncompliance with the average monthly limit and that sample result is used for compliance determinations for each month of the quarter, then three separate violations of the average monthly limit shall be deemed to have occurred.

Compliance with a single effluent limitation which applies to a group of chemicals (e.g., PCBs), based on a single sample shall be determined by considering the concentrations of individual members of the group to be zero if the analytical response for the individual chemical falls below the method detection limit (MDL) for that chemical.

ATTACHMENT A – DEFINITIONS

Arithmetic Mean (μ), also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

Arithmetic mean = $\mu = \Sigma x / n$ where: Σx is the sum of the measured ambient water concentrations, and n is the number of samples.

Average Monthly Effluent Limitation (AMEL): the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL): the highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Best Management Practices (BMPs) are methods, measures, or practices designed and selected to reduce or eliminate the discharge of pollutants to surface waters from point and nonpoint source discharges including storm water. BMPs include structural and non-structural controls, and operation and maintenance procedures, which can be applied before, during, and/or after pollution producing activities.

Bioaccumulative pollutants are those substances taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

Carcinogenic pollutants are substances that are known to cause cancer in living organisms.

Coefficient of Variation (CV) is a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

Criteria Continuous Concentration (CCC) equals the highest concentration of a pollutant to which aquatic life can be exposed for an extended period of time (4 days) without deleterious effects.

Criteria Maximum Concentration (CMC) equals the highest concentration of a pollutant to which aquatic life can be exposed for a short period of time without deleterious effects.

Daily Discharge: Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

Detected, but Not Quantified (DNQ) are those sample results less than the RL, but greater than or equal to the laboratory's MDL.

Effluent Concentration Allowance (ECA) is a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA) as used in USEPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

Estimated Chemical Concentration is the estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

Existing Discharger means any discharger that is not a new discharger. An existing discharger includes an "increasing discharger" (i.e., an existing facility with treatment systems in place for its current discharge that is or will be expanding, upgrading, or modifying its existing permitted discharge after the effective date of the State Implementation Policy).

Infeasible means not capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.

Inland Surface Waters are all surface waters of the State that do not include the ocean, enclosed bays, or estuaries.

Instantaneous Maximum Effluent Limitation: the highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

Instantaneous Minimum Effluent Limitation: the lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

Load Allocation (LA) is the portion of receiving water's total maximum daily load that is allocated to one of its non-point sources of pollution or to natural background sources.

Maximum Daily Effluent Limitation (MDEL) means the highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

Maximum Daily Flow is the maximum flow sample of all samples collected in a calendar day.

MEC: Maximum Effluent Concentration is the observed maximum pollutant concentration for the effluent.

Median is the middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements (*n*) is odd, then the median = $X_{(n+1)/2}$. If *n* is even, then the median = $(X_{n/2} + X_{(n/2)+1})/2$ (i.e., the midpoint between the *n*/2 and *n*/2+1).

Method Detection Limit (MDL) is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in title 40 of the Code of Federal Regulations, Part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (ML) is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

Mixing Zone is a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

Not Detected (ND) are those sample results less than the laboratory's MDL.

Objectionable Bottom Deposits are an accumulation of materials or substances on or near the bottom of a water body, which creates conditions that adversely impact aquatic life, human health, beneficial uses, or aesthetics. These conditions include, but are not limited to, the accumulation of pollutants in the sediments and other conditions that result in harm to benthic organisms, production of food chain organisms, or fish egg development. The presence of such deposits shall be determined by RWQCB(s) on a case-by-case basis.

Persistent pollutants are substances for which degradation or decomposition in the environment is nonexistent or very slow.

Pollutant Minimization Program (PMP) means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Regional Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

Pollution Prevention means any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State or Regional Water Board.

Reporting Level (RL) is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board either from Appendix 4 of the SIP[1] in accordance with section 2.4.2 of the SIP or established in accordance with section 2.4.3 of the SIP. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the RL.

Satellite Collection System is the portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility that a sanitary sewer system is tributary to.

Source of Drinking Water is any water designated as municipal or domestic supply (MUN) in a Regional Water Board Basin Plan.

[1] *SIP refers to the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California.*

Standard Deviation (σ) is a measure of variability that is calculated as follows:

$$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$$

where:

x is the observed value;

μ is the arithmetic mean of the observed values; and

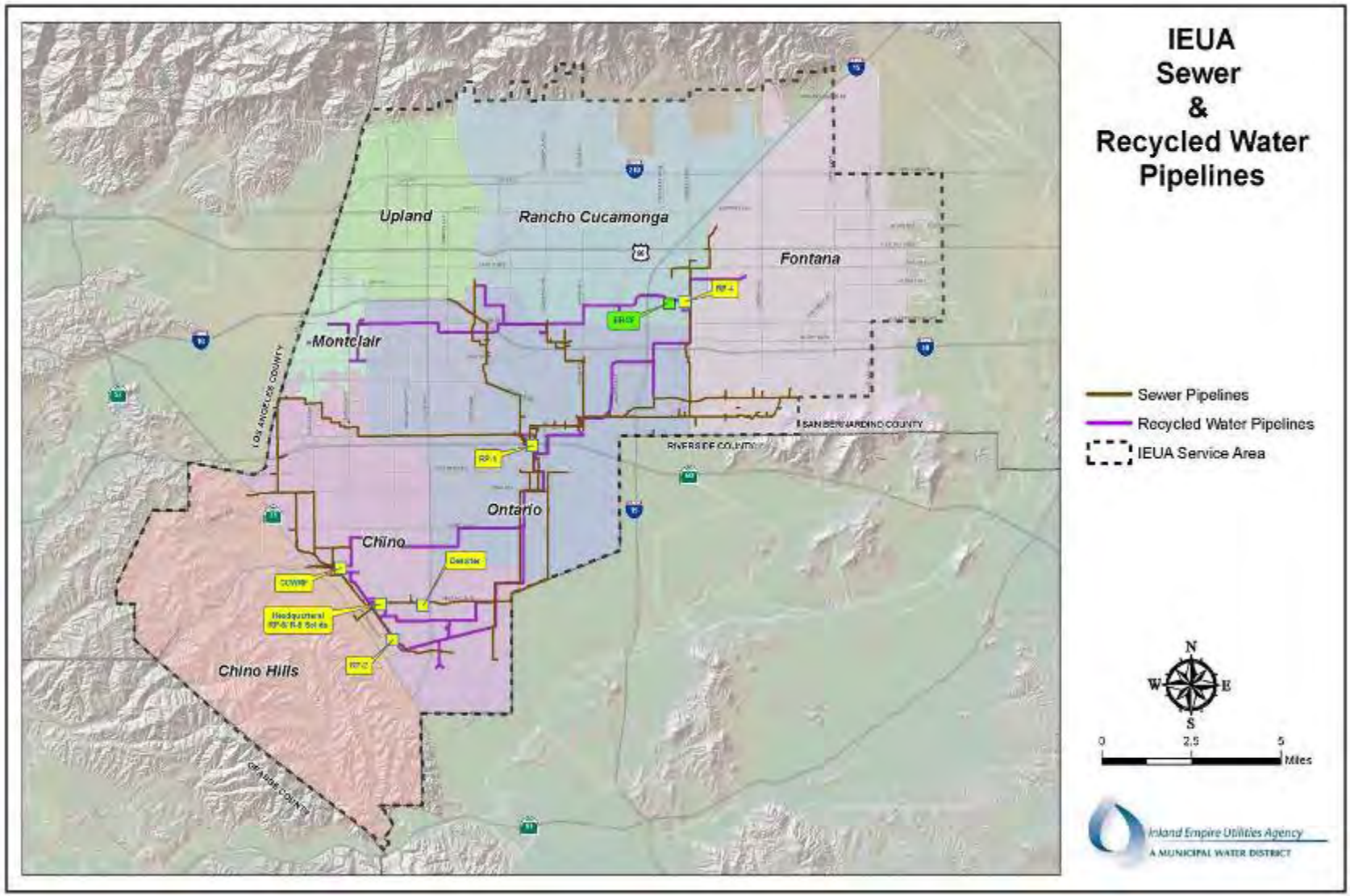
n is the number of samples.

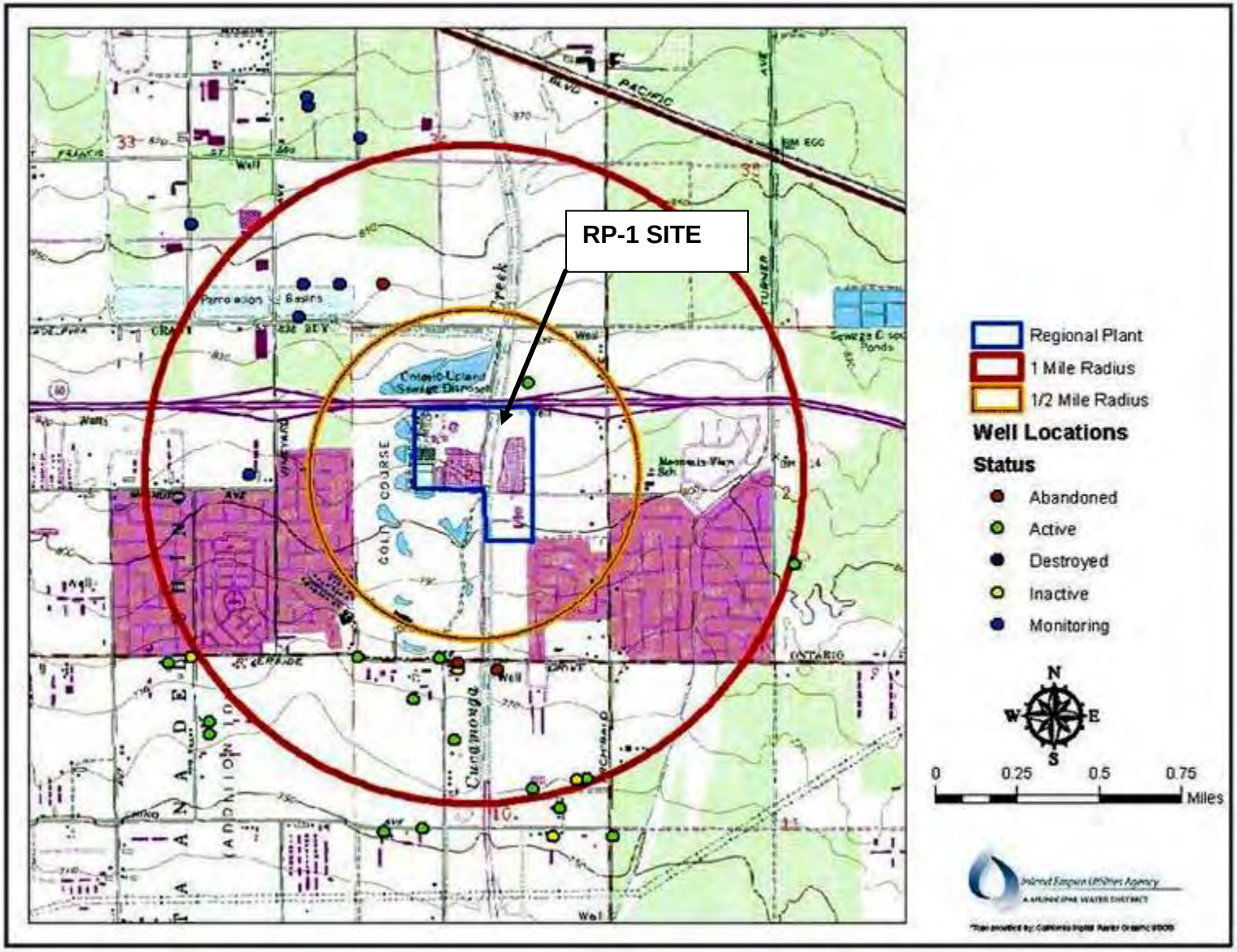
Toxicity Reduction Evaluation (TRE) is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

Water Effect Ratio (WER) is an appropriate measure of the toxicity of a material obtained in a site water divided by the same measure of the toxicity of the same material obtained simultaneously in a laboratory dilution water.

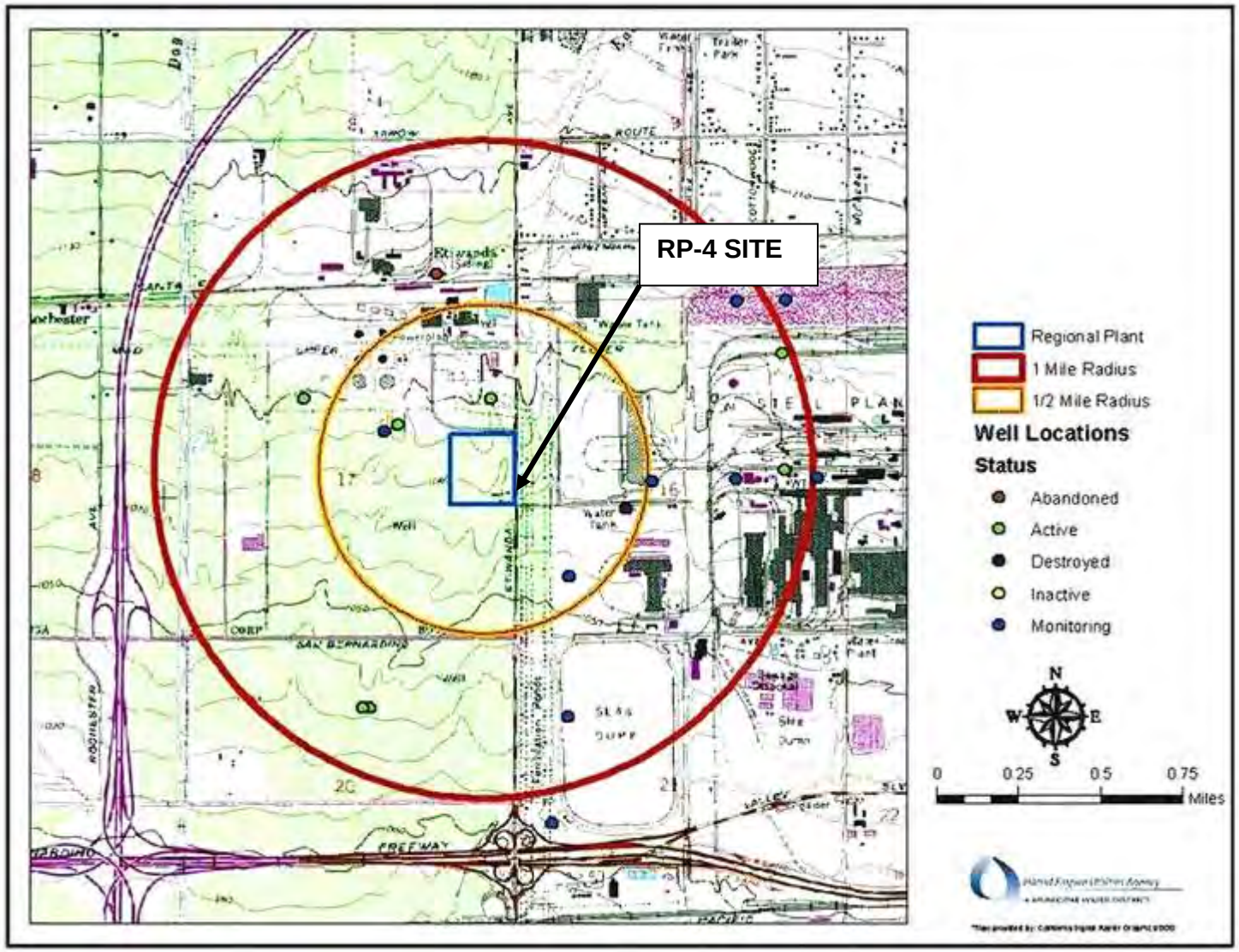
12-Month Running Average Effluent Limitation (12-MRAEL): the highest allowable average of monthly discharges over last twelve months, calculated as the sum of all monthly discharges measured during last twelve months divided by the number of monthly discharges measured during that time period.

ATTACHMENT B – LOCATION

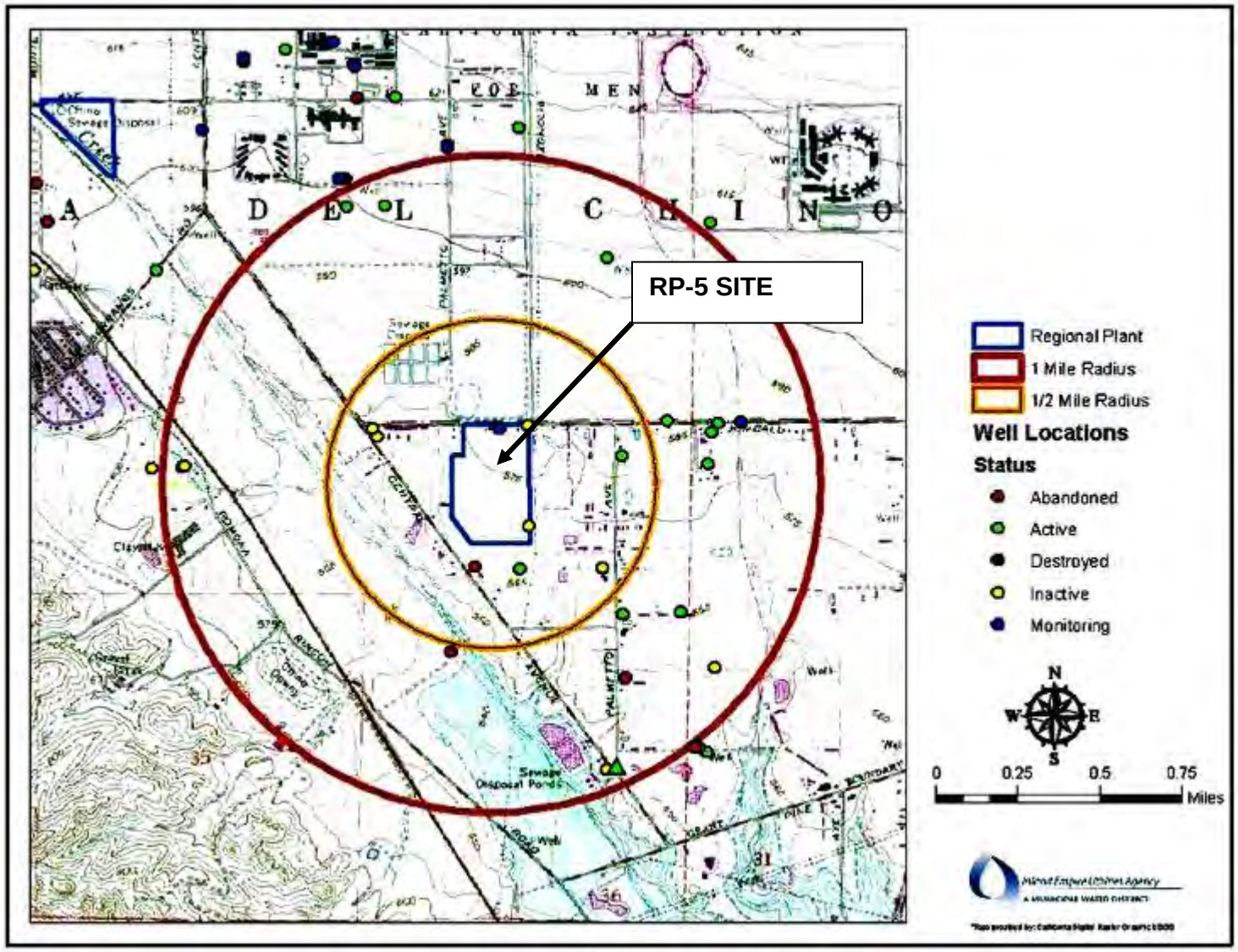




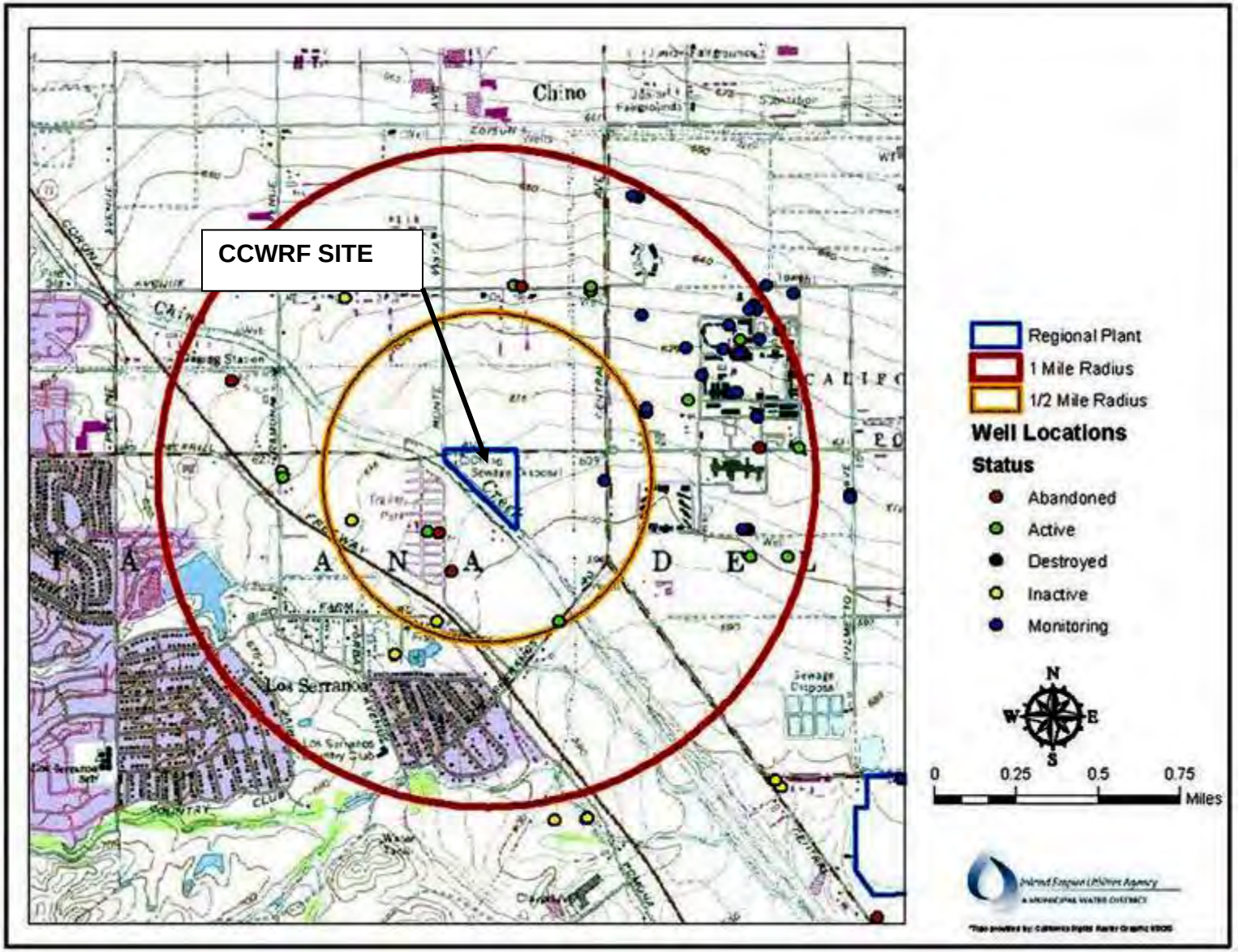
RP-1 LOCATION MAP



RP-4 LOCATION MAP

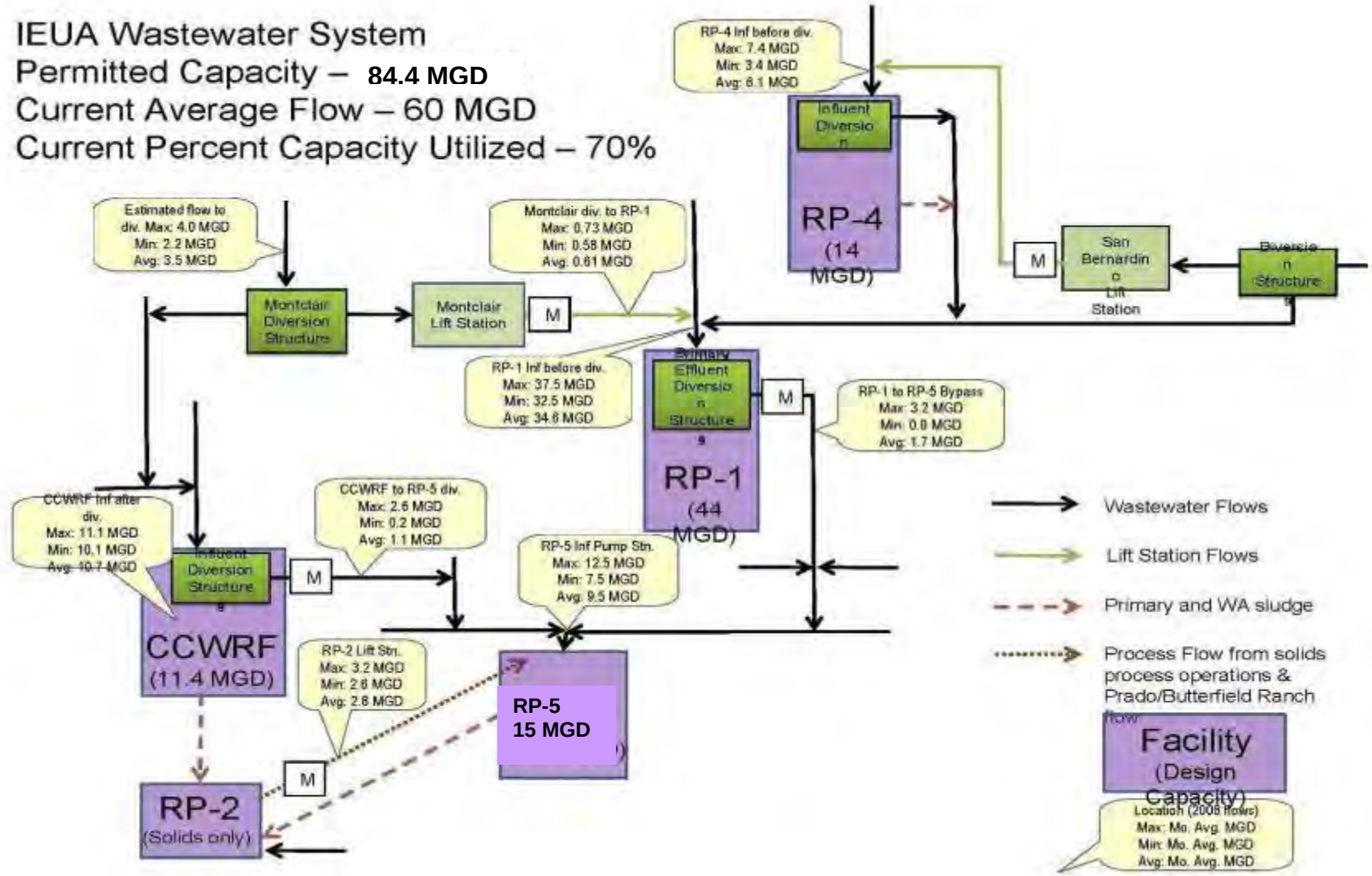


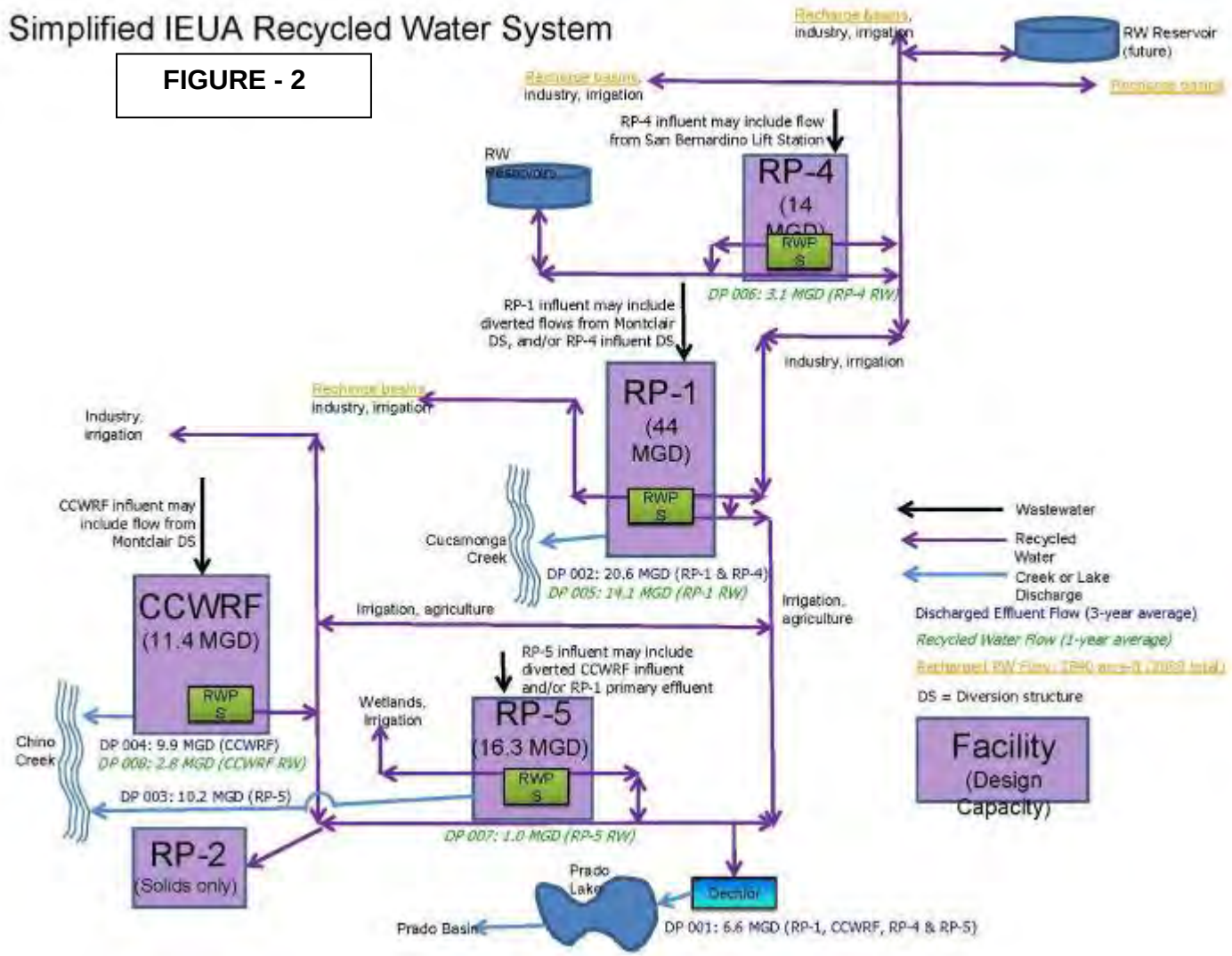
RP-5 LOCATION MAP

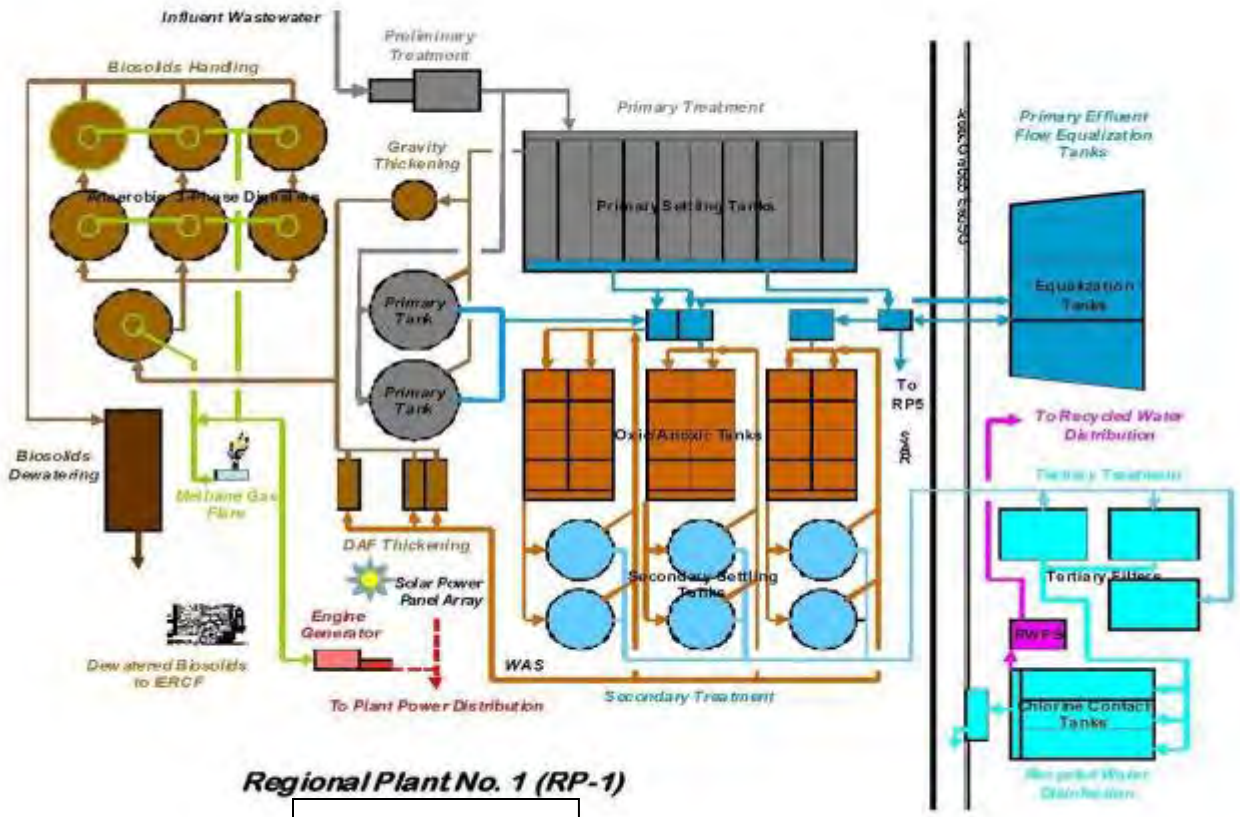


CCWRF LOCATION MAP

ATTACHMENT C – FIGURE 1




Simplified IEUA Recycled Water System
FIGURE - 2
Recharge basins, industry, irrigation
RW Reservoir (future)
Recharge basins, industry, irrigation
RP-4 influent may include flow from San Bernardino Lift Station
RW Reservoir
RP-4
(14 MGD)
RWPS
DP 006: 3.1 MGD (RP-4 RW)
RP-1 influent may include diverted flows from Montclair DS, and/or RP-4 influent DS
industry, irrigation
Recharge basins industry, irrigation
RP-1
(44 MGD)
RWPS
Industry, irrigation
CCWRF influent may include flow from Montclair DS
Cucamonga Creek
DP 002: 20.6 MGD (RP-1 & RP-4)
DP 005: 14.1 MGD (RP-1 RW)
Irrigation, agriculture
Irrigation, agriculture
CCWRF
(11.4 MGD)
RWPS
RP-5 influent may include diverted CCWRF influent and/or RP-1 primary effluent
Wetlands, irrigation
RP-5
(16.3 MGD)
RWPS
Chino Creek
DP 004: 9.9 MGD (CCWRF)
DP 008: 2.8 MGD (CCWRF RW)
DP 003: 10.2 MGD (RP-5)
DP 007: 1.0 MGD (RP-5 RW)
RP-2
(Solids only)
Prado Lake
Dechlor
Prado Basin
DP 001: 6.6 MGD (RP-1, CCWRF, RP-4 & RP-5)
Wastewater
Recycled Water
Creek or Lake Discharge
Discharged Effluent Flow (3-year average)
Recycled Water Flow (1-year average)
Recharged RW Flow: 1840 acre-ft (2003 total)
DS = Diversion structure
Facility
(Design Capacity)



Regional Plant No. 1 (RP-1)

FIGURE - 3

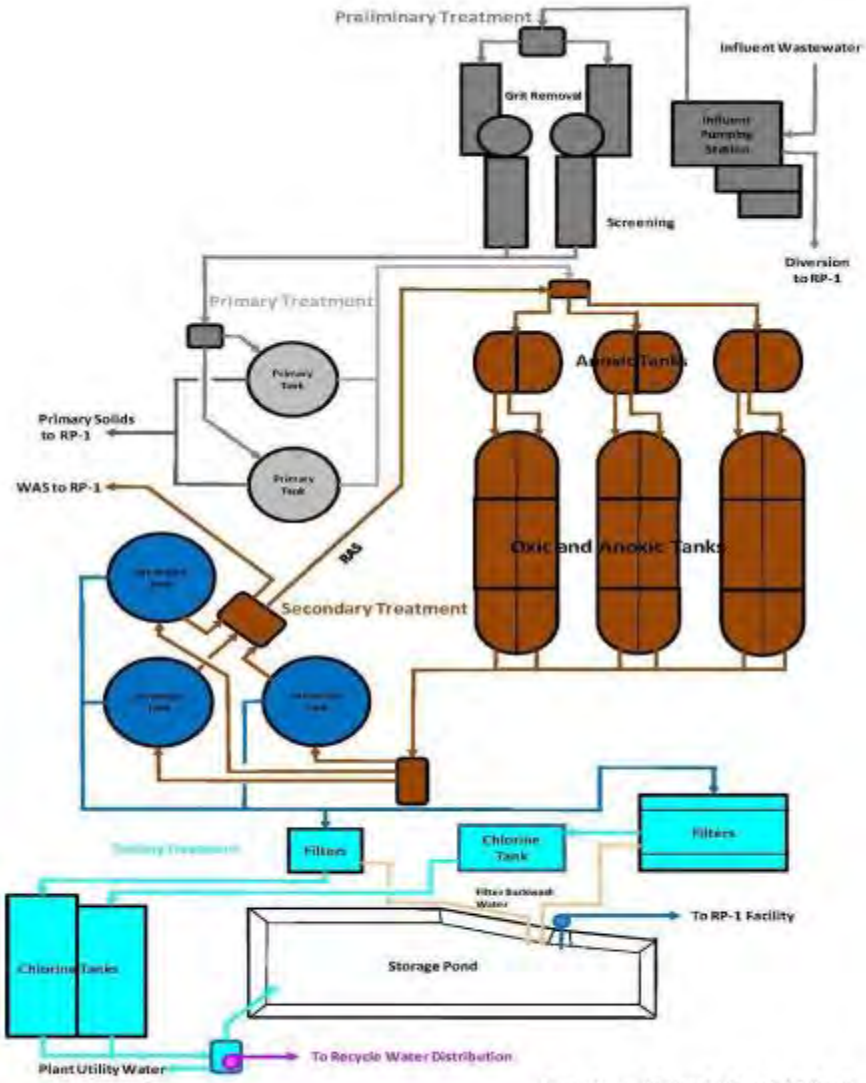
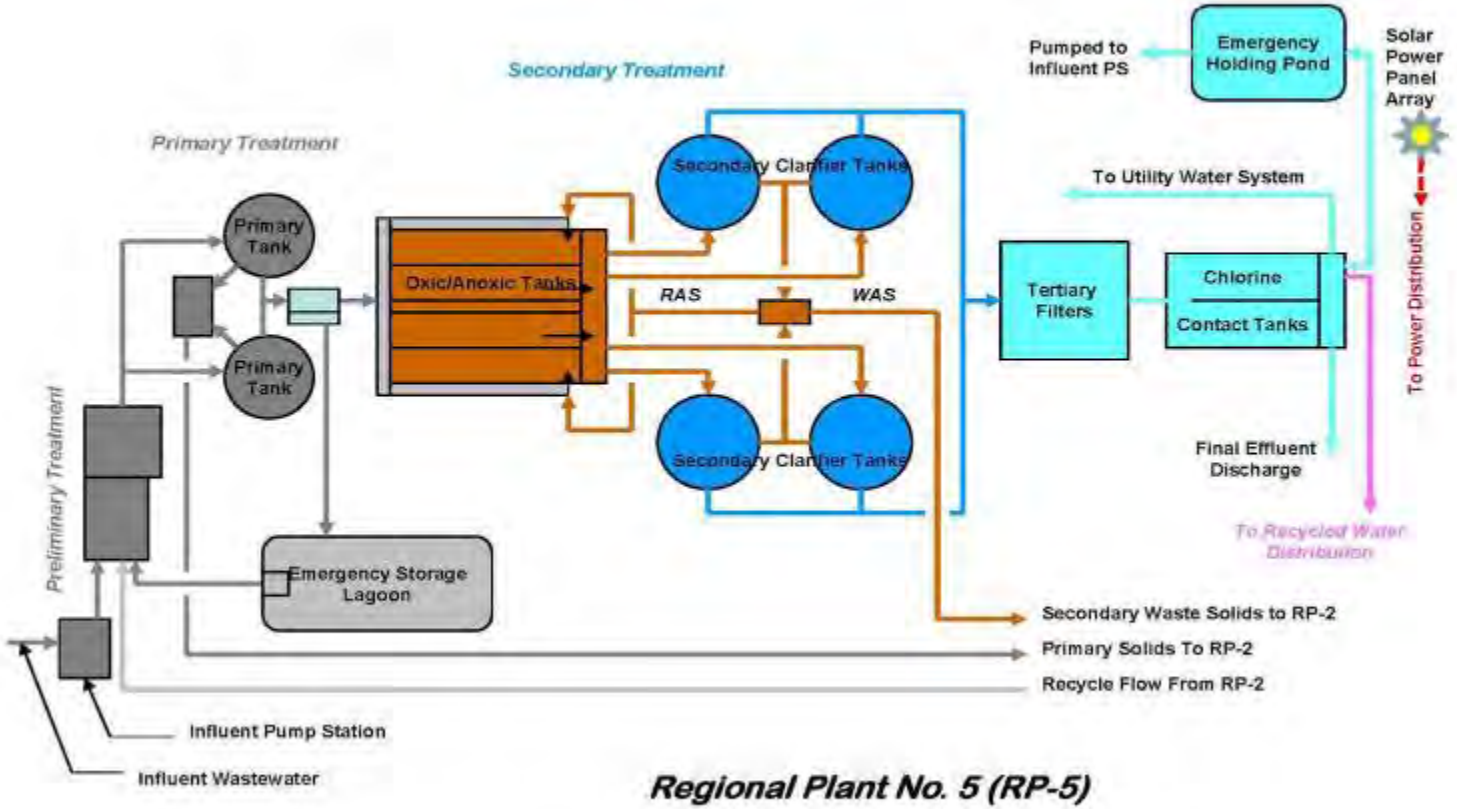
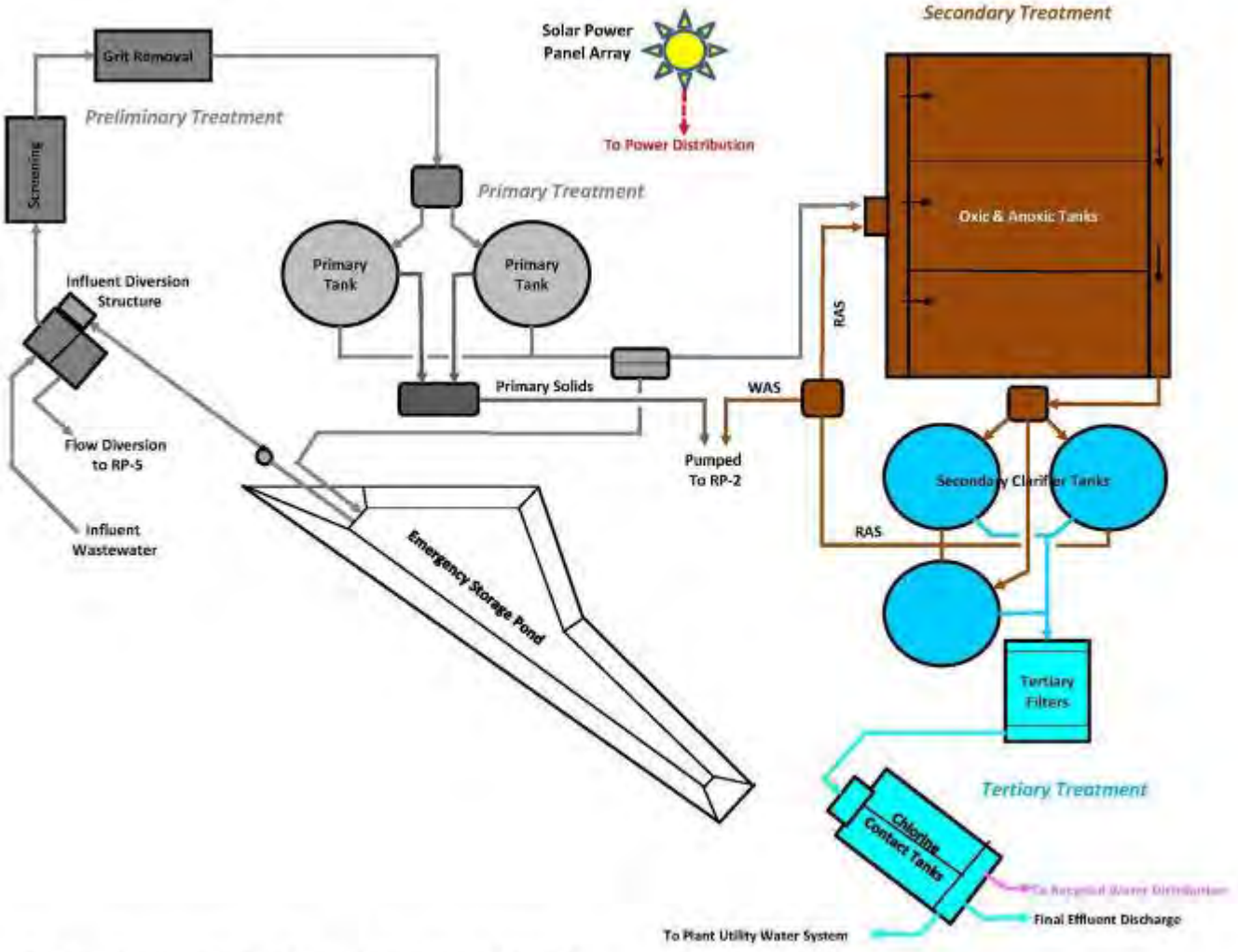

Preliminary Treatment
Influent Wastewater
Grit Removal
Screening
Diversion to RP-1
Primary Treatment
Primary Tank
Primary Tank
Primary Solids to RP-1
WAS to RP-1
RAS
Secondary Treatment
Aeration Tanks
Oxic and Anoxic Tanks
Filters
Chlorine Tank
Filters
To RP-1 Facility
Storage Pond
Chlorine Tanks
Plant Utility Water
To Recycle Water Distribution
Regional Plant No. 4 (RP-4)

FIGURE - 4



Regional Plant No. 5 (RP-5)

FIGURE - 5



Carbon Canyon Water Recycle Facility (CCWRF)

FIGURE - 6

ATTACHMENT D –STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 C.F.R. § 122.41(a).)

2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. § 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 C.F.R. § 122.41(c).)

C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 C.F.R. § 122.41(d).)

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order. (40 C.F.R. § 122.41(e).)

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 122.41(g).)

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 C.F.R. § 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the Regional Water Board, State Water Board, United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (40 C.F.R. § 122.41(i); Wat. Code, § 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (40 C.F.R. § 122.41(i)(1));

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 C.F.R. § 122.41(i)(2));

3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 C.F.R. § 122.41(i)(3)); and

4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (40 C.F.R. § 122.41(i)(4).)

G. Bypass

1. Definitions

   a. “Bypass” means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 122.41(m)(1)(i).)

   b. “Severe property damage” means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. § 122.41(m)(1)(ii).)

2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. § 122.41(m)(2).)

3. Prohibition of bypass. Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless (40 C.F.R. § 122.41(m)(4)(i)):

   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));

   b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and

   c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)

4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)

5. Notice

   a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 C.F.R. § 122.41(m)(3)(i).)

   b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 C.F.R. § 122.41(m)(3)(ii).)

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 C.F.R. § 122.41(n)(1).)

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. § 122.41(n)(2).).

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 C.F.R. § 122.41(n)(3)):

   a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));

   b. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));

   c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and

   d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. § 122.41(n)(3)(iv).)

3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. § 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 C.F.R. § 122.41(f).)

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (40 C.F.R. § 122.41(b).)

C. Transfers

This Order is not transferable to any person except after notice to the Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 C.F.R. § 122.41(l)(3); § 122.61.)

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. § 122.41(j)(1).)

B. Monitoring results must be conducted according to test procedures under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503 unless other test procedures have been specified in this Order. (40 C.F.R. § 122.41(j)(4); § 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by Part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time. (40 C.F.R. § 122.41(j)(2).)

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));

2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));

3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));

4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));

5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and

6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)

C. Claims of confidentiality for the following information will be denied (40 C.F.R. § 122.7(b)):

1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and

2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or USEPA within a reasonable time, any information which the Regional Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Regional Water Board, State Water Board, or USEPA copies of records required to be kept by this Order. (40 C.F.R. § 122.41(h); Wat. Code, § 13267.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 C.F.R. § 122.41(k).)

2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). (40 C.F.R. § 122.22(a)(3).).

3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 C.F.R. § 122.22(b)(1));

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and

c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)

5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

   "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." (40 C.F.R. § 122.22(d).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.22(l)(4).)

2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 C.F.R. § 122.41(l)(4)(i).)

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503, or as specified in this Order, the results of this monitoring shall be included in the

calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 C.F.R. § 122.41(l)(5).)

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 C.F.R. § 122.41(l)(6)(i).)

2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):

    a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)

    b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)

3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 C.F.R. § 122.41(l)(6)(iii).)

F. Planned Changes

The Discharger shall give notice to the Regional Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 C.F.R. § 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 C.F.R. § 122.41(l)(1)(ii).)

3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 C.F.R.§ 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Regional Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements. (40 C.F.R. § 122.41(l)(2).)

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 C.F.R. § 122.41(l)(7).)

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information. (40 C.F.R. § 122.41(l)(8).)

VI. STANDARD PROVISIONS – ENFORCEMENT

A. The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Publicly-Owned Treatment Works (POTWs)

All POTWs shall provide adequate notice to the Regional Water Board of the following (40 C.F.R. § 122.42(b)):

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to sections 301 or 306 of the CWA if it were directly discharging those pollutants (40 C.F.R. § 122.42(b)(1)); and

2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of the Order. (40 C.F.R. § 122.42(b)(2).)

3. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. (40 C.F.R. § 122.42(b)(3).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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List of Tables

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations section 122.48 requires that all NPDES permits specify monitoring and reporting requirements. Water Code Sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

A. General Monitoring Provision

1. All sampling and sample preservation shall be in accordance with the current edition of “Standard Methods for the Examination of Water and Wastewater” (American Public Health Association) or 40CFR136. (revised as of April 11, 2007) "Guidelines Establishing Test Procedures for the Analysis of Pollutants," promulgated by the United States Environmental Protection Agency (EPA).

2. All laboratory analyses shall be performed in accordance with test procedures under 40 CFR 136 (revised as of April 11, 2007) "Guidelines Establishing Test Procedures for the Analysis of Pollutants," promulgated by the United States Environmental Protection Agency (EPA), unless otherwise specified in this MRP. In addition, the Regional Water Board and/or EPA, at their discretion, may specify test methods that are more sensitive than those specified in 40 CFR 136.

3. Chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the California Department of Public Health in accordance with the provision of Water Code Section 13176, or conducted at a laboratory certified for such analyses by the EPA or at laboratories approved by the Regional Water Board's Executive Officer.

4. In conformance with federal regulations 40 CFR 122.45(c), analyses to determine compliance with the effluent limitations for metals shall be conducted using the total recoverable method. For Chromium (VI), the dissolved method in conformance with 40 CFR 136 may be used to measure compliance with the Chromium (VI) limitation.

5. The Discharger shall have, and implement an acceptable written quality assurance (QA) plan for laboratory analyses. Duplicate chemical analyses must be conducted on a minimum of ten percent (10%) of the samples, or at least one sample per month, whichever is greater. A similar frequency shall be maintained for analyzing spiked samples. When requested by the Regional Water Board or EPA, the Discharger will participate in the NPDES discharge monitoring report QA performance study.

6. For every item of monitoring data where the requirements are not met, the monitoring report shall include a statement discussing the reasons for noncompliance, the actions undertaken or proposed that will bring the discharge into full compliance with requirements at the earliest time, and an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Regional Water Board by letter when compliance with the time schedule has been achieved.

7. The Discharger shall assure that records of all monitoring information are maintained and accessible for a period of at least five years (this retention period supersedes the retention period specified in Section IV.A. of Attachment D) from the date of the sample, report, or application. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or by the request of the Regional Water Board at any time. Records of monitoring information shall include:

   a. The information listed in Attachment D- IV Standard Provisions – Records, subparagraph B. of this Order;
   b. The laboratory which performed the analyses;
   c. The date(s) analyses were performed;
   d. The individual(s) who performed the analyses;
   e. The modification(s) to analytical techniques or methods used;
   f. All sampling and analytical results, including
      (1) Units of measurement used;
      (2) Minimum reporting level for the analysis (minimum level);
      (3) Results less than the reporting level but above the method detection limit (MDL);
      (4) Data qualifiers and a description of the qualifiers;
      (5) Quality control test results (and a written copy of the laboratory quality assurance plan);
      (6) Dilution factors, if used; and
      (7) Sample matrix type.
   g. All monitoring equipment calibration and maintenance records;
   h. All original strip charts from continuous monitoring devices;
   i. All data used to complete the application for this Order; and,
   j. Copies of all reports required by this Order.
   k. Electronic data and information generated by the Supervisory Control And Data Acquisition (SCADA) System.

8. The flow measurement system shall be calibrated at least once per year or more frequently, to ensure continued accuracy.

9. Monitoring and reporting shall be in accordance with the following:

   a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

   b. The monitoring and reporting of influent, effluent, and sludge shall be done more frequently as necessary to maintain compliance with this Order and or as specified in this Order.

   c. Whenever the Discharger monitors any pollutant more frequently than is required by this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the discharge monitoring report specified by the Executive Officer.

   d. A "grab" sample is defined as any individual sample collected in less than 15 minutes.

   e. A composite sample is defined as a combination of no fewer than eight individual grab samples obtained over the specified sampling period. The volume of each individual grab sample shall be proportional to the discharge flow rate at the time of sampling. The compositing period shall equal the specific sampling period, or 24 hours, if no period is specified.

   f. Daily samples shall be collected on each day of the week.

   g. Monthly samples shall be collected on any representative day of each month.

   h. Quarterly samples shall be taken on any representative day of January, April, July, and October.

   i. Semi-annual samples shall be collected in January and July.

   j. Annual samples shall be collected in accordance with the following schedule:

Table 1 Annual Sampling Schedule

Year	Annual Samples
2010	July
2011	October
2012	January
2013	April
2014	July
2015	October

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Table 2 Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description	Latitude and Longitude
001/002	M-INF 1A	RP-1 influent line, before Headworks	34°01'48"N, 117°36'07"W
001/002	M-INF 1B	RP-4 influent line, before Headworks	34°05'09"N, 117°31'28"W
001	M-001A	RP-1 effluent Outfall to Prado Park Lake	33°56'39"N, 117°38'34"W
001	M-001B	At the RP-1splitter box	34°01'29"N, 117°35'57"W
002	M-002A	RP-1 and RP-4 Effluent outfall to Reach 1 of Cucamonga Creek	34°01'31"N, 117°35'56"W
002	M-002B	RP-1 at the end of CCB 3 (Chlorine Contact Basin) before outfall discharge to Reach 1 of Cucamonga Creek	34°01'28"N, 117°35'57"W
003	M-INF 3A	RP-5 influent upstream of any in-plant return flows (theoretical point of combined M-INFB & M-INFD flows)	33°58'04"N, 117°40'28"W
003	M-INF 3B	RP-5 Influent Pump Station	33°57'38"N, 117°40'16"W
003	M-INF 3C	RP-2 Recycle Flow	33°57'29"N, 117°40'23"W
003	M-INF 3D	RP-2 Lift Station	33°57.08"N, 117°40'00"W
003	M-003	RP-5 Effluent to Reach 2 of Chino Creek	33°57'44"N, 117°40'41"W
004	M-INF 4	Influent sampling at CCWRF	33°58'56"N, 117°41'48"W
004	M-004	CCWRF Effluent to Reach 2 of Chino Creek	33°58'47"N, 117°41'39"W
005	REC-001	RP-1 Effluent to recycled water use area, same as M-001B	34°01'29"N, 117°35'57"W
006	REC-002	RP-4 Effluent to recycled water use area	34°04'59"N, 117°31'35"W
007	REC-003	RP-5 Effluent to recycled water use area - Same as M-003	33°57'44"N, 117°40'41"W
008	REC-004	CCWRF Effluent to recycled water use area – Same as M-004	33°58'47"N, 117°41'39"W
002	R-002U	Cucamonga Creek within 100 feet upstream of the DP 002	34°01'29"N, 117°35'58"W
002	R-002D	Cucamonga Creek within 500 feet downstream of DP 002 after blending	34°00'43"N, 117°35'59"W
003	R-003U	Chino Creek within 100 feet upstream of DP 003	33º57'45"N, 117º40'41"W
003	R-003D	Chino Creek within 500 feet downstream of DP 003 in	33º57'45"N, 117º40'41"W
004	R-004U	Chino Creek within 100 feet upstream of DP 004	33º58'47"N, 117º40'41"W
004	R-004D	Chino Creek within 500 feet downstream of DP 004 in	33º58'46"N, 117º40'38"W
S-001	STORM-001	Storm water runoff from RP-1, west	34°01'36"N, 117°35'59"W

Table 2 Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description	Latitude and Longitude
S-002	STORM-002	Storm water runoff from RP-1, east	34°01'28"N, 117°35'58"W

Note: RP-5 influent consists of RP-5 Influent Pump Station flows and RP-2 Lift Station flows, which include RP-2 Recycle Flow and Prado/Butterfield Ranch flows. Therefore, values reported for M-INF3A are flow-weighted values based on flows from RP-5 Pump Station and RP-2 Lift Station.

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Locations M-INFs 1A, 1B, 3A, 3B, 3C, 3D, and M-INF 4

1. Sampling stations shall be established for the points of inflow to each treatment plant. The sampling stations shall be located upstream of any in-plant return flows and where representative samples of the influent of the treatment plant can be obtained.

2. The Discharger shall monitor the influent to the Facility at Monitoring Locations M-INFs 1A, 1B, 3A, 3B, 3C, 3D, and M-INF 4 as follows. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level:

Table 3 Influent Monitoring M-INFs 1A, 1B, 3A, 3B, 3C, 3D, and M-INF 4

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Recorder/Totalizer	Continuous	--
pH	pH Units	Recorder	Continuous	--
Specific Conductance	µmhos/cm	Recorder	Continuous	--
TOC	mg/L	Composite	Weekly	See Section I.A.2 & 3, above, of this MRP
BOD_5 [1]	mg/L	Composite	Weekly	"
Total Suspended Solids	mg/L	Composite	Weekly	"
Total Dissolved Solids	mg/L	Composite	Weekly	"
Ammonia-Nitrogen	mg/L	Grab	Weekly	"
Total Nitrogen	mg/L	Composite	Weekly	"
Total Inorganic Nitrogen	mg/L	Composite	Weekly	"
Cyanide (Free)[2]	µg/l	Grab	Monthly	"

1 *BOD_5 is calculated based on a BOD_5/TOC correlation approved by the Regional Water Board.*

2 *Free cyanide is measured as aquatic free cyanide (ASTM Method D7237) without sodium hydroxide (NaOH) preservation.*

Table 3 Influent Monitoring M-INFs 1A, 1B, 3A, 3B, 3C, 3D, and M-INF 4

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total Hardness	mg/L	Composite	Quarterly	"
Boron	mg/L	Composite	Quarterly	"
Chloride	mg/L	Composite	Quarterly	"
Fluoride	mg/L	Composite	Quarterly	"
Sodium	mg/L	Composite	Quarterly	"
Sulfate	mg/L	Composite	Quarterly	See Section I.A.3. above, of this MRP
Arsenic	µg/L	Composite	Quarterly	See Section I.A.2. above, of this MRP
Cadmium	µg/L	Composite	Quarterly	"
Total Chromium or Chromium VI	µg/L	Composite	Quarterly	See Section I.A.2. above, of this MRP
Total Recoverable Copper	µg/L	Composite	Quarterly	"
Total Recoverable Lead	µg/L	Composite	Quarterly	"
Total Recoverable Mercury	µg/L	Composite	Quarterly	"
Total Recoverable Nickel	µg/L	Composite	Quarterly	"
Selenium	µg/L	Composite	Quarterly	"
Total Recoverable Silver	µg/L	Composite	Quarterly	"
Total Recoverable Zinc	µg/L	Composite	Quarterly	"
Bis (2-ethylhexyl) phthalate	µg/L	Grab	Quarterly	See Sections I.A.2., I.A.3., above of this MRP
2,3,7,8-TCDD (Dioxin)[3]	µg/L	Composite	Semi-Annually	See Section I.A.3. above, RL 1 pg/L
Volatile organic portion of EPA Priority Pollutants[4] (See Attachment G)	µg/L	Grab	Annually	See Section I.A.2. above, of this MRP
Remaining EPA Priority Pollutants[5] (See Attachment G)	µg/L	Composite	Annually	"

[3] *Applies at M-INF 3B & 3D and M-INF 4 only.*

[4] *EPA priority pollutants are those remaining volatile organic pollutants listed in Attachment "G" which are not specifically listed in this monitoring program table.*

[5] *Remaining EPA priority pollutants are those pollutants listed in Attachment "G" which are not volatile organics and pollutants not specifically listed in this monitoring program table.*

IV. EFFLUENT MONITORING REQUIREMENTS TO SURFACE WATER

The Discharger shall monitor tertiary effluent at monitoring locations M-001, M-002, M-003, and M-004 as follows. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level.

A. Effluent Monitoring Locations M-001 to M-004

1. The Discharger shall monitor tertiary treated effluent for DP 001, DP 002, DP 003, and DP 004 at Monitoring Locations M-001B, M-002A, M-003, and M-004 as follows.

Table 4 Tertiary Effluent Monitoring at M-001B, M-002A, M-003, and M-004

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and Minimum Level, units, respectively
Flow	mgd	Recorder/ Totalizer	Continuous	--
Specific Conductance[6]	µmhos/cm	Recorder	Continuous	--
pH	pH units	Recorder	Continuous	--
Turbidity[7]	NTU	Recorder	Continuous	--
Total Chlorine Residual[8]	mg/L	Recorder	Continuous	--
Coliform Organisms[9], [10]	MPN per 100 ml[11]	Grab	Daily	See Section I.A.3., above of this MRP
CT	mg-minutes/L	Recorder	Continuous[12]	--
Total Organic Carbon (TOC)	mg/L	Composite	Daily	See Section I.A.3. above, of this MRP
BOD_5[13]	mg/L	Composite	Daily	See Section I.A.3. above, of

6 *Except M-001B.*

7 *Turbidity analysis shall be continuous, performed by a continuous recording turbidimeter. Compliance with the daily average operating filter effluent turbidity shall be determined by averaging the levels of recorded turbidity taken at a minimum of four-hour intervals over a 24-hour period. The results of the daily average turbidity determinations shall be reported monthly.*

8 *Except M-001B.*

9 *Samples for total coliform bacteria shall be collected daily. Samples shall be taken from the disinfected effluent.*

10 *M-001B is the coliform monitoring location for DP 001 & DP 002. Alternative monitoring at M-002B is available if gate is closed between Chlorine Contact Basin 2 and 3.*

11 *MPN/100mL = Most Probable Number per 100 milliliters.*

12 *The CT and modal contact time shall be continuously calculated and recorded. The minimum daily value shall be reported monthly. Modal contact time and CT shall be calculated based on the minimum one-hour average value in a 24-hr period.*

Table 4 Tertiary Effluent Monitoring at M-001B, M-002A, M-003, and M-004

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and Minimum Level, units, respectively
				this MRP
Total Suspended Solids	mg/L	Composite	Daily	See Section I.A.3. above
Ammonia-Nitrogen	mg/L	Grab	Weekly	See Section I.A.3. above, of this MRP
Temperature	°C	Grab	Weekly	--
Total Dissolved Solids[14]	mg/L	Composite	Monthly	See Section I.A.3. above
Total Inorganic Nitrogen	mg/L	Composite	Monthly	See Section I.A.3. above
Total Nitrogen	mg/L	Composite	Monthly	See Section I.A.3. above
Cyanide, free[15]	µg/L	Grab	Monthly	See Sections I.A.2., I.A.3., above of this MRP and RL 5 µg/L
Total Recoverable Copper	µg/L	Composite	Monthly	See Sections I.A.2., I.A.3. above of this MRP and RL 0.5 µg/L
Toxicity[16]	TUc	See Section V.A, Below	Monthly	See Section V, Below
Total Hardness	mg/L	Composite	Monthly	See Section I.A.3. above
Bicarbonate	mg/L	Composite	Monthly	See Section I.A.3. above, of this MRP
Boron	mg/L	Composite	Monthly	See Section I.A.3. above
Calcium	mg/L	Composite	Monthly	See Section I.A.3. above
Carbonate	mg/L	Composite	Monthly	See Section I.A.3. above
Chloride	mg/L	Composite	Monthly	See Section I.A.3. above
Fluoride	mg/L	Composite	Monthly	See Section I.A.3. above, of this MRP
Magnesium	mg/L	Composite	Monthly	See Section I.A.3. above
Sodium	mg/L	Composite	Monthly	See Section I.A.3. above
Sulfate	mg/L	Composite	Monthly	See Section I.A.3. above
Total Recoverable Cadmium	µg/L	Composite	Monthly	See Sections I.A.2., I.A.3., above of this MRP and RL 0.5 µg/L

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13 *BOD_5 is calculated daily based on a BOD_5/TOC correlation approved by the Regional Water Board.*

14 *Except M-001B.*

15 *Free cyanide is measured as aquatic free cyanide (ASTM Method D7237) without NaOH preservation.*

16 *Except M-001B.*

Table 4 Tertiary Effluent Monitoring at M-001B, M-002A, M-003, and M-004

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and Minimum Level, units, respectively
Chromium (VI) or Total Chromium[17]	µg/L	Composite	Monthly	See Sections I.A.2., I.A.3. above of this MRP and RL 5 µg/L, Total Cr, RL 2 µg/L
Total Recoverable Lead	µg/L	Composite	Monthly	See Sections I.A.2., I.A.3. above of this MRP and RL 2 µg/L
Total Recoverable Mercury	µg/L	Composite	Monthly	See Sections I.A.2., I.A.3. above of this MRP and RL 0.05 µg/L
Total Recoverable Selenium	µg/L	Composite	Monthly	See Sections I.A.2., I.A.3. above of this MRP and RL 2 µg/L
Total Recoverable Silver	µg/L	Composite	Monthly	See Sections I.A.2., I.A.3., above of this MRP and RL 1 µg/L
Total Recoverable Zinc	µg/L	Composite	Monthly	See Sections I.A.2., I.A.3., above of this MRP
Bis (2-ethylhexyl) phthalate	µg/L	Grab	Monthly	See Sections I.A.2., I.A.3., above of this MRP
Bromodichloromethane[18]	µg/L	Grab	Monthly	See Sections I.A.2., I.A.3., above of this MRP, ML 5 µg/L
Aluminum	mg/L	Composite	Quarterly	See Section I.A.3. above
Antimony	mg/L	Composite	Quarterly	See Sections I.A.2., I.A.3., above of this MRP
Arsenic	µg/L	Composite	Quarterly, (See IV.A.3., below)	See Section I.A.3. above
Barium	µg/L	Composite	Quarterly, (See IV. A.3., below)	See Section I.A.3. above
Cobalt	µg/L	Composite	Quarterly (See IV.A.3., below)	See Section I.A.3. above,
Total Recoverable Nickel	µg/L	Composite	Quarterly (See IV.A.3., below)	See Section I.A.3. above,
2,3,7,8-TCDD (Dioxin)[19]	µg/L	Composite	Quarterly (See IV.A.5., below)	See Section I.A.3. above, RL 1 pg/L
Volatile organic portion of remaining EPA Priority Pollutants (See Attachment G)	µg/L	Grab	Annually (See IV.A.4., below)	See Sections I.A.2., I.A.3., above of this MRP
Remaining EPA Priority Pollutants (See Attachment G)	µg/L	Composite	Annually (See IV.A.4., below)	See Sections I.A.2., I.A.3., above of this MRP

[17] *If Total Chromium test result is greater than 11 µg/L, the following sample shall be tested for Chromium VI, until directed otherwise.*

[18] *Applies at M-003 only.*

[19] *Applies at M-003 and M-004 only.*

2. The Discharger shall monitor tertiary treated effluent for DPs 001 and 002 at M-001A as follows:

Table 5 Effluent Monitoring Requirements at M-001A

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Test Method
Turbidity	NTU	Recorder	Continuous	--
Total Chlorine Residual	mg/l	Recorder	Continuous	--
Specific Conductance	µmhos/cm	Recorder	Continuous	--
Total Dissolved Solids	mg/l	Composite	Monthly	See Sections I.A.2., I.A.3., above of this MRP
Toxicity	TUc	See Section V.A, Below	Monthly	See Section V, Below

3. The monitoring frequency for those priority pollutants that are detected during the required quarterly monitoring at a concentration greater than the concentration specified for that pollutant[20] in Attachment I - Triggers for Monitoring Priority Pollutants shall be accelerated to monthly. To return to the monitoring frequency specified, the Discharger shall request and receive approval from the Regional Water Board's Executive Officer or designee.

4. The monitoring frequency for those priority pollutants that are detected during the required semi-annual or annual monitoring at a concentration greater than the concentration specified for that pollutant in Attachment I shall be accelerated to quarterly for one year. To return to the specified monitoring frequency, the Discharger shall request and receive approval from the Regional Water Board's Executive Officer or designee.

5. The Discharger is required to conduct quarterly monitoring for Dioxin for one year. After one year, if quarterly monitoring result show non-detect values at acceptable reporting levels, the Discharger may reduce the frequency of monitoring for Dioxin from quarterly to semi-annual monitoring upon approval by the Regional Water Board Executive Officer or designee.

B. Secondary Effluent Monitoring at M-002, M-003 and M-004 with 20:1 Dilution

1. The Discharger shall monitor secondary treated effluent at M-002B, M-003 and M-004 when 20:1 dilution is provided by the receiving surface water at the time of the discharge, as follows:

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[20] *For those priority pollutants without specified criteria values, accelerated monitoring is not required.*

Table 6 Secondary Effluent Monitoring at M-002B to M-004 w/ 20:1 Dilution

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Test Method
Flow	mgd	Grab	Daily (when discharging)	--
pH	pH units	Recorder/Totalizer	Continuous	--
Total Chlorine Residual	mg/L	Recorder	Continuous	--
BOD_5	mg/L	Grab	Daily (when discharging)	See Section I.A.3., above, of this MRP
Total Dissolved Solids	mg/L	Grab	when discharging	"
Coliform Organisms	MPN per 100 ml[21]	Grab	Daily (when discharging)	See Sections I.A.2., I.A.3., above of this MRP
Suspended Solids	mg/L	Grab	Daily (when discharging)	See Sections I.A.2., I.A.3., above of this MRP
Total Hardness	mg/L	Grab	When discharge	See Section I.A.3., above, of this MRP
EPA Priority Pollutants	µg/L	Grab	Annually[22] (See IV.A.3., above)	See Sections I.A.2., I.A.3., above of this MRP

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Toxicity Monitoring Requirements at M-001A, M-002A, M-003, and M-004

1. The Discharger shall conduct critical life stage chronic toxicity testing in accordance with Method 1002.0 - Survival and Reproduction test for water flea, *Ceriodaphnia dubia* as specified in "Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms", Fourth Edition, Environmental Monitoring Systems Laboratory, U.S. Environmental Protection Agency 2002, Cincinnati, Ohio (October 2002, EPA-821-R-02-013).

2. The Discharger shall establish procedures to ensure that the toxicity testing laboratory notifies the Discharger of the results of toxicity testing by the end of the next business day following the completion of such tests.

3. A minimum of one monthly chronic toxicity test shall be conducted on representative composite samples.

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[21] *MPN/100mL = Most Probable Number per 100 milliliters*

[22] *Sample is collected from the first discharge, once a year.*

4. The Discharger shall increase the frequency of chronic toxicity testing to every two weeks whenever any test result exceeds 1.0 TUc. The first test under the accelerated schedule shall be conducted within two weeks of receiving notice of the test that exceeds 1.0 TUc, and every two weeks thereafter. The Discharger may resume the regular test schedule when two consecutive chronic toxicity tests result in 1.0 TUc, or when the results of the Initial Investigation Reduction Evaluation conducted by the Discharger have adequately addressed the identified toxicity problem.

5. The presence of chronic toxicity shall be estimated as specified in Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. Fourth Edition. EPA-821-R-02-013.

6. Results for both survival and reproduction endpoints shall be reported in TUc, where TUc = 100/NOEC or 100/ICp or ECp (p is the percent effluent). The no observed effect concentration (NOEC) is the highest concentration of toxicant to which organisms are exposed in a chronic test, that causes no observable adverse effect on the tests organisms (e.g., the highest concentration of toxicant to which the values for the observed responses are not statistically significant different from the controls). The inhibition concentration (IC) is a point estimate of the toxicant concentration that causes a given percent reduction in a non-quantal biological measurement (e.g., reproduction or growth) calculated from a continuous model (the EPA Interpolation Method). The effective concentration (EC) is a point estimate of the toxicant concentration that would cause a given percent reduction in quantal biological measurement (e.g., larval development, survival) calculated from a continuous model (e.g., probit).

7. Additional Testing Requirements

    a. A series of at least five dilutions and a control will be tested. Five dilutions of the series shall be within 60% to 100% effluent concentration.
    b. If organisms are not cultured in-house, concurrent testing with reference toxicants shall be conducted. Where organisms are cultured in-house, monthly reference toxicant testing is sufficient. Reference toxicants shall also be conducted using the same test conditions as the effluent toxicity test (e.g., same test duration, etc).
    c. If either of the reference toxicant test or the effluent tests do not meet all test acceptability criteria as specified in the manual[23], then the Discharger must re-sample and re-test within 14 days or as soon as the Discharger receives notification of failed tests.
    d. Control and dilution water should be receiving water or lab water, as appropriate, as described in the manual. If the dilution water used is different from the culture water, a second control, using culture water shall also be used.

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[23] *Refers to USEPA Manual "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. - 4th Ed., October 2002, EPA-821-R-02-013.*

8. Quality Assurance/Control:

   a. A quality assurance/quality control (QA/QC) program shall be instituted to verify the results of the effluent toxicity monitoring program. The QA/QC program shall include but shall not be limited to the following: (1) Selection of an independent testing laboratory; (2) Approval by the Regional Water Board's Executive Officer or Executive Officer's designee of the independent testing laboratory; (3) Once during the year, the Discharger shall split samples with the independent laboratory for conducting chronic toxicity testing; (4) Results from the independent laboratory shall be submitted to the Regional Water Board and the Discharger for evaluation; (5) The Discharger shall review the test acceptability criteria in accordance with the EPA test protocols, Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. Fourth Edition. EPA-821-R-02-013.

   b. Results from the independent laboratory of the annual QA/QC split samples are to be used for Quality Assurance/Quality Control (QA/QC) purposes only and not for purposes of determining compliance with other requirements of this Order.

9. The use of alternative methods for measuring chronic toxicity may be considered by the Executive Officer on a case–by-case basis. The use of a different test species, in lieu of conducting the required test species may be considered and approved by the Executive Officer on a case-by case basis upon submittal of the documentation supporting Discharger’s determination that a different species is more sensitive and appropriate.

10. Reporting: Results of all toxicity testing conducted within the month following the reporting period shall be submitted monthly in accordance with "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. Fourth Edition. EPA-821-R-02-013.” The report shall include a determination of the median value of all chronic toxicity testing results conducted during the two previous months.

11. Whenever an Initial Investigation Reduction Evaluation is conducted, the results of the evaluation shall be submitted upon completion. In addition, monthly status reports shall be submitted as part of the Discharger’s monitoring report for the previous month.

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VII. RECLAMATION MONITORING REQUIREMENTS

A. Monitoring Locations REC-001 to REC-004

1. The Discharger shall monitor recycled water at REC-001, REC-002, REC-003 and REC-004 as follows:

Table 7 Reclamation Monitoring at REC-001 to REC-004

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Recorder/Totalizer	Continuous	--
pH	Standard units	Recorder/Totalizer	Continuous	--
Turbidity[24]	NTU	Recorder	Continuous	--
CT	mg-minutes/L	Recorder	Continuous[25]	--
Coliform Organisms	MPN per 100 mL	Grab	Daily	See Section I.A.3., above, of this MRP
BOD_5	mg/L	Composite	Daily	See Section I.A.3., above, of this MRP
Total Suspended Solids	mg/L	Composite	Daily	See Section I.A.3., above, of this MRP
TDS	mg/L	Composite	Monthly	See Section I.A.3., above, of this MRP

B. Monitoring Users

Whenever recycled water is supplied to a user, the Discharger shall record on a permanent log: the volume of recycled water supplied; the user of recycled water; the locations of those sites including the names of the groundwater management zones underlying the recycled water use sites; type of use (e.g. irrigation, industrial, etc); and the dates at which water is supplied. The Discharger shall submit annually a summary report of the recorded information by groundwater management zone to the Regional Water Board.

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[24] *Turbidity samples shall be collected at M-001A, M-002A, M-003, and M-004, respectively.*

[25] *The CT and modal contact time shall be continuously calculated and recorded. Modal contact time and CT shall be calculated based on the minimum one-hour average value in a 24-hr period.*

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

A. Flow Measurements at Monitoring Locations R-002U, R-003U, and R-004U During 20:1 Dilution.

The Discharger shall make provisions for the measurement of the receiving water flow at a suitable location in the creek and determine whether a 20:1 dilution exists at DP 002, DP 003, or DP 004, before discharging secondary treated effluent. A dilution of 20:1 or more exclusive of discharges to surface waters from upstream publicly owned treatment works is required at the point of discharge for the discharge of secondary effluent. Flow measurements shall be made prior to any direct discharge to the creeks and shall continue on a daily basis until the discharge is terminated.

B. Monitoring Locations R-002U, R-003U, and R-004U

1. The Discharger shall monitor the receiving water at R-002U, R-003U, and R-004U for the following parameters/constituents when there is flowing water:

Table 8 Receiving Water Monitoring at R-002U, R-003U, and R-004U

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	estimate	Weekly	--
Dissolved Oxygen	mg/L	Grab	Weekly	--
Temperature	^{0}C	"	Weekly	--
pH	pH unit	Grab	Weekly	--
Total Dissolved Solids	mg/L	Grab	Monthly	See Sections I.A.3. above of this MRP
Total Inorganic Nitrogen	mg/L	Grab	Monthly	See Sections I.A.3. above of this MRP
Total Hardness	mg/L	Grab	Quarterly	See Sections I.A.3. above of this MRP
Total Suspended Solids	mg/L	Grab	Quarterly	See Sections I.A.3. above of this MRP
EPA Priority Pollutants (see VIII.C.2., below)	µg/L	Grab	Annually	See Sections I.A.2., 3. above of this MRP

C. Monitoring Locations R-002D & R-003D

1. The Discharger shall monitor the receiving water at R-002D, R-003D, when there is flowing water upstream of the discharge point for the following constituents:

Table 9 Receiving Water Monitoring at R-002D & R-003D

Parameter	Units	Sample Type	Minimum Sampling & Testing Frequency	Required Analytical Test Method
Dissolved Oxygen	mg/L	Grab	Weekly	--
Temperature	^{0}C	Grab	Weekly	--
pH	pH unit	Grab	Weekly	--
Color change, foam, deposition of material, odor	--	Observe	Weekly	See Section I.A.3., above, of this MRP
Total Hardness	mg/L	Grab	Quarterly	See Sections I.A.3. above of this MRP
Total Suspended Solids	mg/L	Grab	Quarterly	"
EPA Priority Pollutants (see VIII.C.2., below)	µg/L	Grab	Annually	See Sections I.A.2., 3. above of this MRP

2. For the annual monitoring of the heavy metals EPA Priority Pollutants, the total recoverable and total dissolved metal concentrations shall be determined.

D. Regional Monitoring for Fish Flesh Testing:

Unless otherwise directed by the Regional Water Board Executive Officer, the Discharger shall implement the approved plan for the annual sampling and testing of mercury levels in fish flesh samples collected from the Santa Ana River. The frequency of monitoring and submission of reports shall be as stipulated in the approved plan.

E. Monitoring Requirements for Groundwater – Not Applicable

Monitoring of groundwater by the Discharger is addressed in Order No.R8-2007-0039.

IX. OTHER MONITORING REQUIREMENTS

A. Biosolids Monitoring

1. Biosolids monitoring shall be conducted as follows:

Table 10 Biosolids Monitoring Requirements

Biosolids Monitoring	Units	Type of Sample	Minimum Frequency of Sampling & Testing
Priority Pollutants	mg/kg	Grab	Semi-annually
Moisture Content (% solid)	mg/kg	Grab	Quarterly

2. The Discharger shall maintain a permanent log of solids hauled away from the treatment facilities for use/disposal elsewhere, including the date hauled, the volume or weight (in dry tons), type (screening, grit, raw sludge, biosolids), application (agricultural, composting, etc), and destination. This information shall be reported quarterly.

B. Stormwater Monitoring

The Discharger shall monitor discharges at Discharge Points S-001 to S-002 (as specified in Table 2 of this MRP) and submit monitoring reports in accordance with Attachments J and K - Stormwater Monitoring and Reporting Requirements.

C. Water Supply Monitoring

1. In August of each year, a sample of each source of the water supplied to the sewered area shall be obtained and analyzed for total dissolved solids concentration expressed in "mg/L".

2. Monthly reports shall be submitted stating the amount (in percentage or acre-feet) supplied to the sewered area from each source of water and the resulting flow-weighted water supply quality for total dissolved solids.

D. Pretreatment Monitoring and Reporting

1. The Discharger shall submit to the Regional Water Board and the EPA Region 9, a quarterly compliance status report. The quarterly compliance status reports shall cover the periods January 1 - March 31, April 1 - June 30, July 1 - September 30, and October 1 -December 31. Each report shall be submitted by the end of the month following the quarter, except that the report for April 1 - June 30 may be included in the annual report. This quarterly reporting requirement shall commence for the first full quarter following issuance of this Order. The reports shall identify:

   a. All significant industrial users (SIUs) which violated any standards or reporting requirements during that quarter;

   b. The violations committed (distinguish between categorical and local limits);

   c. The enforcement actions undertaken; and

d. The status of active enforcement actions from previous periods, including closeouts (facilities under previous enforcement actions which attained compliance during the quarter).

2. Annually, the Discharger shall submit a report to the Regional Water Board, the State Water Resources Control Board and the EPA Region 9 describing the pretreatment activities within the service area during the previous year. In the event that any control authority within the service area is not in compliance with any conditions or requirements of this Order or their approved pretreatment program (such as due to industrial user discharges, interjurisdictional agency agreement implementation issues, or other causes,) then the Discharger shall also include the reasons for non-compliance and state how and when the Discharger and the control authority shall comply with such conditions and requirements. This annual report shall cover operations from July 1 through June 30 of each fiscal year and is due on September 30 of each year. The report shall contain, but not be limited to, the following information:

   a. A summary of analytical results from representative, flow-proportioned, 24-hour composite sampling of the POTWs' influent and effluent wastewaters for those pollutants which are known or suspected to be discharged by industrial users (IUs) as identified by EPA under Section 307(a) of the CWA. The summary will include the result of annual full priority pollutant scan, with quarterly samples analyzed only for those pollutants[26] detected in the full scan. The Discharger shall also provide any influent or effluent monitoring data for non-priority pollutants which the Discharger believes may be causing or contributing to Interference, Pass Through or adversely impacting sludge quality. Sampling and analysis shall be performed in accordance with the techniques prescribed in 40 CFR 136 and amendments thereto.

   b. A discussion of any upset, interference, or pass-through incidents at the treatment plants (if any), which the Discharger knows or suspects were caused by IUs of the POTW system. The discussion shall include the following:

      (1) The reasons why the incidents occurred, the corrective actions taken, and, if known, the name and address of the IU(s) responsible.

      (2) A review of the applicable pollutant limitations to determine whether any additional limitations, or changes to existing requirements, may be necessary to prevent pass through, interference or noncompliance with sludge disposal requirements.

[26] *The Discharger is not required to analyze for asbestos.*

c. A complete and updated list of the Discharger's significant industrial users (SIUs), including names, Standard Industrial Classification (SIC) code(s) and addresses, and a list of any SIU deletions and/or additions. The Discharger shall provide a brief explanation for each deletion. The SIU list shall identify the SIUs subject to Federal Categorical Standards by specifying which set(s) of standards are applicable to each SIU. The list shall also indicate which SIUs are subject to local limitations more stringent than Federal Categorical Standards and those, which are not subject to local limits.

d. A list or table characterizing the industrial compliance status of each SIU, including:

(1) SIU name;
(2) Industrial category;
(3) The type (processes) of wastewater treatment in place;
(4) Number of samples taken by the POTW during the year;
(5) Number of samples taken by the SIU during the year;
(6) Whether all needed certifications (if allowed) were provided by SIUs which have limits for total toxic organics;
(7) Federal and Regional Standards violated during the year, reported separately;
(8) Whether the SIU at any time in the year was in Significant Noncompliance (SNC)[27], as defined by 40 CFR 403.12 (f)(2)(vii); and
(9) A summary of enforcement actions against the SIU taken during the year, including the type of action, final compliance date, and amount of fines assessed/collected (if any). Proposed actions, if known, should be included.
(10) Number of inspections conducted at each SIU during the year.

e. A compliance summary table which includes:

(1) SIU's which were in SNC at any time during the year;
(2) The total number of SIUs which are in SNC with pretreatment compliance schedules during the year;
(3) The total number of notices of violation and administrative orders issued against SIUs during the year;
(4) The total number of civil and criminal judicial actions filed against SIUs during the year;
(5) The number of SIUs which were published as being in SNC during the year; and
(6) The number of IUs from which penalties were collected during the year.

[27] *SNC is determined at the beginning of each quarter based on data of the previous six months.*

f. A short description of any significant changes in operating the pretreatment program which differ from the previous year including, but not limited to changes concerning:

(1) The program's administrative structure;
(2) Local industrial discharge limitations;
(3) Monitoring program or monitoring frequencies;
(4) Legal authority or enforcement policy;
(5) Funding mechanisms; and
(6) Resource requirements and/or staffing levels.

g. A summary of the annual pretreatment budget, including the cost of pretreatment program functions and equipment purchases.

h. A summary of public participation activities to involve and inform the public.

i. A description of any changes in sludge disposal methods and a discussion of any concerns not described elsewhere in the report.

3. The cumulative number of industrial users that the Discharger has notified regarding Baseline Monitoring Reports and the cumulative number of industrial user responses.

4. The Discharger shall submit the quarterly compliance status reports and the annual pretreatment report to EPA Region 9, the State Board and the Regional Water Board.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.
2. All analytical data shall be reported with method detection limit[28] (MDLs) and with identification of either reporting level or limits of quantitation (LOQs). Quality assurance/quality control data shall be submitted upon request. Test results shall be reported in either milligrams/liter (mg/L) or micrograms/liter (µg/L), or picograms/L (pg/L), as appropriate.
3. For effluent wastewater monitoring:

[28] *The standardized test procedure to be used to determine the method detection limit (MDL) is given at Appendix B, 'Definition and Procedure for the Determination of the Method Detection Limit' of 40 CFR 136.*

a. The Discharger shall require its testing laboratory to calibrate the analytical system down to the minimum level (ML)[29] specified in Attachment H for priority pollutants with effluent limitations in this Order, unless an alternative minimum level is approved by the Regional Water Board's Executive Officer. When there is more than one ML value for a given substance, the Discharger shall use the ML values, and their associated analytical methods, listed in Attachment H that are below the calculated effluent limitation. The Discharger may select any one of those cited analytical methods for compliance determination. If no ML value is below the effluent limitation, then the lowest ML value and its associated analytical method, listed in Attachment H shall be used. Any internal quality control data associated with the sample must be reported when requested by the Executive Officer. The Regional Water Board will reject the quantified laboratory data if quality control data is unavailable or unacceptable.

b. The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

(1) Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

(2) Sample results less than the reported ML, but greater than or equal to the laboratory's current Method Detection Limit (MDL)[30], shall be reported as "Detected, but Not Quantified," or "DNQ." The estimated chemical concentration of the sample shall also be reported.

(3) Sample results not detected above the laboratory's MDL shall be reported as "not detected" or "ND."

4. For receiving water monitoring and for those priority pollutants without effluent limitations, the Discharger shall require its testing laboratory to quantify constituent concentrations to the lowest achievable MDL as determined by the procedure found in 40 CFR 136 (revised as of April 11, 2007). In situations where the most stringent applicable receiving water objective (freshwater or human health (consumption of organisms only), as specified for that pollutant in 40 CFR 131.38[31] is below the minimum level value specified in Attachment H and the Discharger cannot achieve an MDL value for that pollutant below the ML value, the Discharger shall submit justification why a lower MDL value cannot be achieved. Justification shall be submitted together with monthly monitoring reports.

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29 *Minimum level is the concentration at which the entire analytical system must give a recognizable signal and acceptable point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.*

30 *MDL is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analytical concentration is greater than zero, as defined in 40 CFR 136, Appendix B, revised as of April 11, 2007.*

31 *See Federal Register/ Vol. 65, No. 97 / Thursday, May 18, 2000 / Rules and Regulations.*

5. For non-priority pollutants monitoring, all analytical data shall be reported with method detection limits, as determined by the procedure found in 40 CFR 136 (revised as of April 11, 2007).
6. Any internal quality control data associated with the sample must be reported when requested by the Executive Officer. The Regional Water Board will reject the quantified laboratory data if quality control data is unavailable or unacceptable.
7. Discharge monitoring data shall be submitted in a format acceptable by the Regional Water Board. Specific reporting format may include preprinted forms and/or electronic media. The results of all monitoring required by this Order shall be reported to the Regional Water Board, and shall be submitted in such a format as to allow direct comparison with the limitations and requirements of this Order.
8. The Discharger shall tabulate the monitoring data to clearly illustrate compliance and/or noncompliance with the requirements of the Order.
9. The Discharger shall submit to the Regional Water Board reports necessary to determine compliance with effluent limitations in this Order and shall follow the chemical nomenclature and sequential order of priority pollutant constituents shown in Attachment G – Priority Pollutant Lists for reporting the required annual priority pollutant monitoring.
10. The reports for June and December shall include a roster of plant personnel, including job titles, duties, and level of State certification for each individual.
11. The Discharger shall report monitoring results for specific parameters in accordance with the following table:

Table 11 Reporting Requirements

Parameter	Measurement
Flow	Daily total flow
pH	Daily High and daily low
Total Residual Chlorine	Daily Maximum
Electrical Conductivity	Daily High
Turbidity	Daily maximum

12. The Discharger shall file a written report with the Regional Water Board within ninety (90) days after the average dry-weather waste flow for any month equals or exceeds 75 percent of the design capacity of the waste treatment and/or disposal facilities. The Discharger's senior administrative officer shall sign a letter which transmits that report and certifies that the policy making body is adequately informed about it. The report shall include:

    a. Average daily flow for the month, the date on which the instantaneous peak flow occurred, the rate of that peak flow, and the total flow for the day.

    b. The Discharger's best estimate of when the average daily dry-weather flow rate will equal or exceed the design capacity of the treatment facilities.

c. The Discharger's intended schedule for studies, design, and other steps needed to provide additional capacity for the waste treatment and/or disposal facilities before the waste flow rate equals the capacity of present units.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). Until such notification is given, the Discharger shall submit hard copy SMRs. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.

2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under Sections III through IX. Additionally, the Discharger shall report in the SMR the results of any special studies, acute and chronic toxicity testing, TRE/TIE, PMP, and Pollution Prevention Plan required by Special Provisions – VI.C. of this Order. The Discharger shall submit monthly, quarterly, and annual SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table 12 Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On	Monitoring Period	SMR Due Date
Continuous	The effective day of this Order	All	Submit with monthly SMR
Daily	The effective day of this Order	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	Submit with monthly SMR
Weekly	The effective day of this Order	Sunday through Saturday	Submit with monthly SMR
Monthly	First day of calendar month following permit effective date or on permit date if that date is first day of the month	1st day of calendar month through last day of calendar month	First day of the second month following the reporting period, submit as monthly SMR

Table 12 Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On	Monitoring Period	SMR Due Date
Quarterly[32]	Closest of January 1, April 1, July 1, or October 1 following permit effective date	January 1 through March 31, samples are collected in January; April 1 through June 30; samples are collected in April; July 1 through September 30; samples are collected in July; October 1 through December 31; samples are collected in October	First day of the second month following the reporting period, submit with monthly SMR
Semi-annually	Closest of January 1 or July 1 following permit effective date	January 1 through June 30, samples are collected in January. July 1 through December 31, samples are collected in July.	first day of the second month following the reporting period, submit with monthly SMR
Annually	The effective day of this Order	January 1 through December 31, see Table 1.	April 1 each year including report requirements in Attachments Pretreatment report due to September, 1

4. Reporting Protocols. The Discharger shall report with each sample result the applicable reported Minimum Level (ML) and the current Method Detection Limit (MDL), as determined by the procedure in Part 136.

   The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

   a. Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

   b. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

   c. For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (+ a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

[32] *Quarterly monitoring result for certain constituents may be used to satisfy the annual monitoring for the same constituents.*

d. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.

e. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

5. The Discharger shall submit hard copy SMRs (with an original signature) when required by subsection B.1 above in accordance with the following requirements:

   a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations.

   b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

   c. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the address listed below:

      California Regional Water Quality Control Board
      Santa Ana Region
      3737 Main Street, Suite 500
      Riverside, CA 92501-3348

6. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

7. By April 1 of each year, the Discharger shall submit an annual report to the Regional Water Board. The annual report shall include the following:

   a. Tabular and graphical summaries of the monitoring data obtained during the previous year;

   b. A discussion of the compliance record and the corrective actions taken or planned, which may be needed to bring the discharge into full compliance with the waste discharge requirements;

   c. A summary of the quality assurance (QA) activities for the previous year; and

d. For priority pollutant constituents that do not have effluent limitations but are required to be monitored, the Discharger shall evaluate the monitoring data obtained during the previous year and determine whether detected constituents are at levels that would warrant reopening the permit to include effluent limitations for such constituent(s). To conduct this evaluation, the concentration of detected constituents shall be compared to the most stringent applicable receiving water objectives (freshwater or human health (consumption of organisms only) as specified for that pollutant in 40 CFR 131.3833). The Discharger shall include a discussion of the corrective actions taken or planned to address values above receiving water objectives.

C. Discharge Monitoring Reports (DMRs)

1. As described in Section X.B.1 above, at any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of Discharge Monitoring Reports (DMRs). Until such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below.

2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharger shall submit the original DMR and one copy of the DMR to the address listed below:

Table 13 Monitoring Reporting Submittal

Standard Mail	FedEx/UPS/ Other Private Carriers
State Water Resources Control Board Division of Water Quality c/o DMR Processing Center PO Box 100 Sacramento, CA 95812-1000	State Water Resources Control Board Division of Water Quality c/o DMR Processing Center 1001 I Street, 15th Floor Sacramento, CA 95814

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated will not be accepted unless they follow the exact same format of EPA Form 3320-1.

   Regional Administrator
   U. S. Environmental Protection Agency
   Region 9 – Attention WTR – 7
   75 Hawthorne Street
   San Francisco, CA 94105

[33] *See Federal Register/ Vol. 65, No. 97 / Thursday, May 18, 2000 / Rules and Regulations.*

D. Other Reports

1. The Discharger shall report the results of any special studies, acute and chronic toxicity testing, TRE/TIE, PMP, and Pollution Prevention Plan required by Special Provisions – VI.C. of this Order. The Discharger shall submit reports with the first monthly SMR scheduled to be submitted on or immediately following the report due date in compliance with SMR reporting requirements described in subsection X.B.5 above.

2. Site Spills

a. In accordance with the requirements of Health and Safety Code section 5411.5, the Discharger shall provide notification to the local health officer or the director of environmental health with jurisdiction over the affected water body of any unauthorized release of sewage or other waste that causes, or probably will cause, a discharge to any waters of the state.

b. In accordance with the requirements of Water Code section 13271, the Discharger shall provide notification to the Office of Emergency Services of the release of reportable amounts of hazardous substances or sewage that causes, or probably will cause, a discharge to any waters of the state. The California Code of Regulations, Title 23, section 2250, defines a reportable amount of sewage as being 1,000 gallons. The phone number for reporting these releases to the Office of Emergency Services is (800) 852-7550.

c. The Discharger shall notify the Regional Water Board of any unauthorized release of sewage from its wastewater treatment plant that causes, or probably will cause, a discharge to a water of the state as soon as possible, but not later than two (2) hours after becoming aware of the release. This notification does not need to be made if the Discharger has notified the Office of Emergency Services. The phone number for reporting these releases of sewage to the Regional Water Board is (951) 782-4130. At a minimum, the following information shall be provided:

(1) The location, date, and time of the release.

(2) The water body that received or will receive the discharge.

(3) An estimate of the amount of sewage or other waste released and the amount that reached a surface water at the time of notification.

(4) If ongoing, the estimated flow rate of the release at the time of the notification.

(5) The name, organization, phone number and email address of the reporting representative.

d. As soon as possible, but not later than twenty four (24) hours after becoming aware of an unauthorized discharge of sewage or other waste from its wastewater treatment plant to a water of the state, the Discharger shall submit a statement to the Regional Water Board by email at spillreportR8@waterboards.ca.gov. If the discharge is 1,000 gallons or more, this statement shall certify that the State Office of Emergency Services has been notified of the discharge in accordance with Water Code section 13271. The statement shall also certify that the local health officer or director of environmental health with jurisdiction over the affected water bodies has been notified of the discharge in accordance with Health and Safety Code section 5411.5. The statement shall also include at a minimum the following information:

(1) Agency and Order No.

(2) The location, date, and time of the discharge.

(3) The water body that received the discharge.

(4) A description of the level of treatment of the sewage or other waste discharged.

(5) An initial estimate of the amount of sewage or other waste released and the amount that reached a surface water.

(6) The Office of Emergency Services control number and the date and time that notification of the incident was provided to the Office of Emergency Services.

(7) The name of the local health officer or director of environmental health representative notified (if contacted directly); the date and time of notification; and the method of notification (e.g., phone, fax, email).

Attachment F – Fact Sheet

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ATTACHMENT F – FACT SHEET

As described in Section II of this Order, this Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for Dischargers in California. Only those sections or subsections of this Order that are specifically identified as "not applicable" have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as "not applicable" are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table 1. Facility Information

WDID		**8 332818001**			
Discharger/Operator		Inland Empire Utilities Agency			
Name of Facility		Regional Water Recycling Plant No. 1 (RP-1)	Regional Water Recycling Plant No. 4 (RP-4)	Regional Water Recycling Plant No. 5 (RP-5)	Carbon Canyon Water Reclamation Facility (CCWRF)
Address		2450 East Philadelphia Street.	12811 Sixth Street	6068 Kimball Avenue, Building "C"	14950 Telephone Avenue
		Ontario, CA 91761	Rancho Cucamonga, CA 91729	Chino, CA 91708	Chino, CA 91710
		San Bernardino County			
Facility Contact, Title and Phone		Patrick O. Sheilds, Executive Manager of Operations, (909) 993-1806			
Authorized Person to Sign and Submit Reports		Patrick O. Sheilds, Executive Manager of Operations, (909) 993-1806			
Address		6075 Kimball Avenue, Chino, CA 91708			
Mailing/Billing Address		P.O. Box 9020, Chino Hills, CA 91709			
Major or Minor Facility		Major			
Type of Facility		POTW			
Threat to Water Quality		1			
Complexity		A			
Pretreatment Program		Y			
Reclamation Requirements		Y			
Facilities Permitted Flow		84.4 million gallons per day (mgd)			
Facility Design Flow		44 mgd	14 mgd	15 mgd (and 1.3 mgd flow from sludge treatment system at Regional Water Recycling Plant No.2 (RP-2))	11.4 mgd
Watershed		Santa Ana River watershed			
Receiving Water	**Surface Waters**	Prado Park Lake, Reach 1A of Chino Creek, Reach 1 of Cucamonga Creek, Mill Creek, and Reach 3 of Santa Ana River		Reach 1B of Chino Creek and Reach 3 of Santa Ana River	Reach 2 of Chino Creek and Reach 3 of Santa Ana River
	Groundwater	Chino North "Maximum Benefit" Groundwater Management Zone/Chino 1, 2, and 3 "Antidegradation" Groundwater Management Zones			
Receiving Water Type		Inland surface water and groundwater			

A. Inland Empire Utilities Agency (hereinafter Discharger, or IEUA) is the owner and operator of four regional water recycling facilities, appurtenant structures[1], sewer pipeline system, and recycled water distribution system (hereinafter Facilities). The four Facilities are linked as shown in Figures 1 and 2 of Attachment C.

For the purposes of this Order, references to the "discharger" or "permittee" in applicable federal and State laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

B. The Discharger produces tertiary treated wastewater and discharges to surface waters at different locations, including discharges into Reaches IA, IB and 2 of Chino Creek, Reach 1 of Cucamonga Creek, Prado Park Lake, and Reach 3 of the Santa Ana River. Chino Creek, Reach 1 of Cucamonga Creek, Prado Park Lake, and the Santa Ana River are waters of the United States. Discharges from the Facilities are regulated pursuant to the following Orders tabulated below for each facility:

Table 2. List of Orders adopted for each Facility

Facility	Order No.	Order Adoption Date	Expiration Date	WDR Regulatory Scope
RP-1 & RP-4	R8-2006-0010, amended by R8-2007-0045 and R8-2007-0078	May 19, 2006	May 1, 2011	Regulates discharges to Prado Park Lake and Reach 1 of Cucamonga Creek, tributaries to Reach 3 of Santa Ana River and recycled water use.
RP-5	R8-2008-0028	Sept. 5, 2008	Sept. 1, 2013	Regulates discharges to Reach 1B of Chino Creek, a tributary to Reach 3 of Santa Ana River and recycled water use.
CCWRF	R8-2004-0020, amended by R8-2006-0038 and R8-2007-0078	August 13, 2004	August 1, 2009	Regulates discharges to Reach 2 of Chino Creek, a tributary to Reach 3 of Santa Ana River and recycled water use.

The terms and conditions of the current Orders remain in effect until new Waste Discharge Requirements and NPDES permit are adopted pursuant to this Order.

[1] *Appurtenant structures among other things include the Regional Water Recycling Plant No.2 (RP-2) facility. RP-2 is an existing tertiary wastewater treatment plant owned by the Discharger. Cease and Desist Order No. 94-74 required the Discharger to relocate the liquid treatment facilities at RP-2 to a site not subject to flooding. Consequently, RP-5 replaced RP-2. Only the sludge treatment systems at RP-2 are operational and there are no longer surface water discharges from RP-2. Primary and waste activated sludge from RP-5 and CCWRF are piped to the regional solids handling facility at RP-2 for sludge treatment. Dewatered wastewater from RP-2 is pumped back to the headworks of RP-5.*

C. The Discharger filed a report of waste discharge and submitted an application for a new Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit on January 27, 2009. The Discharger requests consolidation of all three permits into one permit for the Discharger's Facilities. This request is consistent with the interconnected nature of the facilities and the approach specified in the individual Orders to regulate certain constituents (TDS and TIN) on an agency-wide, flow-weighted average basis. This new permit will regulate the discharges from the Facilities to surface waters and will also regulate recycled water use. Supplemental information was requested starting February 13, 2009. The latest supplemental information was received on May 21, 2009. A site visit was conducted on May 19, 2009, to observe operations and collect additional data to develop permit limitations and conditions. The application was deemed complete on May 21, 2009.

II. FACILITY DESCRIPTION

A. Description of Wastewater and Biosolids Treatment or Controls

1. Discharger and Service Area

Inland Empire Utilities Agency (IEUA) is a municipal water supply and wastewater treatment agency. IEUA owns and operates a regional wastewater collection system and water recycling plants, including RP-1, RP-4, RP-5, and CCWRF. The treatment Facilities receive domestic, commercial, and industrial waste waters generated within the IEUA service areas. Wastewater can be diverted to different plants via available routing options built into the regional system (see Figure 1 of Attachment C for further detail). After treatment, recycled water can be discharged to nearby outfall(s) or recycled for industrial uses, irrigation and groundwater recharge. The following table summarizes the service areas and the population served by each Facility.

Table 3. Summary of Service Areas & Population Served

Facility	Population Served	Cities/Agency Served
RP-1 & RP-4	602,000	Chino, Fontana, Montclair, Upland, Ontario, and Cucamonga Valley Water District
RP-5	104,000	Chino, Chino Hills, and Ontario; Montclair and Upland via CCWRF
CCWRF	126,400	Chino, Chino Hills, Montclair, and Upland

Attachment B provides a map of the area at each water recycling Facility.

Attachment C provides the IEUA System-Wide influent flow interrelationship diagram, IEUA System-Wide Water Recycling Distribution System and treatment flow schematic for each Facility.

2. Design Characteristics and Biosolids Treatment

The treatment processes at each Facility are tabulated as follows:

Table 4. Plant Treatment Processes

Facility	RP-1	RP-4	RP-5	CCWRF
Preliminary & Primary Treatment	Mechanical bar screens, grit chambers, chemical addition, primary clarifiers, flow equalization /emergency storage basins	Mechanical bar screens, grit chambers, chemical addition, primary clarifiers	Mechanical bar screen, grit chambers, one storage basin (, primary clarifiers	Mechanical bar screen, grit removal, chemical addition, primary clarifiers, emergency storage basin
Secondary Treatment	Aeration trains with oxic/anoxic zones, secondary clarifiers	Aeration basins with oxic /anoxic zones, secondary clarifiers	Aeration basins with anoxic/oxic zones, secondary clarifiers	Aeration basins with anoxic/oxic zones, secondary clarifiers
Tertiary Treatment	Coagulation/Flocculation, sedimentation, filtration, chlorination, dechlorination	Coagulation/Flocculation, filtration, chlorination, de-chlorination (not used), emergency diversion pond	Coagulation/Flocculation, filtration, chlorination, de-chlorination, emergency overflow pond	Coagulation/flocculation, filtration, chlorination, dechlorination
Design Capacity, mgd	44	14	15 (and 1.3 mgd RP-2 sludge treatment system wastewater flows)	11.4
Solids Handling	The solids handling for these facilities takes place at RP-1. RP-4 primary sludge and waste activated sludge are conveyed through the sewer system and enter RP-1 as influent. Solids treatment includes gravity thickener and dissolved air flotation thickeners, anaerobic digestion, digester gas utilization, and belt press dewatering. Belt press wash water is pumped to the DAFT units where the solids can be recovered and the remaining liquid is returned to the activated sludge process.[2] Belt press filtrate is pumped to the Non-Reclaimable Waste System (NRWS) line and is ultimately treated by the County Sanitation Districts of Los Angeles County.		Primary and waste activated sludge wastes from RP-5 and CCWRF are piped to the regional solids handling facility at RP-2 for sludge treatment. The solids treatment system at RP-2 includes gravity thickeners; dissolved air flotation thickeners; anaerobic digestion; aerobic digestion; belt press, and centrifuge dewatering. Dewatered biosolids are hauled away to approved disposal sites Sludge treatment system wastewater from RP-2 is pumped back to headworks of RP-5.	

[2] *IEUA plans to construct a building to house four new centrifuges for dewatering digested sludge. This will replace the belt press dewatering. The tentative project completion and start-up date is 2012.*

3. Recycled Water Uses

The Discharger delivers tertiary treated wastewater through the regional recycled water system at various locations for recycling use. The recycled water is used for landscape irrigation by public and private users, for agricultural irrigation by farmers, for dust control at construction sites and for industrial purposes, including equipment/machinery cooling. Total average flow for recycled water use has increased significantly in recent years, with a peak annual average usage of approximately 20 mgd in 2008. This Order also regulates the recycled water use within the Discharger's service area.

Recycled water from RP-1 and RP- 4 is also used for groundwater recharge in areas overlying the Chino North Groundwater Management Zone. This groundwater recharge is regulated under a separate Order (Order No. R8-2007-0039). Order No. R8-2007-0039 was issued to the Discharger and the Chino Basin Watermaster to regulate the use of recycled water for the Chino Basin Recycled Water Groundwater Recharge Project, Phase I and Phase II. Order No. R8-2009-0021 does not regulate the use of recycled water for groundwater recharge.

B. Discharge Points and Receiving Waters

1. Discharge Points to Surface Water

Tertiary treated wastewater from each of the four Facilities is discharged at different Discharge Points (DPs 001, 002, 003, & 004) to surface waters that include Reaches 1A, 1B and 2 of Chino Creek, Reach 1 of Cucamonga Creek, and Prado Park Lake. These waterbodies are tributary to Reach 3 of the Santa Ana River within the Prado Basin Management Zone.

2. Stormwater Discharge points

Stormwater flows generated on site at RP-1 are collected and pumped to a liquid process stream for treatment. In the event that stormwater flows exceed the capacity to store and/or pump to a liquid process stream, stormwater may enter Reach 1 of Cucamonga Creek via S-001 or S-002.

Stormwater flows generated on site at RP- 4 are fully contained in an onsite, 4 million gallon capacity storage basin. All water captured in this basin is then pumped to a liquid process stream for treatment.

Stormwater flows generated on site at RP-5 and CCWRF plant are collected and pumped to the liquid process stream for treatment.

3. Recycled Water Use Area

Recycled water for irrigation is delivered to IEUA's service area through Discharge Points (DP) 005 through DP 008.

4. Receiving Water

Surface water. Tertiary treated wastewater discharges from the Facilities are either into Reaches 1A, 1B and 2 of Chino Creek, Reach 1 of Cucamonga Creek, and Prado Park Lake, tributaries of Reach 3 of the Santa Ana River within the Prado Basin Management Zone (PBMZ).

Groundwater. The Discharger distributes recycled water throughout its service area. The current recycled water use area overlies the Chino North "Maximum Benefit" Groundwater Management Zone (or Chino 1, 2, and 3 "Antidegradation" groundwater management zones).

There is little or no groundwater storage within the PBMZ.

Table 5 shows a summary of the discharge points, discharge coordinates (longitude and latitude), affected receiving waters, and estimated volume of discharge:

Table 5. Summary of Discharge Points and Receiving Waters

Discharge Point	Latitude	Longitude	Discharging Facility	Effluent Description and Receiving Water	Flow (MGD) & Frequency
001	N33°56'39"	W117°38'34"	RP-1	Tertiary treated effluent into Prado Park Lake. Overflow from the lake to an unnamed creek, then to Reach 1A of Chino Creek, a tributary to Reach 3 of Santa Ana River in Prado Basin	6.6 mgd 3-year average Continuous discharge
002	N34°1'31"	W117°33'56"	RP-1 & RP-4	Reach 1 of Cucamonga Creek, then to Mill Creek, then Reach 1A of Chino Creek, a tributary to Reach 3 of Santa Ana River in Prado Basin	20.6 mgd 3-year average Continuous discharge
003	N33°57'44"	W117°40'41"	RP-5	Reach 1B of Chino Creek, a tributary to Reach 3 of Santa Ana River	10.2 mgd 3-year average Continuous discharge
004	N33°58'56	W117°41'48"	CCWRF	Reach 2 of Chino Creek, a tributary to Reach 3 of Santa Ana River	9.9 mgd 3-year average Continuous discharge

Table 5. Summary of Discharge Points and Receiving Waters					
Discharge Point	Latitude	Longitude	Discharging Facility	Effluent Description and Receiving Water	Flow (MGD) & Frequency
005	N34°01'29"	W117°35'57"	RP-1	Recycled water use in areas overlying Chino North "Max Benefit" GMZ	14.1 mgd 1-year average - intermittent
006	N34°04'59"	W117°31'35"	RP-4	Recycled water use in areas overlying Chino North "Max Benefit" GMZ	3.1 mgd 1-year average (2007) - intermittent
007	N33°57'51"	W117°40'24"	RP-5	Recycled water use in areas overlying Chino North "Max Benefit" GMZ	1.0 MGD 1-year average - intermittent
008	N33°58'47"	W117°41'37"	CCWRF	Recycled water use in areas overlying Chino North "Max Benefit" GMZ	2.8 mgd 1-year average - intermittent
S-001	N34°01'36"	W117°35'59"	RP-1	Stormwater runoff to Reach 1 of Cucamonga Creek	Varies during storm event
S-002	N34°01'28"	W117°35'58"	RP-1	Stormwater runoff to Reach 1 of Cucamonga Creek	Varies during storm event

C. Summary of Previous Requirements and Self-Monitoring Report (SMR) Data

1. Effluent Limitations/Discharge Specifications contained in the previous Order No. R8-2006-0010 for discharges from RP-1 & RP-4 at Discharge Point 001 and DP002 and representative monitoring data from the term of the previous Order are as follows:

Table 6. RP-1 Historic Effluent Limitations and Monitoring Data at M-001A and M-001B

Parameter (units)	Effluent Limitation			Monitoring Data (From Aug. 2004 to December 2008)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge	Highest 12-Month Average
Flow (mgd) (Jan 06 to Dec 08)				11.1		11.7	Avg: 6.5
pH Daily Average (SU)			Range 6.5-8.5			Range 6.7-8.4	
BOD5 (mg/L)	20	30		2	3		
Suspended Solids (mg/L)	20	30		2	3		
Coliform Organisms (MPN/100 mL)	23 (1/mo.)	2.2			2		
Ammonia-Nitrogen (mg/L)	4.5			2.9			

Table 6. RP-1 Historic Effluent Limitations and Monitoring Data at M-001A and M-001B

Parameter (units)	Effluent Limitation			Monitoring Data (From Aug. 2004 to December 2008)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge	Highest 12-Month Average
Total Residual Chlorine (mg/L)			0.1 Instant. Max			0.0	
TDS (mg/L)	12-M, 550 agency-wide[3]			543			505 combined M-001 and M-002
Total Hardness (mg/L)					5th percentile 123	159	
Toxicity, TUc				1.7 Reproductio n			
TIN[4] (mg/L)	12-M, 8 agency-wide						9.8 Note: combined RP-1 and RP-4
Arsenic(µg/L)				6		6	
Cadmium(µg/L)				<0.25		<0.25	
Total recoverable Chromium (VI) (µg/L)				4.6		4.6	
Copper (µg/L)				7		7	
Free Cyanide (µg/L)[5]	4.2		8.5	24		24	
Lead (µg/L)				<0.5		<0.5	
Mercury (µg/L)				<0.05		<0.05	
Nickel (µg/L)				16		16	
Total recoverable Selenium (µg/L)	4.1		8.2	7		7	
Silver (µg/L)				0.7		0.7	
Zinc (µg/L)				122		122	
Bis(2-Ethylhexyl) Phthalate (µg/L)	5.9		11.8	9		9	
Bromodichloro Methane (µg/L)				34		34	
Chlorodibromo Methane (µg/L)				13		13	

[3] *This limitation may be met on an agency-wide basis using flow weighted averages of the discharges from all treatment plants operated by the Discharger*

[4] *Agency wide, the Discharger currently complies with the total inorganic nitrogen limitations in the Orders for RP-1, RP-4, RP-5 and CCWRF.*

[5] *Prior to January 2008, "Available cyanide" was measured rather than just "Free Cyanide". Available cyanide encompasses weak-acid dissociable cyanide compounds (that can release free cyanide) and free cyanide.*

Table 6. RP-1 Historic Effluent Limitations and Monitoring Data at M-001A and M-001B

Parameter (units)	Effluent Limitation			Monitoring Data (From Aug. 2004 to December 2008)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge	Highest 12-Month Average
Turbidity, NTU			2			>2	

Table 7. RP-1 & RP-4 Historic Effluent Limitations and Monitoring Data at M-002A and M-002B

Parameter (units)	Effluent Limitation			Monitoring Data (From Aug 2004 to December 2008)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge	Highest 12-Month Average
Flow (mgd) (Jan 06 to Dec 08)				28.5		40.9	Avg: 20.4
pH Daily Average (SU)			Range 6.5-8.5			Range 6.5-8.0	
BOD5 (mg/L)	20	30		2	3		
Suspended Solids (mg/L)	20	30		5	12		
Coliform Organisms (MPN/100 mL)	23 (1/mo.)	2.2	240		2		
Ammonia-Nitrogen (mg/L)	4.5			3.0			
Total Residual Chlorine (mg/L)			0.1 instant. Max			4.8	
TDS (mg/L)	12-M, 550 agency-wide			534			505 Note: combined RP-1 and RP-4
Total Hardness (mg/L)					5^{th} percentile 120	162	
Toxicity, TUc				1.3 Reproduction			
TIN (mg/L)	12-M, 8 agency-wide						9.8 combined M-001 and M-002 only
Arsenic(µg/L)				6		6	
Cadmium(µg/L)				<0.25		<0.25	
Total recoverable Chromium (VI) (µg/L)				4.3		4.3	
Copper (µg/L)				8		8	
Free Cyanide (µg/L)[6]	4.2		8.5	15		15	
Lead (µg/L)				5		5	
Mercury (µg/L)				<0.05		<0.05	
Nickel (µg/L)				4		4	

[6] *Prior to January 2008, "Available" cyanide was measured rather than "Free Cyanide".*

Table 7. RP-1 & RP-4 Historic Effluent Limitations and Monitoring Data at M-002A and M-002B

Parameter (units)	Effluent Limitation			Monitoring Data (From Aug 2004 to December 2008)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge	Highest 12-Month Average
Total recoverable Selenium (µg/L)	4.1		8.2	8		8	
Silver (µg/L)				0.37		0.37	
Zinc (µg/L)				59		59	
Bis(2-Ethylhexyl) Phthalate (µg/L)	5.9		11.8	7		7	
Bromodichloro Methane (µg/L)				31		31	
Chlorodibromo Methane (µg/L)				13		13	

2. Effluent limitations/Discharge Specifications contained in the previous Order No. R8-2008-0028 for discharges from RP-5 at discharge Point 003 and representative monitoring data from the term of the previous Order are as follows:

Table 8. RP-5 Historic Effluent Limitations and Monitoring Data at M-003

Parameter (units)	Effluent Limitation			Monitoring Data (From Aug 2004 to December 2008)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge	Highest 12-Month Average
Flow (mgd) (Jan 06 to Dec 08)				13.0		15.4	Avg: 10.3
pH Daily Average (SU)			Range 6.5-8.5			Range 6.5-8.1	
BOD5 (mg/L)	20	30		<2	<3		
Suspended Solids (mg/L)	20	30		4	7		
Coliform Organisms (MPN/100 mL)	23 (1/mo.)	2.2	240		2		
Ammonia-Nitrogen (mg/L)	4.5			0.4			
Total Residual Chlorine (mg/L)			0.1 Instant. Max.			0.0	
TDS (mg/L)	12-M, 550 agency-wide			557			533
Total Hardness (mg/L)					5^{th} percentile 148	215	
Toxicity, TUc				>1.7 Reproduction			
TIN (mg/L)	12-M, 8 agency-wide						6.5
Arsenic (µg/L)				7		7	
Cadmium (µg/L)				1.7		1.7	

Table 8. RP-5 Historic Effluent Limitations and Monitoring Data at M-003

Parameter (units)	Effluent Limitation			Monitoring Data (From Aug 2004 to December 2008)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge	Highest 12-Month Average
Total recoverable Chromium (VI) (µg/L)				9		9	
Copper (µg/L)				13		13	
Free Cyanide (µg/L) [7]	4.6		7.3	8		8	
Lead (µg/L)				3		3	
Mercury (µg/L)				<0.05		<0.05	
Nickel (µg/L)				7		7	
Total recoverable Selenium (µg/L)				3		3	
Silver (µg/L)				0.5		0.5	
Zinc (µg/L)				69		69	
Bis(2-Ethylhexyl) Phthalate (µg/L)				3		3	
Bromodichloro Methane (µg/L)				48		48	
Chlorodibromo Methane (µg/L)				21		21	
2,3,7,8-TCDD (Dioxin), (µg/L)						0.0000035	

3. Effluent limitations/Discharge Specifications contained in the previous Order No. R8-2004-0020 for discharges from CCWRF at Discharge Point 004 and representative monitoring data from the term of the previous Order are as follows:

Table 9. CCWRF Historic Effluent Limitations and Monitoring Data at M-004

Parameter (units)	Effluent Limitation			Monitoring Data (From Aug 2004 to December 2008)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge	Highest 12-Month Average
Flow (mgd) (Jan 06 to Dec 08)	11.4			10.0		13.2	Avg: 6.9
pH Daily Average (SU)			Range 6.5-8.5			Range 6.6-7.7	
BOD5 (mg/L)	20	30		2	3		
Suspended Solids (mg/L)	20	30		2	8		
Coliform Organisms (MPN/100 mL)	23 (1/mo.)	2.2	240		2		
Ammonia-Nitrogen (mg/L)	4.5			0.2			

[7] *Prior to January 2008, "Available cyanide" was measured rather than "Free Cyanide".*

Table 9. CCWRF Historic Effluent Limitations and Monitoring Data at M-004

Parameter (units)	Effluent Limitation			Monitoring Data (From Aug 2004 to December 2008)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge	Highest 12-Month Average
Total Residual Chlorine (mg/L)			0.1 instant. Max			0.0	
TDS (mg/L)	12M, 550 agency-wide			554			537
Total Hardness (mg/L)					5th percentile 130		
Toxicity, TUc				1.7 Reproduction			
TIN (mg/L)	12M, 8						7.5
Arsenic(µg/L)				7		7	
Cadmium(µg/L)				<0.25		<0.25	
Total recoverable Chromium (VI) (µg/L)	8.2		16.3	4.1		4.1	
Copper (µg/L)				12		12	
Free Cyanide (µg/L)[8]	4.1		8.2	8		8	
Lead (µg/L)				0.5		0.5	
Mercury (µg/L)				<0.05		<0.05	
Nickel (µg/L)				20		20	
Total recoverable Selenium (µg/L)	4.1		8.2	<2		<2	
Silver (µg/L)				0.9		0.9	
Zinc (µg/L)				57		57	
Bis(2-Ethylhexyl) Phthalate(µg/L)	5.9		11.8	25		25	
Bromodichloro Methane (µg/L)				33		33	
Chlorodibromo Methane (µg/L)				10		10	
2,3,7,8-TCDD (Dioxin) (µg/L)						0.00000026	

D. Compliance Summary

Based on a review of effluent monitoring data submitted by the Discharger for the period from 2004 through 2008, the following Table shows the compliance summary for each Facility:

[8] *Prior to January 2008, "Available cyanide" was measured rather than Free Cyanide.*

Table 10. Compliance Status RP-1, RP-5 and CCWRF

Date	Plant	Parameter	Value	Permit Limit	Reason for Violation	Corrective Measures
01/02/04	RP-1 (001)	Chlorine Residual	4.6 mg/L	0.1mg/L	Sodium Bisulfite (SBS) crystallized due to low temps	Heat tape installed to the SBS piping distribution system to prevent crystallization of SBS in the line
10/17/04	RP-1 (001)	Chlorine Residual	6.5 mg/L	0.1mg/L or not exceed 5 mg/L	Dechlor Station power failure	Monthly standby generator testing and automated V-1 valve closure
03/14/05	RP-1 (001)	Turbidity	>2 NTU	2 NTU	Plant upset, unstable activated sludge system , and one activated sludge train was in repair	Placed train back into service, reseeded one activated sludge system, polymer addition, chlorinated RAS.
03/14/05 - 03/16/05	RP-1 (002)	Turbidity	>2 NTU	2 NTU, 5 NTU 5%		
07/24/06	RP-1 (002)	Chlorine Residual	4.8 mg/L	0.1mg/L	Stage 2 Power Alert. Standby generator at pump stations and Dechlor stn power failure	Preventative maintenance procedures reviewed, revised, and implemented.
10/01/06	RP-1 (002)	Coliform	900 MPN/100 mL	240 MPN/ 100mL	Sample contamination	Staff retrained in sample collection and handling techniques
09/05/07	RP-1 (001)	Coliform	500 MPN/100 mL	240 MPN/ 100mL	Sample contamination	Staff retrained in sample collection and handling techniques
11/22/07	RP-1 (002)	Coliform	>1600 MPN/100 mL	240 MPN/ 100mL	Metal tip at sampling point contaminated sample	Discontinued use of metal tip at sampling point
03/06/07	CCWRF	Bis(2-ethylhexyl phthalate	25 µg/L	5.9 µg/L avg; 11.8 µg/L max	Sample contamination	Compound commonly used in the manufacturing of plastics. Influent concentration was “non-detect”
01/04/05	RP-5	Chlorine Residual	5.29 mg/L	0.1mg/L or not exceed 5 mg/L	Sodium Bisulfite (SBS) crystallized due to low temps	Heat tape installed to the SBS piping distribution system to prevent crystallization of SBS in the line.
01/09/05	RP-5	Chlorine Residual	>5.0 mg/L	0.1mg/L or not exceed 5 mg/L	Control analyzer failure	Allow effluent gate to close automatically as designed.

E. Planned Changes – Not Applicable

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

A. Legal Authorities

This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and Chapter 5.5, Division 7 of the California Water Code (commencing with Section 13370). It shall serve as a NPDES permit for point source discharges from the Regional Water Recycling Facilities to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, Chapter 4, Division 7 of the Water Code (commencing with Section 13260). This Order also includes Producer/User Recycling Requirements to regulate recycled water use for irrigation and other industrial uses.

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code section 21000 et seq. (*County of Los Angeles v. California State Water Resources Control Board* (2006) 143 Cal.App.4th 985, mod. (Nov. 6, 2006, B184034) 50 Cal.Rptr.3d 619, 632-636.)

This action also involves the re-issuance of waste discharge requirements for an existing Facility that discharges treated wastewater to land and as such, is exempt from the provisions of California Environmental Quality Act (commencing with Section 21100) in that the activity is exempt pursuant to Title 14 of the California Code of Regulations Section 15301.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The Regional Water Board adopted an updated Water Quality Control Plan for the Santa Ana Basin (hereinafter Basin Plan) that became effective on January 24, 1995. The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, State Water Resources Control Board (State Water Board) Resolution No. 88-63 (Sources of Drinking Water Policy) requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic water supply use to water bodies. Based on the exception criteria specified in Resolution No. 88-63, the Regional Water Board excepted certain waters from the municipal and domestic supply beneficial use.

   On January 22, 2004, the Regional Water Board adopted Resolution No. R8-2004-0001, amending the Basin Plan to incorporate revised boundaries for groundwater subbasins, now termed “management zones”, new nitrate-nitrogen and TDS objectives for the new management zones, and new nitrogen and TDS management strategies applicable to both surface and ground waters. The State Water Board and Office of Administrative Law (OAL) approved the N/TDS

Amendment on September 30, 2004 and December 23, 2004, respectively. EPA approved the surface water standards components of the N/TDS Amendment on June 20, 2007. Effluent limitations in this Order for TDS and TIN discharges to Chino Creek, Reach 1 of Cucamonga Creek, Prado Park Lake, and Reach 3 of the Santa Ana River are based on applicable wasteload allocations specified in the Basin Plan as amended.

The designated beneficial uses of receiving waters affected by the discharge from the Facility are as follows:

Table 11. Basin Plan Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
001	Prado Park Lake, overflow from the lake to an unnamed creek, then to Reach 1A of Chino Creek	Present or Potential: Water contact recreation (REC-1), non-contact water recreation (REC-2), warm freshwater habitat, wildlife habitat (WILD), and rare, threatened and endangered species. Recreational use at Prado Park Lake is restricted to fishing and boating. Excepted from Municipal and Domestic Supply.
002	Reach 1 of Cucamonga Creek, to Mill Creek, then Reach 1A of Chino Creek	Present or Potential: Groundwater Recharge, Water contact recreation (REC-1), non-contact water recreation (REC-2), Limited warm freshwater habitat, and wildlife habitat (WILD). Excepted from Municipal and Domestic Supply.
003	Reach 1B of Chino Creek	Present or Potential: Water contact recreation (REC-1), non-contact water recreation (REC-2), warm freshwater habitat, wildlife habitat (WILD), and rare, threatened and endangered species. Excepted from Municipal and Domestic Supply.
004	Reach 2 of Chino Creek	Present or Potential: Groundwater Recharge, Water contact recreation (REC-1), non-contact water recreation (REC-2), Cold freshwater habitat, and wildlife habitat (WILD). Excepted from Municipal and Domestic Supply.
001, 002, 003, 004, S-001, & S-002	Reach 3 of Santa Ana River within Prado Basin Management Zone	Present or Potential: Agricultural supply, groundwater recharge, water contact recreation, non-contact water recreation, warm freshwater habitat, wildlife habitat, rare, threatened or endangered species, and spawning, reproduction, and development waters supporting high quality aquatic habitats. Excepted from Municipal and Domestic Supply.

Table 11. Basin Plan Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
001, 002, 003, 004, 005, 006, 007, 008, S-001, & S-002	Chino North "Max Benefit" GMZ / Chino 1, 2 and 3 "antidegradation" GMZs	Present or Potential: Municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.
	Orange GMZ (affected GMZ downstream of discharge points)	Present or Potential: Municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.

Requirements of this Order implement the Basin Plan.

2. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.

3. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

4. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes (40 C.F.R. § 131.21, 65 Fed. Reg. 24641 (April 27, 2000)). Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

5. **Antidegradation Policy.** 40 CFR § 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. As discussed in Section IV. E. 2 of this Fact Sheet, the permitted discharges are consistent with the antidegradation provisions of § 131.12 and State Water Board Resolution No. 68-16.

6. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations[9] section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. All effluent limitations in the Order are at least as stringent as the effluent limitations in the previous Orders for each Facility.

7. **Monitoring and Reporting Requirements.** Section 122.48 of 40 CFR requires that all NPDES permits specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of the CWC authorize the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP) establishes monitoring and reporting requirements to implement federal and State requirements. This MRP is provided in Attachment E.

D. Impaired Water Bodies on CWA 303(d) List

Reach 1 of Chino Creek, Mill Creek (Prado Area) and Prado Park Lake are included in the USEPA approved 2006 CWA 303(d) list due to nutrients resulting principally from agricultural and dairy operations inputs during storm events. Reaches 1 & 2 of Mill Creek are also listed due to pathogen indicators, also resulting principally from dairy operations inputs during storm events. This Order requires that the wastewater discharged from the Facilities be essentially free of pathogens/pathogen indicators and that the wastewaters comply with the applicable Basin Plan wasteload allocation for total inorganic nitrogen (8 mg/L) for surface water discharges.

E. Other Plans, Polices and Regulations-Not Applicable

[9] *All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.*

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source Dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: section 122.44(a) requires that permits include applicable technology-based limitations and standards; and section 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water

A. Discharge Prohibitions

The discharge prohibitions are based on the Federal Clean Water Act, Basin Plan, State Water Board's plans and policies, U.S. Environmental Protection Agency guidance and regulations, and previous permit provisions in Orders No. R8-2006-0010, R8-2008-0028, and R8-2004-0020 and are consistent with the requirements set for other discharges regulated by NPDES permits adopted by the Regional Water Board.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations, require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at Part 133 and/or Best Professional Judgment (BPJ) in accordance with Part 125, section 125.3.

Regulations promulgated in 40 CFR §125.3(a)(1) require technology-based effluent limitations for municipal dischargers to be placed in waste discharge requirements based on Secondary Treatment Standards or Equivalent to Secondary Treatment Standards.

The Federal Water Pollution Control Act Amendments of 1972 (PL 92-500) established the minimum performance requirements for POTWs [defined in Section 304(d)(1)]. Section 301(b)(1)(B) of that Act requires that such treatment works must, as a minimum, meet effluent limitations based on secondary treatment as defined by the USEPA Administrator.

Based on this statutory requirement, USEPA developed secondary treatment regulations, which are specified in 40 CFR Part 133. These technology-based regulations apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of biochemical oxygen demand (BOD_5), total suspended solids (TSS), and pH.

2. Applicable Technology-Based Effluent Limitations for 20:1 dilution

This Facility meets the technology-based regulations for the minimum level of effluent quality attainable by secondary treatment in terms of BOD_5, total suspended solids and removal rate as summarized in the Table below. These effluent limitations have been set for secondary treated wastewater discharges at Discharge Points (DPs) 002, 003, and 004 under 20:1 dilution conditions.

Table 12. Summary of Technology-Based Effluent Limits for Secondary Treatment

Constituent	Average Weekly (mg/L)	Average Monthly (mg/L)	Average Monthly Removal Rate %
Biochemical Oxygen Demand, 5-day 20^0C	45	30	85
Total Suspended Solids	45	30	85

DP 001 discharges to Prado Park Lake. This lake is a property of the County of San Bernardino. The County and the Discharger agreed that the Discharger will provide up to 6.6 mgd of tertiary treated recycled water to the lake for recreation and fishing. There are no other discharges into the lake except stormwater from the tributary drainage area. Overflow from this lake discharges continuously to an unnamed creek, then to Reach 1A of Chino Creek. Consequently, discharges of secondary treated wastewater under 20:1 dilution condition into the lake is not allowed.

C. WQBEL-Based Effluent Limitations for DP 001 through DP 004

1. Scope and Authority

Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

Section 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the

pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

a. The Basin Plan specifies narrative and numeric water quality objectives applicable to surface water as follows.

Table 13. Applicable Basin Plan Surface Water Quality Objectives

Constituents	Basis for Limitations
Ammonia Nitrogen	Dissociates under certain conditions to the toxic un-ionized form. Thus, nitrogen discharges to surface water pose a threat to aquatic life and instream beneficial uses, as well as to the beneficial uses of affected groundwater. The Basin Plan specifies total ammonia and un-ionized ammonia objectives and an effluent limit of 4.5 mg/L for discharges to surface waters--Chino Creek and Mill Creek.
Hydrogen Ion (pH)	Hydrogen Ion (pH) is a measure of Hydrogen Ion concentration in the water. A pH range of 6.5 to 8.5 for surface water discharges is specified.
Oil & Grease	Oil and related materials have a high surface tension and are not soluble in water, resulting in odors and visual impacts.
Total Dissolved Solids	High levels of TDS can adversely impact groundwater affected by recharge of the affected receiving waters, as well as the use of that groundwater for supply purposes. The TDS limit for surface water discharges is based on the amended Basin Plan wasteload allocation for the discharger of 550 mg/L[10] and 80 mgd flow.
Total Inorganic Nitrogen	Nitrogen discharges to the Santa Ana River pose a threat to aquatic life and instream beneficial uses, as well as to the beneficial uses of affected groundwater. The TIN limit for surface water discharges is based on the amended Basin Plan wasteload allocation of 8.0 mg/L and 80 mgd flow .
Total Chlorine Residual	Wastewater disinfection with chlorine usually produces chlorine residual. Chlorine and its reaction products are toxic to aquatic life. To protect aquatic life, the chlorine residual in wastewater discharged to inland surface waters shall not exceed 0.1 mg/L.

10 *The Basin Plan specifies in Table 5-5 that TDS and TIN discharges to surface waters from the Discharger's wastewater treatment facilities are to be regulated pursuant to a single wasteload allocation, applied as a flow-weighted average of the discharges from the facilities. The TDS and TIN wasteload allocations are not contingent on "maximum benefit" objectives or implementation.*

(1) TDS and TIN: TDS and TIN limitations are specified in the Order for discharges of tertiary treated effluent at DPs 001, 002, 003, and 004. These TDS/TIN limits are based on the waste load allocation specified in Table 5-5 of the amended Basin Plan.

(2) TDS: This Order also includes a TDS limit based on the flow weighted running average quality of the water supplied to the service area plus a reasonable use increment of 250 mg/L. This reasonable use increment addition is discussed and authorized in the Basin Plan.

(3) For surface water discharges, the more restrictive of the TDS limit based on the wasteload allocation or the TDS limit based on water supply quality plus the reasonable use increment applies to discharges from the Facilities.

(4) In accordance with 40 CFR Section 122.45(d), there may be instances in which the basis for a limit for a particular continuous discharge may be impracticable to be stated as a maximum daily, average weekly, or average monthly effluent limitation. The Regional Water Board has determined that it is not practicable to express TDS and TIN effluent limitations as average weekly and average monthly effluent limitations because the TDS and TIN objectives in the Basin Plan were established primarily to protect the underlying groundwater. Consequently, a 12-month average period is more appropriate.

b. NTR, CTR and SIP. The National Toxics Rule, California Toxics Rule (CTR) and State Implementation Policy specify numeric objectives for toxic substances and the procedures whereby these objectives are to be implemented. The procedures include those used to conduct reasonable potential analysis to determine the need for effluent limitations for priority and non-priority pollutants.

c. Requirement to meet 2.2 total coliform bacteria limit in the effluent. Article 3, Section 60305 of Title 22, Chapter 3, "Use of Recycled water for impoundments" of the California Code of Regulations specifies that recycled water used as a source of supply in a nonrestricted recreational impoundment shall be at all times an adequately disinfected, oxidized, coagulated, clarified, filtered wastewater (tertiary treated). The degree of treatment specified represents an approximately 5-log reduction in the virus content of the water. The California State Department of Public Health (CDPH) has determined that this degree of virus removal is necessary to protect the health of people using these impoundments for water contact recreation. The CDPH has developed wastewater disinfection guidelines ("Wastewater Disinfection for Health Protection", Department of Health Services, Sanitary Engineering Branch, February 1987) for discharges of wastewater to surface waters where water contact recreation (REC-1) is a beneficial use. The disinfection guidelines recommend the same treatment requirements for wastewater discharges to REC-1 waters as those stipulated in Title 22 for supply of recycled water to nonrestricted recreational impoundments, since the public health risks under both

scenarios are analogous. The disinfection guidelines are based on sound science and are widely used as guidance to assure public health and beneficial use protection.

None of the surface waters to which the discharges regulated under this Order occur are considered to be "nonrestricted recreational impoundments", nor is "recycled water[11]" being used as a supply source pursuant to the definitions in Title 22. However, to protect the water contact recreation beneficial use and to prevent nuisance and health risk, it is necessary and appropriate to require the same degree of treatment for wastewater discharges to the affected waterbodies as would be required for the use of recycled water in a nonrestricted recreational impoundment. Thus, this Order specifies requirements based on tertiary or equivalent treatment.

d. Requirement to meet disinfection CT limit in the effluent. The Board has consulted with the CDPH regarding the applicability of the process design standards (specifically filter rates, CT, and modal contact) for discharges of waste to flowing streams. CDPH has determined that although compliance with these standards is necessary to protect public health when recycled water is used, compliance with these standards is not necessary to protect public health for discharges into waterbodies that provide dilution of the wastewater, provided the performance standards are consistently met. During periods when the receiving water can provide a 1:1 dilution of the wastewater discharge, the Order provides that the specified filter rates, CT, and modal contact time do not apply to wastewater discharges to surface water. The specified filter rates, CT, and modal contact time applies to recycled water use.

3. Determining the Need for WQBELs

In accordance with Section 1.3 of the SIP, the Regional Water Board conducted a reasonable potential analysis (RPA) for each priority pollutant with an applicable criterion or objective to determine if a WQBEL is required in the Order. The Regional Water Board analyzed effluent data to determine if a pollutant in a discharge has the reasonable potential to cause or contribute to an excursion above a state water quality standard. For all parameters that have the reasonable potential to cause or contribute to an excursion above a water quality standard, numeric WQBELs are required. The RPA considers criteria from the CTR, and when applicable, water quality objectives specified in the Basin Plan. For hardness dependent metals, a fixed hardness value for each outfall, based on the lowest 5th percentile of effluent hardness measurements from each plant, is used to facilitate the determination of compliance. The decision to use the 5th percentile of effluent hardness measurements is based on previous practice resulting from the Santa Ana River Use Attainability Analysis conducted in 1994 and a 2008 special study conducted by the State Water Board staff.

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11 *As defined in the Reclamation Criteria, recycled water means water which, as a result of treatment of domestic wastewater, is suitable for a direct beneficial use or a controlled use that would not otherwise occur.*

Sufficient data are needed to conduct a complete RPA. If data are not sufficient, the Discharger will be required to gather the appropriate data for the Regional Water Board to conduct the RPA. Upon review of the data, and if the Regional Water Board determines that WQBELs are needed to protect the beneficial uses, the permit will be reopened for appropriate modification.

The RPA was performed by reviewing the data provided by the Discharger in accordance with the SIP. Total recoverable selenium, and bis(2-ethylhexyl) phthalate were determined to have reasonable potential to cause an excursion above applicable pollutant criteria or objectives for discharges at DP 001 and DP 002. For discharges at DP 003, cyanide, selenium, bis(2-ethylhexyl) phthalate, and Bromodichloromethane were determined to have reasonable potential to cause an excursion above applicable pollutant criteria or objectives. For discharges at DP 004, bis(2-ethylhexyl) phthalate was determined to have reasonable potential to cause an excursion above applicable pollutant criteria or objectives. For CCWRF, the RPA also determined that total recoverable chromium (VI) does not have the reasonable potential to cause an excursion above applicable pollutant criteria or objectives. Consequently, effluent limitations for this constituent are not included in this Order.

The December 2007 monitoring data for 2,3,7,8-TCDD (Dioxin) at DP 003 and DP 004 showed one detected value each at 0.0000035 µg/L and 0.00000026 µg/L, respectively. These values are above the water quality criteria for Dioxin. However, the prior monitoring results before detection showed non-detect values and subsequent to detection, three monitoring data for each outfall also showed non-detect values. Considering the previous and subsequent monitoring results, it is determined that there is no reasonable potential for Dioxin to exceed applicable pollutant criteria. Consequently, no effluent limitation for Dioxin is included in the Order. However, the Order requires the Discharger to conduct quarterly monitoring for Dioxin for one year. The monitoring frequency is reduced to semi-annual if quarterly monitoring results show non-detect values at acceptable reporting levels.

For free cyanide, the RPA was based on the previous RPA that was done for each facility because the EPA approved test method for free cyanide is in question and the Discharger is using a test method that is currently being verified for accuracy and repeatability. This test method will be submitted to EPA for approval. Meanwhile, this Order retains the current effluent limits for free cyanide for RP-1, RP-4, RP-5 and CCWRF.

The following tables show the RPA study results for each Facility. Effluent limitations are established in this Order for those parameters with “yes” in the RPA column of the tables.

Table 14. RP-1 - Comparing DP 001 Effluent Data with WQOs

Parameter	unit	Effluent MEC[12]	CTR-Fresh water			Basin Plan	RPA
		Fresh water	CMC/CCC	WQO	Human Health Organisms Only	WQO	
Cyanide, Free	µg/L	24	22/5.2				yes
Bis(2-ethylhexyl) Phthalate	µg/L	9			5.9		yes
Total recoverable selenium	µg/L	7.0	0/5.0				yes

*: 5th percentile of effluent hardness of 124 mg/l is used to calculate metals criteria with hardness related.

Table 15. RP-1 & RP-4 - Comparing DP 001 & DP 002 Effluent Data with WQOs

Parameter	unit	Effluent MEC	CTR-Fresh water			Basin Plan	RPA
		Fresh water	CMC/CCC	WQO	Human Health	WQO	
Cyanide, Free	µg/L	15	22/5.2				yes
Bis(2-ethylhexyl) Phthalate	µg/L	7			5.9		yes
Total recoverable selenium	µg/L	8.0	0/5.0				yes

*: 5th percentile of effluent hardness of 122 mg/l is used to calculate metals criteria with hardness related.

Table 16. RP-5 - Comparing DP 003 Effluent Data with WQOs

Parameter	unit	Effluent MEC	CTR-Fresh water			Basin Plan	RPA
		Fresh water	CMC/CCC	WQO	Human Health	WQO	
Cyanide, Free	µg/L	8	22/5.2				yes
Bis(2-ethylhexyl) Phthalate	µg/L	4			5.9		no
Total recoverable Selenium	µg/L	3	0/5.0				No
2,3,7,8-TCDD (Dioxin)	µg/L	0.0000035			0.000000014		No, see Section IV.C.3., above
Bromodichloromethane	µg/L	48			46		yes

*: 5th percentile of effluent hardness of 148 mg/l is used to calculate metals criteria with hardness related.

[12] *MEC, CMC, CCC are defined in Attachment A.*

Table 17. CCWRF - Comparing DP 004 Effluent Data with WQOs

Parameter	unit	Effluent MEC	CTR-Fresh water			Basin Plan	RPA
		Fresh water	CMC/CCC	WQO	Human Health	WQO	
Cyanide, Free	µg/L	8	22/5.2				yes
Bis(2-ethylhexyl) Phthalate	µg/L	25			5.9		yes
Total recoverable chromium (VI)	µg/L	4.1	16/11				No
Total recoverable Selenium	µg/L	<2	0/5.0				No
2,3,7,8-TCDD (Dioxin)	µg/L	0.00000026			0.000000014		No, see Section IV.C.3., above

*: 5th percentile of effluent hardness of 130 mg/l is used to calculate metals criteria with hardness related.

4. WQBEL Calculations

No mixing zone allowance is included in the calculation of effluent limits in this Order. Consequently, compliance with the effluent limits is required to be determined at the end of the discharge pipe for freshwater discharge.

a. For priority pollutants, water quality based effluent limits based on monitoring results and the calculation process outlined in Section 1.4 of the California Toxic Rule and the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays and Estuaries of California are summarized in the following Tables 19, 20 and 21. The criteria calculation is based on CTR criteria for freshwater.

The calculated coefficients of variation (CVs) for data sets of total recoverable selenium and cyanide are based on standard deviation, number of samples and mean of the data set.

This Order retains the free cyanide limits in the prior permits. The following table shows the free cyanide limits.

Table 18. Cyanide Limits in prior Orders

Discharge Point	Order	Facility	Effluent Limitations, µg/L	
			Average Monthly	Maximum Daily
DP 001&DP 002	R8-2006-0010	RP-1/RP-4	4.2	8.5
DP 003	R8-2008-0028	RP-5	4.6	7.3
DP 004	R8-2004-0020	CCWRF	4.3	8.5

Table 19. Calculation of Effluent Limits at DP 001 and DP002

				CV = 0.6, long-term average			Aquatic Life		Human		Permit Limit	
	CTR Criteria			Acute M	Chronic M	LTA	Objective/limits		Health Limits		Concentration Limit	
	Fresh water		Human Health	0.321	0.527		**3.11**	**1.55**	**2.01**			
Constituent	CMC	CCC		Acute LTA	Chronic LTA		MDEL	AMEL	MDEL	AMEL	MDEL	AMEL
Bis(2-ethylhexyl) Phthalate			5.9						11.9	5.9	**11.9**	**5.9**
Total recoverable selenium		5.0			2.6	***2.6***	8.2	4.1			**8.2**	**4.1**

Table 20. Calculation of Effluent Limits at DP 003

Bromodichloromethane			46						92.5	46.0	**92**	**46**

Table 21. Calculation of Effluent Limits at DP 004

Constituent	CMC	CCC		Acute LTA	Chronic LTA		MDEL	AMEL	MDEL	AMEL	MDEL	AMEL
Bis(2-ethylhexyl) Phthalate			5.9						11.9	5.9	**11.9**	**5.9**

5. Whole Effluent Toxicity (WET)

This Order does not specify WET limits but requires chronic toxicity monitoring. This Order, as in the previous Orders, also requires the Discharger to conduct the accelerated monitoring as specified in Attachment E when the result of any single chronic toxicity test of the effluent exceeds 1.0 TUc. The monitoring data for all the Facilities during the past three years (2005-2008) indicated that the monthly trigger of 1 TUc has not been exceeded.

D. BPJ - Based Effluent Specifications for DP 001 through DP 004

For tertiary treated wastewater, the BOD_5 and TSS concentration limits are based on Best Professional Judgment. The technology-based secondary treatment standards specify BOD_5 and TSS concentration limits that are less stringent.

Table 22. Tertiary Effluent BOD_5 and TSS Limits

Constituent	Average Weekly	Average Monthly
Biochemical Oxygen Demand	30 mg/L	20 mg/L
Suspended Solids	30 mg/L	20 mg/L

E. Summary of Final Effluent Limitations

1. Satisfaction of Anti-Backsliding Requirements

All effluent limitations in this Order are at least as stringent as the effluent limitations in previous Orders.

2. Satisfaction of Antidegradation Policy

The discharges addressed in this Order are existing discharges regulated under waste discharge requirements issued for each of the Facilities. This Order consolidates those requirements. The effluent limitations in this Order are at least as stringent as those specified in the prior individual waste discharge requirements. No increases in the regulated discharge flows are proposed. Therefore, discharges conducted in conformance with the requirements of this Order will not result in a lowering of water quality. The discharges therefore conform to antidegradation requirements specified in Resolution No. 68-16, which incorporates the federal antidegradation policy at 40 CFR 131.12 where, as here, is it applicable.

3. Stringency of Requirements for Individual Pollutants

Water quality-based effluent limitations have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to section 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations for priority pollutants are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. Apart from certain surface water standards changes resulting from the N/TDS Basin Plan amendment that do not materially affect the quality requirements for the discharges regulated by this Order, all beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to section 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

4. Summary of Final Effluent Limitations

Table 23. Summary of Water Quality-Based Effluent Limits at all DPs

Parameter	Units	Effluent Limitations					Basis
		Average Monthly	Average Weekly	Max Daily	Instant. Max.	Range	
BOD_5	mg/L	20	30	--	--	--	Basin Plan
Total Suspended Solids	mg/L	20	30	--	--	--	BP
pH	Std. unit	--	--	--		6.5-8.5	BP
Total Residual Chlorine	mg/L				0.1		BP
Coliform	MPN	--		2.2 MPN	--	--	Title 22
Ammonia Nitrogen	mg/L	4.5					BP
Free Cyanide	µg/L	4.0		9.2			CTR
Bis (2-Ethylhexyl) Phthalate at DPs 001, 002, & 004	µg/L	5.9		12			CTR
Total recoverable selenium at DPs 001 & 002	µg/L						CTR
Bromodichloromethane At DP 003	µg/L	46		92	µg/L		CTR

F. Interim Effluent Limitations - Not Applicable

G. Land Discharge Specifications – Not Applicable

H. Reclamation Specifications

1. Section 13523 of the California Water Code provides that a Regional Water Board, after consulting with and receiving the recommendations from the CDPH and any party who has requested in writing to be consulted, and after any necessary hearing, shall prescribe water reclamation requirements for water which is used or proposed to be used as recycled water, if, in the judgment of the Board, such requirements are necessary to protect the public health, safety, or welfare. Section 13523 further provides that such requirements shall include, or be in conformance with, the statewide uniform water recycling criteria established by the CDPH pursuant to California Water Code Section 13521.

2. Reclamation specifications in the proposed Order are based upon the recycling criteria contained in Title 22, Division 4, Chapter 3, Sections 60301 through 60355, California Code of Regulations, and the California Water Code Section 13521.

3. As shown in Chapter 4 of the Basin Plan as amended by the N/TDS Amendment, Resolution No. R8-2004-0001, two sets of groundwater management zones (GMZs) and respective TDS objectives have been adopted for a portion of the Chino Basin. "Maximum benefit" objectives are established for the Chino North GMZ, while "antidegradation" objectives are set for the Chino 1, 2 and 3 GMZs. Order Nos. R8-2004-0020, R8-2006-0010, and R8-2008-0028 include TDS limits for recycled water use that implement the Chino North and Chino 1, 2, and 3 TDS objectives. Provided that applicable maximum benefit commitments specified in Chapter 5 of the amended Basin Plan (and shown in Attachment J of this Order) are satisfied by the Discharger and the Chino Basin Watermaster, the TDS discharges from the combined effluent quality from the Discharger's treatment plants will be limited to 550 mg/L. Note that the "maximum benefit" objective for the Chino North GMZ is 420 mg/L. The basis for the TDS limit of 550 mg/L is as follows. The TDS value of 550 mg/L for recycled water use was assumed as part of the development of the maximum benefit objective for the Chino North GMZ and the maximum benefit program. Implementation of that program, which entails blending of recycled water with other sources of supply (stormwater, imported State Project Water) will assure that the TDS objective of the Chino North GMZ is achieved and maintained. If the Regional Board finds that thee maximum benefit commitments are not satisfied, then the Chino 1, 2 and 3 "antidegradation" management zones and their respective TDS objectives apply. Since the Chino 1, 2 and 3 GMZs lack assimilative capacity for TDS, the TDS limits are the same as the management zone objectives.

Table 24. TDS Limitations

Receiving Groundwater Management Zone	12-Mo Average TDS Concentration, mg/L
Chino 1	280
Chino 2	250
Chino 3	260
Chino – North "maximum benefit"	550

4. TIN limits: When recycled water is reused for irrigation, no nitrogen limit is established for the effluent, since nitrogen is anticipated to be used by plants and will not affect water quality.

I. Stormwater Discharge Requirements

On April 17, 1997, the State Board adopted the General Industrial Storm Water Permit, Order No. 97-03-DWQ, NPDES No. CAS000001. This General Permit implements the Final Regulations (40 CFR 122, 123, and 124) for stormwater runoff published on November 16, 1990 by EPA in compliance with Section 402(p) of the Clean Water Act (CWA). Industrial facilities, including POTW sites, are required to obtain NPDES Permits for stormwater discharges. Accordingly, this Order incorporates requirements for the discharge of stormwater from RP-1[13].

J. Groundwater Recharge Requirements – Not Applicable

Order No. R8-2007-0039 regulates the use of recycled water from RP-1 and RP-4 for groundwater recharge.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

The surface water receiving water limitations in this Order are based upon the water quality objectives contained in the Basin Plan. As such, they are required part of the proposed Order.

B. Groundwater – Not Applicable

[13] *Stormwater discharges from the Discharger's other Facilities are treated onsite (see II. B. 2, above).*

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 of 40 CFR requires all NPDES permits to specify recording and reporting of monitoring results. Sections 13267 and 13383 of the CWC authorize the Regional Water Boards to require technical and monitoring reports. The MRP, Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and State requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for these Facilities.

A. Influent Monitoring

This Order carries forward the treatment plant influent monitoring requirements specified in Orders No. R8-2004-0020, R8-2006-0010, and R8-2008-0028 with modifications. Influent monitoring is required to determine the effectiveness of the treatment program and assess treatment plant performance, and to implement EPA source control/pretreatment program.

B. Effluent Monitoring

The Discharger is required to conduct monitoring of the permitted discharges in order to evaluate compliance with permit conditions. Monitoring requirements are given in the proposed monitoring and reporting program (Attachment E). This provision requires compliance with the monitoring and reporting program, and is based on 40 CFR 122.44(i), 122.62, 122.63 and 124.5. The SMP is a standard requirement in almost all NPDES permits (including the proposed Order) issued by the Regional Water Board. In addition to containing definitions of terms, it specifies general sampling/analytical protocols and the requirements of reporting of spills, violations, and routine monitoring data in accordance with NPDES regulations, the California Water Code, and Regional Water Board's policies. The monitoring and reporting program also contains sampling program specific for the Discharger's wastewater treatment plant. It defines the sampling stations and frequency, pollutants to be monitored, and additional reporting requirements. Pollutants to be monitored include all pollutants for which effluent limitations are specified. Further, in accordance with Section 1.3 of the SIP, periodic monitoring is required for all priority pollutants defined by the CTR, for which criteria apply and for which no effluent limitations have been established, to evaluate reasonable potential to cause or contribute to an excursion above a water quality standard.

This Order continues the monitoring requirements specified in the Order No. R8-2004-0020, No. R8-2006-0010, and No. R8-2008-0028, with modifications. This Order also requires the Discharger to conduct accelerated monitoring for those constituents that are detected in the annual priority pollutant scan.

C. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity (WET) protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. WET tests measure the degree of response of exposed aquatic test organisms to an effluent. The WET approach implements the narrative "no toxics in toxic amounts" criterion. There are two types of WET tests: acute and chronic. An acute toxicity test is conducted over a shorter time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth.

The Basin Plan specifies a narrative objective for toxicity, requiring that all waters be maintained free of toxic substances in concentrations that are lethal to or produce other detrimental response on aquatic organisms. Detrimental response includes but is not limited to decreased growth rate, decreased reproductive success of resident or indicator species, and/or significant alterations in population, community ecology, or receiving water biota.

In addition to the Basin Plan requirements, Section 4 of the SIP states that a chronic toxicity effluent limitation is required in permits for all discharges that will cause, have the reasonable potential to cause, or contribute to chronic toxicity in receiving waters. Therefore, in accordance with the SIP, this Order requires the Discharger to conduct chronic toxicity testing. In addition, the Order establishes thresholds that when exceeded require the Discharger to conduct accelerated toxicity testing and/or to conduct toxicity identification evaluation (TIE) studies.

This Order requires the Discharger to conduct chronic toxicity testing of the effluent from each of the Facilities on a monthly basis. The Order also requires the Discharger to conduct an Initial Investigation Toxicity Reduction Evaluation (IITRE) program when either the two-month median of toxicity test results exceeds 1 TUc or any single test exceeds 1.7 TUc for survival endpoint. Based on the results of this investigation program and at the discretion of the Executive Officer, a more rigorous Toxicity Reduction Evaluation/Toxicity Identification Evaluation (TRE/TIE) may be required. A re-opener provision is included in the Order to incorporate a chronic toxicity effluent limitation if warranted by the toxicity test results.

D. Receiving Water Monitoring

1. Surface Water

Receiving water monitoring is required to determine compliance with receiving water limitations and to characterize the water quality of the receiving water. Requirements are based on the Basin Plan.

2. Groundwater – Not Applicable

E. Other Monitoring Requirements

1. **Water Supply Monitoring** - The Discharger is required to collect a sample of each source of water supplied and analyze for total dissolved solids. The result of this monitoring will enable the Discharger to show compliance with TDS limitations in the Order.

2. **Biosolids Monitoring** - This Order continues the monitoring requirements specified in Order No. R8-2004-0020, No. R8-2006-0010, and No. R8-2008-0028, with modifications.

3. **Pretreatment Monitoring** - These monitoring and reporting requirements are established pursuant EPA 40 CFR 403 regulations.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42.

Section 122.41(a)(1) and (b) through (n) establish conditions that apply to all State-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. Section 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with section 123.25, this Order omits federal conditions that address enforcement authority specified in section0s 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

B. Special Provisions

1. Reopener Provisions

The provisions are based on 40 CFR Parts 122.44(c) and 123. The Regional Water Board may reopen the permit to modify permit conditions and requirements. Causes for modifications include the promulgation of new regulations, modification in sludge use or disposal practices, or adoption of new regulations by the State Water Board or Regional Water Board, including revisions to the Basin Plan.

2. Special Studies and Additional Monitoring Requirements

Toxicity Identification Evaluations or Toxicity Reduction Evaluations. This provision is based on the SIP, Section 4, Toxicity Control Provisions.

3. Best Management Practices and Pollution Prevention

Best Management Practices and Pollution Prevention - The requirements are based on the SIP Section 2.4.5.1

4. Construction, Operation, and Maintenance Specifications

Construction, Operation, and Maintenance Specifications - The requirements are based on requirements that were specified in prior Orders issued to the Discharger.

5. Special Provisions for Municipal Facilities - POTWs Only

a. Oxidized, filtered, and disinfected by UV or chlorine Wastewater Requirements: These requirements are based on Title 22 requirements for the use of recycled water.

b. Pretreatment: The system treatment plants capacity is 84.4 mgd. Consequently, this Order contains requirements for the implementation of an effective pretreatment program pursuant to Section 307 of the Federal Clean Water Act; Parts 35 and 403 of Title 40, Code of Federal Regulations (40 CFR 35 and 40 CFR 403); and/or Section 2233, Title 23, California Code of Regulations.

c. The State Water Board issued General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003-DWQ (General Order) on May 2, 2006. The General Order requires public agencies that own or operate sanitary sewer systems with greater than one mile of pipes or sewer lines to enroll for coverage under the General Order. The General Order requires agencies to develop sanitary sewer management plans (SSMPs) and report all sanitary sewer overflows (SSOs), among other requirements and prohibitions. The Discharger has enrolled and implemented these requirements.

Furthermore, the General Order contains requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows. Inasmuch as the Discharger's collection system is part of the system that is subject to this Order, Provisions section VI.C.5.a. of this Order applies. For instance, the 24-hour reporting requirements in this Order (Provisions section VI.A.2.b.) are not included in the General Order. The Discharger must comply with both the General Order and this Order. The Discharger and public agencies that are discharging wastewater into one or more of the individual facilities were required to obtain enrollment for regulation under the General Order. The Discharger and public agencies that are discharging wastewater into one or more of the individual facilities have enrolled and implemented these requirements.

d. Biosolids: On February 19, 1993, the USEPA issued a final rule for the use and disposal of sewage sludge, 40 CFR, Part 503. This rule requires that producers of sewage sludge meet certain reporting, handling, and disposal requirements. The State of California has not been delegated the authority to implement this program, therefore, the U.S. Environmental Protection Agency is the implementing agency.

6. Other Special Provisions – Not Applicable

7. Compliance Schedules – Not Applicable

VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, Santa Ana Region (Regional Water Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for Inland Empire Utilities Agency's Regional Water Recycling Facilities. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through the posting of a Notice of Public Hearing at the Inland Empire Utilities Agency's RP-1, RP-4, RP-5, CCWRF Facilities and office, and at the Regional Water Board website http://www.waterboards.ca.gov/santaana/board_decisions/tentative_orders/index.shtml and publication in the local newspaper on June 10, 2009.

B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments must be submitted either in person or by mail to the Executive Officer at the Regional Water Board at the address shown below.

To be fully responded to by staff and considered by the Regional Water Board, written comments should be received at the Regional Water Board offices by 5:00 p.m. on June 19, 2009.

Jane Qiu
California Regional Water Quality Control Board
Santa Ana Region
3737 Main Street, Suite 500
Riverside, CA 92501-3348

C. Public Hearing

The Regional Water Board will hold a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: July 20, 2009
Time: 10:00 A.M.
Location: California Regional Water Quality Control Board
Santa Ana Region
3737 Main Street, Suite 500
Riverside, CA 92501-3348

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our web address is http://www.waterboards.ca.gov/santaana. You can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

E. Information and Copying

The Report of Waste Discharge (RWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 9:00 a.m. and 3:00 p.m. Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling Jane Qiu (951) 320-2008.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference this facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this Order should be directed to Jane Qiu at (951) 320-2008.

ATTACHMENT G - EPA PRIORITY POLLUTANT LIST

EPA PRIORITY POLLUTANT LIST					
Metals		**Acid Extractibles**		**Base/Neutral Extractibles (continuation)**	
1.	Antimony	45.	2-Chlorophenol	91.	Hexachloroethane
2.	Arsenic	46.	2,4-Dichlorophenol	92.	Indeno (1,2,3-cd) Pyrene
3.	Beryllium	47.	2,4-Dimethylphenol	93.	Isophorone
4.	Cadmium	48.	2-Methyl-4,6-Dinitrophenol	94.	Naphthalene
5a.	Chromium (III)	49.	2,4-Dinitrophenol	95.	Nitrobenzene
5b.	Chromium (VI)	50.	2-Nitrophenol	96.	N-Nitrosodimethylamine
6.	Copper	51.	4-Nitrophenol	97.	N-Nitrosodi-N-Propylamine
7.	Lead	52.	3-Methyl-4-Chlorophenol	98.	N-Nitrosodiphenylamine
8.	Mercury	53.	Pentachlorophenol	99.	Phenanthrene
9.	Nickel	54.	Phenol	100.	Pyrene
10.	Selenium	55.	2, 4, 6 – Trichlorophenol	101.	1,2,4-Trichlorobenzene
11.	Silver	**Base/Neutral Extractibles**		**Pesticides**	
12.	Thallium	56.	Acenaphthene	102.	Aldrin
13.	Zinc	57.	Acenaphthylene	103.	Alpha BHC
Miscellaneous		58.	Anthracene	104.	Beta BHC
14.	Cyanide, Free	59.	Benzidine	105.	Delta BHC
15.	Asbestos (not required unless requested)	60.	Benzo (a) Anthracene	106.	Gamma BHC
16.	2,3,7,8-Tetrachlorodibenzo-P-Dioxin (TCDD)	61.	Benzo (a) Pyrene	107.	Chlordane
Volatile Organics		62.	Benzo (b) Fluoranthene	108.	4, 4' - DDT
17.	Acrolein	63.	Benzo (g,h,i) Perylene	109.	4, 4' - DDE
18.	Acrylonitrile	64.	Benzo (k) Fluoranthene	110.	4, 4' - DDD
19.	Benzene	65.	Bis (2-Chloroethoxy) Methane	111.	Dieldrin
20.	Bromoform	66.	Bis (2-Chloroethyl) Ether	112.	Alpha Endosulfan
21.	Carbon Tetrachloride	67.	Bis (2-Chloroisopropyl) Ether	113.	Beta Endosulfan
22.	Chlorobenzene	68.	Bis (2-Ethylhexyl) Phthalate	114.	Endosulfan Sulfate
23.	Chlorodibromomethane	69.	4-Bromophenyl Phenyl Ether	115.	Endrin
24.	Chloroethane	70.	Butylbenzyl Phthalate	116.	Endrin Aldehyde
25.	2-Chloroethyl Vinyl Ether	71.	2-Chloronaphthalene	117.	Heptachlor
26.	Chloroform	72.	4-Chlorophenyl Phenyl Ether	118.	Heptachlor Epoxide
27.	Dichlorobromomethane	73.	Chrysene	119.	PCB 1016
28.	1,1-Dichloroethane	74.	Dibenzo (a,h) Anthracene	120.	PCB 1221
29.	1,2-Dichloroethane	75.	1,2-Dichlorobenzene	121.	PCB 1232
30.	1,1-Dichloroethylene	76.	1,3-Dichlorobenzene	122.	PCB 1242
31.	1,2-Dichloropropane	77.	1,4-Dichlorobenzene	123.	PCB 1248
32.	1,3-Dichloropropylene	78.	3,3'-Dichlorobenzidine	124.	PCB 1254
33.	Ethylbenzene	79.	Diethyl Phthalate	125.	PCB 1260
34.	Methyl Bromide	80.	Dimethyl Phthalate	126.	Toxaphene
35.	Methyl Chloride	81.	Di-n-Butyl Phthalate		
36.	Methylene Chloride	82.	2,4-Dinitrotoluene		
37.	1,1,2,2-Tetrachloroethane	83.	2-6-Dinitrotoluene		
38.	Tetrachloroethylene	84.	Di-n-Octyl Phthalate		
39.	Toluene	85.	1,2-Dipenylhydrazine		
40.	1,2-Trans-Dichloroethylene	86.	Fluoranthene		
41.	1,1,1-Trichloroethane	87.	Fluorene		
42.	1,1,2-Trichloroethane	88.	Hexachlorobenzene		
43.	Trichloroethylene	89.	Hexachlorobutadiene		
44.	Vinyl Chloride	90.	Hexachlorocyclopentadiene		

ATTACHMENT H – MINIMUM LEVELS

MINIMUM LEVELS IN PPB (μg/l)

Table 1- VOLATILE SUBSTANCES[1]	GC	GCMS
Acrolein	2.0	5
Acrylonitrile	2.0	2
Benzene	0.5	2
Bromoform	0.5	2
Carbon Tetrachloride	0.5	2
Chlorobenzene	0.5	2
Chlorodibromomethane	0.5	2
Chloroethane	0.5	2
Chloroform	0.5	2
Dichlorobromomethane	0.5	2
1,1 Dichloroethane	0.5	1
1,2 Dichloroethane	0.5	2
1,1 Dichloroethylene	0.5	2
1,2 Dichloropropane	0.5	1
1,3 Dichloropropylene (volatile)	0.5	2
Ethylbenzene	0.5	2
Methyl Bromide (*Bromomethane*)	1.0	2
Methyl Chloride (*Chloromethane*)	0.5	2
Methylene Chloride (*Dichloromethane*)	0.5	2
1,1,2,2 Tetrachloroethane	0.5	1
Tetrachloroethylene	0.5	2
Toluene	0.5	2
trans-1,2 Dichloroethylene	0.5	1
1,1,1 Trichloroethane	0.5	2
1,1,2 Trichloroethane	0.5	2
Trichloroethylene	0.5	2
Vinyl Chloride	0.5	2
1,2 Dichlorobenzene (volatile)	0.5	2
1,3 Dichlorobenzene (volatile)	0.5	2
1,4 Dichlorobenzene (volatile)	0.5	2

Selection and Use of Appropriate ML Value:

ML Selection: When there is more than one ML value for a given substance, the discharger may select any one of those ML values, and their associated analytical methods, listed in this Attachment that are below the calculated effluent limitation for compliance determination. If no ML value is below the effluent limitation, then the discharger shall select the lowest ML value, and its associated analytical method, listed in the PQL Table.

ML Usage: The ML value in this Attachment represents the lowest quantifiable concentration in a sample based on the proper application of all method-based analytical procedures and the absence of any matrix interferences. Assuming that all method-specific analytical steps are followed, the ML value will also represent, after the appropriate application of method-specific factors, the lowest standard in the calibration curve for that specific analytical technique. Common analytical practices sometimes require different treatment of the sample relative to calibration standards.
Note: chemical names in parenthesis and italicized is another name for the constituent.

[1] *The normal method-specific factor for these substances is 1, therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance.*

MINIMUM LEVELS IN PPB (μg/l)

Table 2 – Semi-Volatile Substances[2]	GC	GCMS	LC
2-Chloroethyl vinyl ether	1	1	
2 Chlorophenol	2	5	
2,4 Dichlorophenol	1	5	
2,4 Dimethylphenol	1	2	
4,6 Dinitro-2-methylphenol	10	5	
2,4 Dinitrophenol	5	5	
2- Nitrophenol		10	
4- Nitrophenol	5	10	
4 Chloro-3-methylphenol	5	1	
2,4,6 Trichlorophenol	10	10	
Acenaphthene	1	1	0.5
Acenaphthylene		10	0.2
Anthracene		10	2
Benzidine		5	
Benzo (a) Anthracene (*1,2 Benzanthracene*)	10	5	
Benzo(a) pyrene (*3,4 Benzopyrene*)		10	2
Benzo (b) Flouranthene (*3,4 Benzofluoranthene*)		10	10
Benzo(g,h,i)perylene		5	0.1
Benzo(k)fluoranthene		10	2
bis 2-(1-Chloroethoxyl) methane		5	
bis(2-chloroethyl) ether	10	1	
bis(2-Chloroisopropyl) ether	10	2	
bis(2-Ethylhexyl) phthalate	10	5	
4-Bromophenyl phenyl ether	10	5	
Butyl benzyl phthalate	10	10	
2-Chloronaphthalene		10	
4-Chlorophenyl phenyl ether		5	
Chrysene		10	5
Dibenzo(a,h)-anthracene		10	0.1
1,2 Dichlorobenzene (semivolatile)	2	2	
1,3 Dichlorobenzene (semivolatile)	2	1	
1,4 Dichlorobenzene (semivolatile)	2	1	
3,3-Dichlorobenzidine		5	
Diethyl phthalate	10	2	
Dimethyl phthalate	10	2	
di-n-Butyl phthalate		10	
2,4 Dinitrotoluene	10	5	
2,6 Dinitrotoluene		5	
di-n-Octyl phthalate		10	
1,2-Diphenylhydrazine		1	
Fluoranthene	10	1	0.05
Fluorene		10	0.1
Hexachloro-cyclopentadiene	5	5	
1,2,4 Trichlorobenzene	1	5	

MINIMUM LEVELS IN PPB (μg/l)

Table 2 - SEMI-VOLATILE SUBSTANCES[2]	GC	GCMS	LC	COLOR
Pentachlorophenol	1	5		
Phenol [3]	1	1		50
Hexachlorobenzene	5	1		
Hexachlorobutadiene	5	1		
Hexachloroethane	5	1		
Indeno(1,2,3,cd)-pyrene		10	0.05	
Isophorone	10	1		
Naphthalene	10	1	0.2	
Nitrobenzene	10	1		
N-Nitroso-dimethyl amine	10	5		
N-Nitroso -di n-propyl amine	10	5		
N-Nitroso diphenyl amine	10	1		
Phenanthrene		5	0.05	
Pyrene		10	0.05	

Table 3– INORGANICS[4]	FAA	GFAA	ICP	ICPMS	SPGFAA	HYDRIDE	CVAA	COLOR	DCP
Antimony	10	5	50	0.5	5	0.5			1000
Arsenic		2	10	2	2	1		20	1000
Beryllium	20	0.5	2	0.5	1				1000
Cadmium	10	0.5	10	0.25	0.5				1000
Chromium (total)	50	2	10	0.5	1				1000
Chromium VI	5							10	
Copper	25	5	10	0.5	2				1000
Lead	20	5	5	0.5	2				10000
Mercury				0.5			0.2		
Nickel	50	5	20	1	5				1000
Selenium		5	10	2	5	1			1000
Silver	10	1	10	0.25	2				1000
Thallium	10	2	10	1	5				1000
Zinc	20		20	1	10				1000
Cyanide								5	

2 *With the exception of phenol by colorimetric technique, the normal method-specific factor for these substances is 1000, therefore, the lowest standards concentration in the calibration curve is equal to the above ML value for each substance multiplied by 1000.*

3 *Phenol by colorimetric technique has a factor of 1.*

4 *The normal method-specific factor for these substances is 1, therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance.*

MINIMUM LEVELS IN PPB (μg/l)

Table 4- PESTICIDES – PCBs[5]	GC
Aldrin	0.005
alpha–BHC (*a-Hexachloro-cyclohexane*)	0.01
beta–BHC (*b-Hexachloro-cyclohexane*)	0.005
Gamma–BHC (*Lindane; g-Hexachloro-cyclohexane*)	0.02
Delta-BHC (*d-Hexachloro-cyclohexane*)	0.005
Chlordane	0.1
4,4'-DDT	0.01
4,4'-DDE	0.05
4,4'-DDD	0.05
Dieldrin	0.01
Alpha-Endosulfan	0.02
Beta-Endosulfan	0.01
Endosulfan Sulfate	0.05
Endrin	0.01
Endrin Aldehyde	0.01
Heptachlor	0.01
Heptachlor Epoxide	0.01
PCB 1016	0.5
PCB 1221	0.5
PCB 1232	0.5
PCB 1242	0.5
PCB 1248	0.5
PCB 1254	0.5
PCB 1260	0.5
Toxaphene	0.5

Techniques:
GC - Gas Chromatography
GCMS - Gas Chromatography/Mass Spectrometry
HRGCMS - High Resolution Gas Chromatography/Mass Spectrometry (i.e., EPA 1613, 1624, or 1625)
LC - High Pressure Liquid Chromatography
FAA - Flame Atomic Absorption
GFAA - Graphite Furnace Atomic Absorption
HYDRIDE - Gaseous Hydride Atomic Absorption
CVAA - Cold Vapor Atomic Absorption
ICP - Inductively Coupled Plasma
ICPMS - Inductively Coupled Plasma/Mass Spectrometry
SPGFAA - Stabilized Platform Graphite Furnace Atomic Absorption (i.e., EPA 200.9)
DCP - Direct Current Plasma
COLOR - Colorimetric

5 *The normal method-specific factor for these substances is 100, therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance multiplied by 100.*

ATTACHMENT I – TRIGGERS FOR MONITORING PRIORITY POLLUTANTS

Table I-1. For DP001 and DP002

	CONSTITUENT	µg/L		CONSTITUENT	µg/L
1	Antimony	2150	38	Tetratchloroethylene	4.43
2	Arsenic	75	*39*	***Toluene***	***150***
3	Beryllium	--	*40*	***1,2,-Trans-dichloroethylene***	***10***
4	Cadmium	3.7	*41*	***1,1,1-Trichloroethane***	***200***
5a	Chromium III	122	42	***1,1,2-Trichloroethane***	***5***
5b	Chromium VI	5.5	*43*	***Trichloroethylene***	***5***
6	Copper	14	*44*	***Vinyl Chloride***	***0.5***
7	Lead	12	45	2-Chlorophenol	200
8	Mercury	0.026	46	2,4-Dichlorophenol	395
9	Nickel	31	47	2,4-Dimethylphenol	1150
10	Selenium	2.5	48	2-Methy-4,6-Dinitrophenol	383
11	Silver	2.9	49	2,4-Dinitrophenol	7000
12	Thallium	3.2	50	2-Nitrophenol	--
13	Zinc	71	51	4-Nitrophenol	--
14	Cyanide	2.6	52	3-Methyl-4-Chlorophenol	--
15	Asbestos	--	53	***Pentachlorophenol***	***1***
16	2,3,7,8-TCDD (Dioxin)	0.000000007	54	Phenol	2,300,000
17	Acrolein	390	55	2,4,6-Trichlorophenol	3.3
18	Acrylonitrile	0.33	56	Acenapthene	1,350
19	***Benzene***	***1***	57	Acenapthylene	--
20	Bromoform	180	58	Anthracene	55,000
21	***Carbon Tetrachloride***	***0.5***	59	Benzidine	0.00027
22	Chlorobenzene	10500	60	Benzo (a) anthracene	0.025
23	Chlorodibromomethane	17	61	Benzo (a) pyrene	0.025
24	Chloroethane	--	62	Benzo (b) fluoranthene	0.025
25	2-Chloroethyl vinyl ether	--	63	Benzo (g,h,i) pyrylene	--
26	Chloroform	--	64	Benzo (k) fluorantene	0.025
27	Dichlorobromomethane	23	65	Bis (2-Chloroethoxy) methane	--
28	***1,1-Dichloroethane***	***5***	66	Bis (2-Chloroethyl) ether	0.7
29	***1,2-Dichloroethane***	***0.5***	67	Bis (2-Chloroisopropyl) ether	85,000
30	1,1-Dichloroethylene	1.6	68	Bis (2-ethyhexyl) phthalate	3.0
31	***1,2-Dichloropropane***	***5***	69	4-Bromophenyl phenyl ether	--
32	***1,3-Dichloropropylene***	***0.5***	70	Butyl benzyl phthalate	2600
33	***Ethylbenzene***	***300***	71	2- Chloronapthalene	2150
34	Methyl Bromide	2000	72	4-Chlrorphenyl phenyl ether	--
35	Methyl Chloride	--	73	Chrysene	0.025
36	Methylene Chloride	800	74	Dibenzo (a,h) anthracene	0.025
37	***1,1,2,2-Tetratchloroethane***	***1***	***75***	***1,2-Dichlorobenzene***	***600***

Table I-1. For DP001 and DP002--Continued

	CONSTITUENT	µg/L
76	1,3-Dichlorobenzene	1,300
77	***1,4-Dichlorobenzene***	***5***
78	3,3-Dichlorobenzidine	0.039
79	Diethyl phthalate	60,000
80	Dimethyl phthalate	1,450,000
81	Di-N-butyl phthalate	6,000
82	2,4-Dinitrotoluene	4.6
83	2,6-Dinitrotoluene	--
84	Di-N-octyl phthalate	--
85	1,2-Diphenylhydrazine	0.27
86	Fluoranthene	185
87	Fluorene	7,000
88	Hexachlorobenzene	0.00039
89	Hexachlorobutadiene	25
90	***Hexachlorocyclopentadiene***	***50***
91	Hexachloroethane	4.5
92	Indeno (1,2,3-cd) pyrene	0.025
93	Isophorone	300
94	***Naphthalene***	***17***
95	Nitrobenzene	950
96	***N-Nitrosodimethylamine***	***0.01***
97	***N-Nitrosodi-N-propylamine***	***0.01***
98	N-Nitrosodiphenylamine	8
99	Phenantrene	--

	CONSTITUENT	µg/L
100	Pyrene	5,500
101	***1,2,4 -Trichlorobenzene***	***5***
102	Aldrin	0.00007
103	BHC Alpha	0.0065
104	BHC Beta	0.023
105	BHC Gamma	0.032
106	BHC Delta	--
107	Chlordane	0.0003
108	4,4-DDT	0.0003
109	4,4-DDE	0.0003
110	4,4-DDD	0.00042
111	Dieldrin	0.00007
112	Endosulfan Alpha	0.028
113	Endosulfan Beta	0.028
114	Endosulfan Sulfate	120
115	Endrin	0.018
116	Endrin Aldehyde	0.42
117	Heptachlor	0.00011
118	Heptachlor Epoxide	0.000055
119	PCB 1016	0.000085
120	PCB 1221	0.000085
125	PCB 1260	0.000085
126	Toxaphene	0.0001

Notes:

1. For constituents not shown italicized, the values shown in the Table are fifty percent of the most stringent applicable receiving water objectives (freshwater or human health (consumption of water and organisms) as specified for that pollutant in 40 CFR 131.38[1]).
2. For constituents shown bold and italicized, the values shown in the Table are based on the California Department of Public Health maximum contaminant levels (MCLs) or Notification Level. Notification Level based trigger is underlined.
3. For hardness dependent metals, the hardness value used is 122 mg/L as 5th percentile of effluent flows and for pentachlorophenol, the pH value used is 7.5 standard units.

[1] *See Federal Register/ Vol. 65, No. 97 / Thursday, May 18, 2000 / Rules and Regulations.*

Table I-1. For DP003

	CONSTITUENT	µg/L
1	Antimony	2150
2	Arsenic	75
3	Beryllium	--
4	Cadmium	4.4
5a	Chromium III	143
5b	Chromium VI	5.5
6	Copper	17
7	Lead	16
8	Mercury	0.026
9	Nickel	36
10	Selenium	2.5
11	Silver	4.0
12	Thallium	3.2
13	Zinc	84
14	Cyanide	2.6
15	Asbestos	--
16	2,3,7,8-TCDD (Dioxin)	0.000000007
17	Acrolein	390
18	Acrylonitrile	0.33
19	***Benzene***	***1***
20	Bromoform	180
21	***Carbon Tetrachloride***	***0.5***
22	Chlorobenzene	10500
23	Chlorodibromomethane	17
24	Chloroethane	--
25	2-Chloroethyl vinyl ether	--
26	Chloroform	--
27	Dichlorobromomethane	23
28	***1,1-Dichloroethane***	***5***
29	***1,2-Dichloroethane***	***0.5***
30	1,1-Dichloroethylene	1.6
31	***1,2-Dichloropropane***	***5***
32	***1,3-Dichloropropylene***	***0.5***
33	***Ethylbenzene***	***300***
34	Methyl Bromide	2000
35	Methyl Chloride	--
36	Methylene Chloride	800
37	***1,1,2,2-Tetratchloroethane***	***1***
38	Tetratchloroethylene	4.43
39	***Toluene***	***150***
40	***1,2,-Trans-dichloroethylene***	***10***
41	***1,1,1-Trichloroethane***	***200***
42	***1,1,2-Trichloroethane***	***5***
43	***Trichloroethylene***	***5***
44	***Vinyl Chloride***	***0.5***
45	2-Chlorophenol	200
46	2,4-Dichlorophenol	395
47	2,4-Dimethylphenol	1150
48	2-Methy-4,6-Dinitrophenol	383
49	2,4-Dinitrophenol	7000
50	2-Nitrophenol	--
51	4-Nitrophenol	--
52	3-Methyl-4-Chlorophenol	--
53	***Pentachlorophenol***	***1***
54	Phenol	2,300,000
55	2,4,6-Trichlorophenol	3.3
56	Acenapthene	1,350
57	Acenapthylene	--
58	Anthracene	55,000
59	Benzidine	0.00027
60	Benzo (a) anthracene	0.025
61	Benzo (a) pyrene	0.025
62	Benzo (b) fluoranthene	0.025
63	Benzo (g,h,i) pyrylene	--
64	Benzo (k) fluorantene	0.025
65	Bis (2-Chloroethoxy) methane	--
66	Bis (2-Chloroethyl) ether	0.7
67	Bis (2-Chloroisopropyl) ether	85,000
68	Bis (2-ethyhexyl) phthalate	3.0
69	4-Bromophenyl phenyl ether	--
70	Butyl benzyl phthalate	2600
71	2- Chloronapthalene	2150
72	4-Chlrorphenyl phenyl ether	--
73	Chrysene	0.025
74	Dibenzo (a,h) anthracene	0.025
75	***1,2-Dichlorobenzene***	***600***

Table I-1. For DP003--Continued

	CONSTITUENT	µg/L
76	1,3-Dichlorobenzene	1,300
77	***1,4-Dichlorobenzene***	***5***
78	3,3-Dichlorobenzidine	0.039
79	Diethyl phthalate	60,000
80	Dimethyl phthalate	1,450,000
81	Di-N-butyl phthalate	6,000
82	2,4-Dinitrotoluene	4.6
83	2,6-Dinitrotoluene	--
84	Di-N-octyl phthalate	--
85	1,2-Diphenylhydrazine	0.27
86	Fluoranthene	185
87	Fluorene	7,000
88	Hexachlorobenzene	0.00039
89	Hexachlorobutadiene	25
90	***Hexachlorocyclopentadiene***	***50***
91	Hexachloroethane	4.5
92	Indeno (1,2,3-cd) pyrene	0.025
93	Isophorone	300
94	***Naphthalene***	***17***
95	Nitrobenzene	950
96	***N-Nitrosodimethylamine***	***0.01***
97	***N-Nitrosodi-N-propylamine***	***0.01***
98	N-Nitrosodiphenylamine	8
99	Phenantrene	--

	CONSTITUENT	µg/L
100	Pyrene	5,500
101	***1,2,4 -Trichlorobenzene***	***5***
102	Aldrin	0.00007
103	BHC Alpha	0.0065
104	BHC Beta	0.023
105	BHC Gamma	0.032
106	BHC Delta	--
107	Chlordane	0.0003
108	4,4-DDT	0.0003
109	4,4-DDE	0.0003
110	4,4-DDD	0.00042
111	Dieldrin	0.00007
112	Endosulfan Alpha	0.028
113	Endosulfan Beta	0.028
114	Endosulfan Sulfate	120
115	Endrin	0.018
116	Endrin Aldehyde	0.42
117	Heptachlor	0.00011
118	Heptachlor Epoxide	0.000055
119	PCB 1016	0.000085
120	PCB 1221	0.000085
125	PCB 1260	0.000085
126	Toxaphene	0.0001

Notes:

4. For constituents not shown italicized, the values shown in the Table are fifty percent of the most stringent applicable receiving water objectives (freshwater or human health (consumption of water and organisms) as specified for that pollutant in 40 CFR 131.38[2]).
5. For constituents shown bold and italicized, the values shown in the Table are based on the California Department of Public Health maximum contaminant levels (MCLs) or Notification Level. Notification Level based trigger is underlined.
6. For hardness dependent metals, the hardness value used is 148 mg/L as 5th percentile of effluent flows and for pentachlorophenol, the pH value used is 7.5 standard units.

[2] *See Federal Register/ Vol. 65, No. 97 / Thursday, May 18, 2000 / Rules and Regulations.*

Table I-2. For DP004

	CONSTITUENT	µg/L
1	Antimony	2150
2	Arsenic	75
3	Beryllium	--
4	Cadmium	3.9
5a	Chromium III	128
5b	Chromium VI	5.5
6	Copper	15
7	Lead	14
8	Mercury	0.026
9	Nickel	33
10	Selenium	2.5
11	Silver	3.2
12	Thallium	3.2
13	Zinc	75
14	Cyanide	2.6
15	Asbestos	--
16	2,3,7,8-TCDD (Dioxin)	0.000000007
17	Acrolein	390
18	Acrylonitrile	0.33
19	***Benzene***	***1***
20	Bromoform	180
21	***Carbon Tetrachloride***	***0.5***
22	Chlorobenzene	10500
23	Chlorodibromomethane	17
24	Chloroethane	--
25	2-Chloroethyl vinyl ether	--
26	Chloroform	--
27	Dichlorobromomethane	23
28	***1,1-Dichloroethane***	***5***
29	***1,2-Dichloroethane***	***0.5***
30	1,1-Dichloroethylene	1.6
31	***1,2-Dichloropropane***	***5***
32	***1,3-Dichloropropylene***	***0.5***
33	***Ethylbenzene***	***300***
34	Methyl Bromide	2000
35	Methyl Chloride	--
36	Methylene Chloride	800
37	***1,1,2,2-Tetratchloroethane***	***1***
38	Tetratchloroethylene	4.43
39	***Toluene***	***150***
40	***1,2,-Trans-dichloroethylene***	***10***
41	***1,1,1-Trichloroethane***	***200***
42	***1,1,2-Trichloroethane***	***5***
43	***Trichloroethylene***	***5***
44	***Vinyl Chloride***	***0.5***
45	2-Chlorophenol	200
46	2,4-Dichlorophenol	395
47	2,4-Dimethylphenol	1150
48	2-Methy-4,6-Dinitrophenol	383
49	2,4-Dinitrophenol	7000
50	2-Nitrophenol	--
51	4-Nitrophenol	--
52	3-Methyl-4-Chlorophenol	--
53	***Pentachlorophenol***	***1***
54	Phenol	2,300,000
55	2,4,6-Trichlorophenol	3.3
56	Acenapthene	1,350
57	Acenapthylene	--
58	Anthracene	55,000
59	Benzidine	0.00027
60	Benzo (a) anthracene	0.025
61	Benzo (a) pyrene	0.025
62	Benzo (b) fluoranthene	0.025
63	Benzo (g,h,i) pyrylene	--
64	Benzo (k) fluorantene	0.025
65	Bis (2-Chloroethoxy) methane	--
66	Bis (2-Chloroethyl) ether	0.7
67	Bis (2-Chloroisopropyl) ether	85,000
68	Bis (2-ethyhexyl) phthalate	3.0
69	4-Bromophenyl phenyl ether	--
70	Butyl benzyl phthalate	2600
71	2- Chloronapthalene	2150
72	4-Chlrorphenyl phenyl ether	--
73	Chrysene	0.025
74	Dibenzo (a,h) anthracene	0.025
75	***1,2-Dichlorobenzene***	***600***

Table I-1. For DP004--Continued

	CONSTITUENT	µg/L
76	1,3-Dichlorobenzene	1,300
77	***1,4-Dichlorobenzene***	***5***
78	3,3-Dichlorobenzidine	0.039
79	Diethyl phthalate	60,000
80	Dimethyl phthalate	1,450,000
81	Di-N-butyl phthalate	6,000
82	2,4-Dinitrotoluene	4.6
83	2,6-Dinitrotoluene	--
84	Di-N-octyl phthalate	--
85	1,2-Diphenylhydrazine	0.27
86	Fluoranthene	185
87	Fluorene	7,000
88	Hexachlorobenzene	0.00039
89	Hexachlorobutadiene	25
90	***Hexachlorocyclopentadiene***	***50***
91	Hexachloroethane	4.5
92	Indeno (1,2,3-cd) pyrene	0.025
93	Isophorone	300
94	***Naphthalene***	***17***
95	Nitrobenzene	950
96	***N-Nitrosodimethylamine***	***0.01***
97	***N-Nitrosodi-N-propylamine***	***0.01***
98	N-Nitrosodiphenylamine	8
99	Phenantrene	--

	CONSTITUENT	µg/L
100	Pyrene	5,500
101	***1,2,4 -Trichlorobenzene***	***5***
102	Aldrin	0.00007
103	BHC Alpha	0.0065
104	BHC Beta	0.023
105	BHC Gamma	0.032
106	BHC Delta	--
107	Chlordane	0.0003
108	4,4-DDT	0.0003
109	4,4-DDE	0.0003
110	4,4-DDD	0.00042
111	Dieldrin	0.00007
112	Endosulfan Alpha	0.028
113	Endosulfan Beta	0.028
114	Endosulfan Sulfate	120
115	Endrin	0.018
116	Endrin Aldehyde	0.42
117	Heptachlor	0.00011
118	Heptachlor Epoxide	0.000055
119	PCB 1016	0.000085
120	PCB 1221	0.000085
125	PCB 1260	0.000085
126	Toxaphene	0.0001

Notes:

7. For constituents not shown italicized, the values shown in the Table are fifty percent of the most stringent applicable receiving water objectives (freshwater or human health (consumption of water and organisms) as specified for that pollutant in 40 CFR 131.38[3]).
8. For constituents shown bold and italicized, the values shown in the Table are based on the California Department of Public Health maximum contaminant levels (MCLs) or Notification Level. Notification Level based trigger is underlined.
9. For hardness dependent metals, the hardness value used is 130 mg/L as 5th percentile of effluent flows and for pentachlorophenol, the pH value used is 7.5 standard units.

[3] *See Federal Register/ Vol. 65, No. 97 / Thursday, May 18, 2000 / Rules and Regulations.*

ATTACHMENT J – STORMWATER POLLUTION PREVENTION PLAN REQUIREMENTS

1. *Implementation Schedule*

The storm water pollution prevention plan (SWPPP) shall be updated and implemented in a timely manner, but in no case later than October 30, 2009.

2. *Objectives*

The SWPPP has two major objectives: (a) to identify and evaluate sources of pollutants associated with industrial activities that may affect the quality of storm water discharges and authorized non-storm water discharges from the facility; and (b) to identify and implement site-specific best management practices (BMPs) to reduce or prevent pollutants associated with industrial activities in storm water discharges and authorized non-storm water discharges. BMPs may include a variety of pollution prevention measures or other low-cost pollution control measures. They are generally categorized as non-structural BMPs (activity schedules, prohibitions of practices, maintenance procedures, and other low-cost measures) and as structural BMPs (treatment measures, run-off controls, over-head coverage). To achieve these objectives, dischargers should consider the five phase process for SWPPP development and implementation as shown in Table A, below.

The SWPPP requirements are designed to be sufficiently flexible to meet the various needs of the facility. SWPPP requirements that are not applicable to the facility should not be included in the SWPPP.

A facility's SWPPP is a written document that shall contain a compliance activity schedule, a description of industrial activities and pollutant sources, descriptions of BMPs, drawings, maps, and relevant copies or references of parts of other plans. The SWPPP shall be revised whenever appropriate and shall be readily available for review by facility employees or Regional Water Board inspectors.

3. *Planning and Organization*

a. Pollution Prevention Team

The SWPPP shall identify a specific individual or individuals and their positions within the facility organization as members of a storm water pollution prevention team responsible for developing the SWPPP, assisting the facility manager in SWPPP implementation and revision, and conducting all monitoring program activities required in the Stormwater monitoring program of Order No. R8-2009-0021. The SWPPP shall clearly identify the storm water pollution prevention related responsibilities, duties, and activities of each team member.

b. Review Other Requirements and Existing Facility Plans

The SWPPP may incorporate or reference the appropriate elements of other regulatory requirements. The discharger shall review all local, state, and federal requirements that impact, complement, or are consistent with the requirements of Order No. R8-2009-0021. The discharger shall identify any existing facility plans that contain storm water pollutant control measures or relate to the requirements of Order No. R8-2009-0021. As examples, dischargers whose facilities are subject to Federal Spill Prevention Control and Countermeasures' requirements should already have instituted a plan to control spills of certain hazardous materials. Similarly, the discharger whose facilities are subject to air quality related permits and regulations may already have evaluated industrial activities that generate dust or particulates.

4. *Site Map*

The SWPPP shall include a site map. The site map shall be provided on an 8-1/2 x 11 inch or larger sheet and include notes, legends, and other data as appropriate to ensure that the site map is clear and understandable. If necessary, the discharger may provide the required information on multiple site maps. The following information shall be included on the site map:

a. The facility boundaries; the outline of all storm water drainage areas within the facility boundaries; portions of the drainage area impacted by run-on from surrounding areas; and direction of flow of each drainage area, on-site surface water bodies, and areas of soil erosion. The map shall also identify nearby water bodies (such as rivers, lakes, ponds) and municipal storm drain inlets where the facility's storm water discharges and authorized non-storm water discharges may be received.

b. The location of the storm water collection and conveyance system, associated points of discharge, and direction of flow. Include any structural control measures that affect storm water discharges, authorized non-storm water discharges, and run-on. Examples of structural control measures are catch basins, berms, detention ponds, secondary containment, oil/water separators, diversion barriers, etc.

c. An outline of all impervious areas of the facility, including paved areas, buildings, covered storage areas, or other roofed structures.

d. Locations where materials are directly exposed to precipitation and the locations where significant spills or leaks identified in Section 6.a.(4)., below, have occurred.

e. Areas of industrial activity. This shall include the locations of all storage areas and storage tanks, shipping and receiving areas, fueling areas, vehicle and equipment storage/maintenance areas, material handling and processing areas, waste treatment and disposal areas, dust or particulate generating areas,

cleaning and rinsing areas, and other areas of industrial activity which are potential pollutant sources.

5. *List of Significant Materials*

The SWPPP shall include a list of significant materials handled and stored at the site. For each material on the list, describe the locations where the material is being stored, received, shipped, and handled, as well as the typical quantities and frequency. Materials shall include raw materials, intermediate products, final or finished products, recycled materials, and waste or disposed materials.

6. *Description of Potential Pollutant Sources*

a. The SWPPP shall include a narrative description of the facility's industrial activities, as identified in Section 4.e., above, associated potential pollutant sources, and potential pollutants that could be discharged in storm water discharges or authorized non-storm water discharges. At a minimum, the following items related to a facility's industrial activities shall be considered:

1) Industrial Processes

Describe each industrial process, the type, characteristics, and quantity of significant materials used in or resulting from the process, and a description of the processes (manufacturing or treatment), cleaning, rinsing, recycling, disposal, or other activities related to the process. Where applicable, areas protected by containment structures and the corresponding containment capacity shall be described.

2) Material Handling and Storage Areas

Describe each handling and storage area, type, characteristics, and quantity of significant materials handled or stored, description of the shipping, receiving, and loading procedures, and the spill or leak prevention and response procedures. Where applicable, areas protected by containment structures and the corresponding containment capacity shall be described.

3) Dust and Particulate Generating Activities

Describe all industrial activities that generate dust or particulates that may be deposited within the facility's boundaries and identify their discharge locations; the characteristics of dust and particulate pollutants; the approximate quantity of dust and particulate pollutants that may be deposited within the facility boundaries; and a description of the primary areas of the facility where dust and particulate pollutants would settle.

4) Significant Spills and Leaks

Describe materials that have spilled or leaked in significant quantities in storm water discharges or non-storm water discharges. Include toxic chemicals (listed in 40 Code of Federal Regulations [CFR] Part 302) that have been discharged to storm water as reported on U.S. Environmental Protection Agency (U.S. EPA) Form R, and oil and hazardous substances in excess of reportable quantities (see 40 CFR, Parts 110, 117, and 302).

The description shall include the type, characteristics, and approximate quantity of the material spilled or leaked, the cleanup or remedial actions that have occurred or are planned, the approximate remaining quantity of materials that may be exposed to storm water or non-storm water discharges, and the preventative measures taken to ensure spills or leaks do not reoccur. Such list shall be updated as appropriate during the term of Order No. R8-2009-0021.

5) Non-Storm Water Discharges

The discharger shall investigate the facility to identify all non-storm water discharges and their sources. As part of this investigation, all drains (inlets and outlets) shall be evaluated to identify whether they connect to the storm drain system.

All non-storm water discharges shall be described. This shall include the source, quantity, frequency, and characteristics of the non-storm water discharges and associated drainage area.

Non-storm water discharges that contain significant quantities of pollutants or that do not meet the conditions of Order No. R8-2009-0021 are prohibited. (Examples of prohibited non-storm water discharges are contact and non-contact cooling water, boiler blowdown, rinse water, wash water, etc.). The SWPPP must include BMPs to prevent or reduce contact of non-storm water discharges with significant materials or equipment.

6) Soil Erosion

Describe the facility locations where soil erosion may occur as a result of industrial activity, storm water discharges associated with industrial activity, or authorized non-storm water discharges.

b. The SWPPP shall include a summary of all areas of industrial activities, potential pollutant sources, and potential pollutants. This information should be summarized similar to Table B below. The last column of Table B, "Control Practices", should be completed in accordance with Section 8., below.

7. *Assessment of Potential Pollutant Sources*

a. The SWPPP shall include a narrative assessment of all industrial activities and potential pollutant sources as described in Section 6., above, to determine:

1) Which areas of the facility are likely sources of pollutants in storm water discharges and authorized non-storm water discharges, and

2) Which pollutants are likely to be present in storm water discharges and authorized non-storm water discharges. The discharger shall consider and evaluate various factors when performing this assessment such as current storm water BMPs; quantities of significant materials handled, produced, stored, or disposed of; likelihood of exposure to storm water or authorized non-storm water discharges; history of spill or leaks; and run-on from outside sources.

b. The discharger shall summarize the areas of the facility that are likely sources of pollutants and the corresponding pollutants that are likely to be present in storm water discharges and authorized non-storm water discharges.

The discharger is required to develop and implement additional BMPs as appropriate and necessary to prevent or reduce pollutants associated with each pollutant source. The BMPs will be narratively described in Section 8., below.

8. *Storm Water Best Management Practices*

The SWPPP shall include a narrative description of the storm water BMPs to be implemented at the facility for each potential pollutant and its source identified in the site assessment phase (Sections 6. and 7., above). The BMPs shall be developed and implemented to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Each pollutant and its source may require one or more BMPs. Some BMPs may be implemented for multiple pollutants and their sources, while other BMPs will be implemented for a very specific pollutant and its source.

The description of the BMPs shall identify the BMPs as (1) existing BMPs, (2) existing BMPs to be revised and implemented, or (3) new BMPs to be implemented. The description shall also include a discussion on the effectiveness of each BMP to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. The SWPPP shall provide a summary of all BMPs implemented for each pollutant source. This information should be summarized similar to Table B.

The discharger shall consider the following BMPs for implementation at the facility:

a. Non-Structural BMPs: Non-structural BMPs generally consist of processes, prohibitions, procedures, schedule of activities, etc., that prevent pollutants associated with industrial activity from contacting with storm water discharges and authorized non-storm water discharges. They are considered low technology, cost-effective measures. The discharger should consider all possible non-structural BMPs options before considering additional structural BMPs (see Section 8.b., below). Below is a list of non-structural BMPs that should be considered:

1) Good Housekeeping: Good housekeeping generally consist of practical procedures to maintain a clean and orderly facility.

2) Preventive Maintenance: Preventive maintenance includes the regular inspection and maintenance of structural storm water controls (catch basins, oil/water separators, etc.) as well as other facility equipment and systems.

3) Spill Response: This includes spill clean-up procedures and necessary clean-up equipment based upon the quantities and locations of significant materials that may spill or leak.

4) Material Handling and Storage: This includes all procedures to minimize the potential for spills and leaks and to minimize exposure of significant materials to storm water and authorized non-storm water discharges.

5) Employee Training: This includes training of personnel who are responsible for (a) implementing activities identified in the SWPPP, (b) conducting inspections, sampling, and visual observations, and (c) managing storm water. Training should address topics such as spill response, good housekeeping, and material handling procedures, and actions necessary to implement all BMPs identified in the SWPPP. The SWPPP shall identify periodic dates for such training. Records shall be maintained of all training sessions held.

6) Waste Handling/Recycling: This includes the procedures or processes to handle, store, or dispose of waste materials or recyclable materials.

7) Record Keeping and Internal Reporting: This includes the procedures to ensure that all records of inspections, spills, maintenance activities, corrective actions, visual observations, etc., are developed, retained, and provided, as necessary, to the appropriate facility personnel.

8) Erosion Control and Site Stabilization: This includes a description of all sediment and erosion control activities. This may include the planting and maintenance of vegetation, diversion of run-on and runoff, placement of sandbags, silt screens, or other sediment control devices, etc.

9) Inspections: This includes, in addition to the preventative maintenance inspections identified above, an inspection schedule of all potential pollutant sources. Tracking and follow-up procedures shall be described to ensure adequate corrective actions are taken and SWPPPs are made.

10) Quality Assurance: This includes the procedures to ensure that all elements of the SWPPP and Monitoring Program are adequately conducted.

b. Structural BMPs: Where non-structural BMPs as identified in Section 8.a., above, are not effective, structural BMPs shall be considered. Structural BMPs generally consist of structural devices that reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Below is a list of structural BMPs that should be considered:

1) Overhead Coverage: This includes structures that provide horizontal coverage of materials, chemicals, and pollutant sources from contact with storm water and authorized non-storm water discharges.

2) Retention Ponds: This includes basins, ponds, surface impoundments, bermed areas, etc., that do not allow storm water to discharge from the facility.

3) Control Devices: This includes berms or other devices that channel or route run-on and runoff away from pollutant sources.

4) Secondary Containment Structures: This generally includes containment structures around storage tanks and other areas for the purpose of collecting any leaks or spills.

5) Treatment: This includes inlet controls, infiltration devices, oil/water separators, detention ponds, vegetative swales, etc., that reduce the pollutants in storm water discharges and authorized non-storm water discharges.

9. *Annual Comprehensive Site Compliance Evaluation*

The discharger shall conduct one comprehensive site compliance evaluation in each reporting period (July 1-June 30). Evaluations shall be conducted within 8-16 months of each other. The SWPPP shall be revised, as appropriate, and the revisions implemented within 90 days of the evaluation. Evaluations shall include the following:

a. A review of all visual observation records, inspection records, and sampling and analysis results.

b. A visual inspection of all potential pollutant sources for evidence of, or the potential for, pollutants entering the drainage system.

c. A review and evaluation of all BMPs (both structural and non-structural) to determine whether the BMPs are adequate, properly implemented and maintained, or whether additional BMPs are needed. A visual inspection of equipment needed to implement the SWPPP, such as spill response equipment, shall be included.

d. An evaluation report that includes, (1) identification of personnel performing the evaluation, (2) the date(s) of the evaluation, (3) necessary SWPPP revisions, (4) schedule, as required in Section 10.e, below, for implementing SWPPP revisions, (5) any incidents of non-compliance and the corrective actions taken, and (6) a certification that the discharger is in compliance with Order No. R8-2009-0021. If the above certification cannot be provided, explain in the evaluation report why the discharger is not in compliance with this order. The evaluation report shall be submitted as part of the annual report, retained for at least five years, and signed and certified in accordance with Attachment D, Standard Provision, Section V Reporting, Subsection B. Signatory and Certification Requirements of Order No. R8-2009-0021.

10. *SWPPP General Requirements*

a. The SWPPP shall be retained on site and made available upon request by a representative of the Regional Water Board and/or local storm water management agency (local agency) which receives the storm water discharges.

b. The Regional Water Board and/or local agency may notify the discharger when the SWPPP does not meet one or more of the minimum requirements of this section. As requested by the Regional Water Board and/or local agency, the discharger shall submit a SWPPP revision and implementation schedule that meets the minimum requirements of this section to the Regional Water Board and/or local agency that requested the SWPPP revisions. Within 14 days after implementing the required SWPPP revisions, the discharger shall provide written certification to the Regional Water Board and/or local agency that the revisions have been implemented.

c. The SWPPP shall be revised, as appropriate, and implemented prior to changes in industrial activities which (1) may significantly increase the quantities of pollutants in storm water discharge, (2) cause a new area of industrial activity at the facility to be exposed to storm water, or (3) begin an industrial activity which would introduce a new pollutant source at the facility.

d. The SWPPP shall be revised and implemented in a timely manner, but in no case more than 90 days after a discharger determines that the SWPPP is in violation of any requirement(s) of Order No. R8-2009-0021.

e. When any part of the SWPPP is infeasible to implement by the deadlines specified in Order No. R8-2009-0021, due to proposed significant structural changes, the discharger shall submit a report to the Regional Water Board prior to the applicable deadline that (1) describes the portion of the SWPPP that is infeasible to implement by the deadline, (2) provides justification for a time extension, (3) provides a schedule for completing and implementing that portion of the SWPPP, and (4) describes the BMPs that will be implemented in the interim period to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Such reports are subject to Regional Water Board approval and/or modifications. The discharger shall provide written notification to the Regional Water Board within 14 days after the SWPPP revisions are implemented.

f. The SWPPP shall be provided, upon request, to the Regional Water Board. The SWPPP is considered a report that shall be available to the public by the Regional Water Board under Section 308(b) of the Clean Water Act.

TABLE A

FIVE PHASES FOR DEVELOPING AND IMPLEMENTING INDUSTRIAL STORM WATER POLLUTION PREVENTION PLANS

PLANNING AND ORGANIZATION

*Form pollution prevention team
*Review other plans

ASSESSMENT PHASE

*Develop a site map
*Identify potential pollutant sources
*Inventory of materials and chemicals
*List significant spills and leaks
*Identify non-storm water discharges
*Assess pollutant risks

BEST MANAGEMENT PRACTICES IDENTIFICATION PHASE

*Non-structural BMPs
*Structural BMPs
*Select activity and site-specific BMPs

IMPLEMENTATION PHASE

*Train employees
*Implement BMPs
*Conduct record keeping and reporting

EVALUATION / MONITORING

*Conduct annual site evaluation
*Review monitoring information
*Evaluate BMPs
*Review and revise SWPPP

TABLE B

EXAMPLE

ASSESSMENT OF POTENTIAL POLLUTION SOURCES AND CORRESPONDING BEST MANAGEMENT PRACTICES SUMMARY

AREA	ACTIVITY	POLLUTANT SOURCE	POLLUTANT	BEST MANAGEMENT PRACTICES
Vehicle & equipment fueling	Fueling	Spills and leaks during delivery	Fuel oil	- Use spill and overflow protection - Minimize run-on of storm water into the fueling area - Cover fueling area - Use dry cleanup methods rather than hosing down area - Implement proper spill prevention control program - Implement adequate preventative maintenance program to prevent tank and line leaks - Inspect fueling areas regularly to detect problems before they occur - Train employees on proper fueling, cleanup, and spill response techniques.
		Spills caused by topping off fuel oil	Fuel oil	
		Hosing or washing down fuel area	Fuel oil	
		Leaking storage tanks	Fuel oil	
		Rainfall running off fueling areas, and rainfall running onto and off fueling area	Fuel oil	

ATTACHMENT K – STORMWATER MONITORING AND REPORTING REQUIREMENTS

1. *Implementation Schedule*

The discharger shall continue to implement their existing Stormwater monitoring program and implement any necessary revisions to their Stormwater monitoring program in a timely manner, but in no case later than December 30, 2009. The discharger may use the monitoring results conducted in accordance with their existing Stormwater monitoring program to satisfy the pollutant/parameter reduction requirements in Section 5.c., below, and Sampling and Analysis Exemptions and Reduction Certifications in Section 10, below.

2. Objectives

The objectives of the monitoring program are to:

a. Ensure that storm water discharges are in compliance with waste discharge requirements specified in Order No. R8-2009-0021.

b. Ensure practices at the facility to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges are evaluated and revised to meet changing conditions.

c. Aid in the implementation and revision of the SWPPP required by Attachment "J" Stormwater Pollution Prevention Plan of Order No. R8-2009-0021.

d. Measure the effectiveness of best management practices (BMPs) to prevent or reduce pollutants in storm water discharges and authorized non-storm water discharges. Much of the information necessary to develop the monitoring program, such as discharge locations, drainage areas, pollutant sources, etc., should be found in the Storm Water Pollution Prevention Plan (SWPPP). The facility's monitoring program shall be a written, site-specific document that shall be revised whenever appropriate and be readily available for review by employees or Regional Water Board inspectors.

3. *Non-Storm Water Discharge Visual Observations*

a. The discharger shall visually observe all drainage areas within their facility for the presence of unauthorized non-storm water discharges;

b. The discharger shall visually observe the facility's authorized non-storm water discharges and their sources;

c. The visual observations required above shall occur quarterly, during daylight hours, on days with no storm water discharges, and during scheduled facility operating hours[1]. Quarterly visual observations shall be conducted in each of the following periods: January-March, April-June, July-September, and October-December. The discharger shall conduct quarterly visual observations within 6-18 weeks of each other.

d. Visual observations shall document the presence of any discolorations, stains, odors, floating materials, etc., as well as the source of any discharge. Records shall be maintained of the visual observation dates, locations observed, observations, and response taken to eliminate unauthorized non-storm water discharges and to reduce or prevent pollutants from contacting non-storm water discharges. The SWPPP shall be revised, as necessary, and implemented in accordance with Attachment "J" Stormwater Pollution Prevention Plan Requirements of Order No. R8-2009-0021.

4. *Storm Water Discharge Visual Observations*

a. With the exception of those facilities described in Section 4.d., below, the discharger shall visually observe storm water discharges from one storm event per month during the wet season (October 1-May 30). These visual observations shall occur during the first hour of discharge and at all discharge locations. Visual observations of stored or contained storm water shall occur at the time of release.

b. Visual observations are only required of storm water discharges that occur during daylight hours that are preceded by at least three (3) working days[2] without storm water discharges and that occur during scheduled facility operating hours.

c. Visual observations shall document the presence of any floating and suspended material, oil and grease, discolorations, turbidity, odor, and source of any pollutants. Records shall be maintained of observation dates, locations observed, observations, and response taken to reduce or prevent pollutants in storm water discharges. The SWPPP shall be revised, as necessary, and implemented in accordance with Attachment "J" Stormwater Pollution Prevention Plan Requirements of Order No. R8-2009-0021.

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1 *"Scheduled facility operating hours" are the time periods when the facility is staffed to conduct any function related to industrial activity, but excluding time periods where only routine maintenance, emergency response, security, and/or janitorial services are performed.*

2 *Three (3) working days may be separated by non-working days such as weekends and holidays provided that no storm water discharges occur during the three (3) working days and the non-working days.*

d. The discharger with storm water containment facilities shall conduct monthly inspections of their containment areas to detect leaks and ensure maintenance of adequate freeboard. Records shall be maintained of the inspection dates, observations, and any response taken to eliminate leaks and to maintain adequate freeboard.

5. *Sampling and Analysis*

a. The discharger shall collect storm water samples during the first hour of discharge from (1) the first storm event of the wet season, and (2) at least one other storm event in the wet season. All storm water discharge locations shall be sampled. Sampling of stored or contained storm water shall occur at the time the stored or contained storm water is released. The discharger that does not collect samples from the first storm event of the wet season are still required to collect samples from two other storm events of the wet season and shall explain in the "Annual Stormwater Report" (see Section 12, below) why the first storm event was not sampled.

b. Sample collection is only required of storm water discharges that occur during scheduled facility operating hours and that are preceded by at least (3) three working days without storm water discharge.

c. The samples shall be analyzed for:

1) Total suspended solids (TSS) pH, specific conductance, and total organic carbon (TOC). Oil and grease (O&G) may be substituted for TOC;

2) Toxic chemicals and other pollutants that are likely to be present in storm water discharges in significant quantities. If these pollutants are not detected in significant quantities after two consecutive sampling events, the discharger may eliminate the pollutant from future sample analysis until the pollutant is likely to be present again;

3) The discharger is not required to analyze a parameter when either of the two following conditions are met: (a) the parameter has not been detected in significant quantities from the last two consecutive sampling events, or (b) the parameter is not likely to be present in storm water discharges and authorized non-storm water discharges in significant quantities based upon the discharger's evaluation of the facilities industrial activities, potential pollutant sources, and SWPPP; and

4) Other parameters as required by the Regional Water Board.

6. *Sample Storm Water Discharge Locations*

a. The discharger shall visually observe and collect samples of storm water discharges from all drainage areas that represent the quality and quantity of the facility's storm water discharges from the storm event.

b. If the facility's storm water discharges are commingled with run-on from surrounding areas, the discharger should identify other visual observation and sample collection locations that have not been commingled by run-on and that represent the quality and quantity of the facility's storm water discharges from the storm event.

c. If visual observation and sample collection locations are difficult to observe or sample (e.g., sheet flow, submerged outfalls), the discharger shall identify and collect samples from other locations that represent the quality and quantity of the facility's storm water discharges from the storm event.

d. The discharger that determines that the industrial activities and BMPs within two or more drainage areas are substantially identical may either (1) collect samples from a reduced number of substantially identical drainage areas, or (2) collect samples from each substantially identical drainage area and analyze a combined sample from each substantially identical drainage area. The discharger must document such a determination in the annual Stormwater report.

7. Visual Observation and Sample Collection Exceptions

The discharger is required to be prepared to collect samples and conduct visual observations at the beginning of the wet season (October 1) and throughout the wet season until the minimum requirements of Sections 4. and 5., above, are completed with the following exceptions:

a. The discharger is not required to collect a sample and conduct visual observations in accordance with Section 4 and Section 5, above, due to dangerous weather conditions, such as flooding, electrical storm, etc., when storm water discharges begin after scheduled facility operating hours or when storm water discharges are not preceded by three working days without discharge. Visual observations are only required during daylight hours. The discharger that does not collect the required samples or visual observations during a wet season due to these exceptions shall include an explanation in the "Annual Stormwater Report" why the sampling or visual observations could not be conducted.

b. The discharger may conduct visual observations and sample collection more than one hour after discharge begins if the discharger determines that the objectives of this section will be better satisfied. The discharger shall include an explanation in the "Annual Stormwater Report" why the visual observations and sample collection should be conducted after the first hour of discharge.

8. *Alternative Monitoring Procedures*

The discharger may propose an alternative monitoring program that meets Section 2, above, monitoring program objectives for approval by the Regional Water Board's Executive Officer. The discharger shall continue to comply with the monitoring requirements of this section and may not implement an alternative monitoring plan until the alternative monitoring plan is approved by the Regional Water Board's Executive Officer. Alternative monitoring plans are subject to modification by the Regional Water Board's Executive Officer.

9. Monitoring Methods

a. The discharger shall explain how the facility's monitoring program will satisfy the monitoring program objectives of Section 2., above. This shall include:

1) Rationale and description of the visual observation methods, location, and frequency;

2) Rationale and description of the sampling methods, location, and frequency; and

3) Identification of the analytical methods and corresponding method detection limits used to detect pollutants in storm water discharges. This shall include justification that the method detection limits are adequate to satisfy the objectives of the monitoring program.

b. All sampling and sample preservation shall be in accordance with the current edition of "Standard Methods for the Examination of Water and Wastewater" (American Public Health Association). All monitoring instruments and equipment (including the discharger's own field instruments for measuring pH and Electro-conductivity) shall be calibrated and maintained in accordance with manufacturers' specifications to ensure accurate measurements. All laboratory analyses must be conducted according to test procedures under 40 CFR Part 136, unless other test procedures have been specified in Order No. R8-2009-0021 or by the Regional Water Board's Executive Officer. All metals shall be reported as total recoverable metals or unless otherwise specified in Order No. R8-2009-0021. With the exception of analysis conducted by the discharger, all laboratory analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. The discharger may conduct their own sample analyses if the discharger has sufficient capability (qualified employees, laboratory equipment, etc.) to adequately perform the test procedures.

10. *Sampling and Analysis Exemptions and Reductions*

A discharger who qualifies for sampling and analysis exemptions, as described below in Section 10.a.(1) or who qualifies for reduced sampling and analysis, as described below in Section 10.b., must submit the appropriate certifications and required documentation to the Regional Water Board prior to the wet season (October 1) and certify as part of the annual Stormwater report submittal. A discharger that qualifies for either the Regional Water Board or local agency certification programs, as described below in Section 10.a.(2) and (3), shall submit certification and documentation in accordance with the requirements of those programs. The discharger who provides certification(s) in accordance with this section are still required to comply with all other monitoring program and reporting requirements. The discharger shall prepare and submit their certification(s) using forms and instructions provided by the State Water Board, Regional Water Board, or local agency or shall submit their information on a form that contains equivalent information. The discharger whose facility no longer meets the certification conditions must notify the Regional Water Board's Executive Officer (and local agency) within 30 days and immediately comply with Section 5., Sampling and Analysis requirements. Should a Regional Water Board (or local agency) determine that a certification does not meet the conditions set forth below, the discharger must immediately comply with the Section 5., Sampling and Analysis requirements.

a. Sampling and Analysis Exemptions

A discharger is not required to collect and analyze samples in accordance with Section 5., above, if the discharger meets all of the conditions of one of the following certification programs:

1) No Exposure Certification (NEC)

This exemption is designed primarily for those facilities where all industrial activities are conducted inside buildings and where all materials stored and handled are not exposed to storm water. To qualify for this exemption, the discharger must certify that their facilities meet all of the following conditions:

a) All prohibited non-storm water discharges have been eliminated or otherwise permitted.

b) All authorized non-storm water discharges have been identified and addressed in the SWPPP.

c) All areas of past exposure have been inspected and cleaned, as appropriate.

d) All significant materials related to industrial activity (including waste materials) are not exposed to storm water or authorized non-storm water discharges.

e) All industrial activities and industrial equipment are not exposed to storm water or authorized non-storm water discharges.

f) There is no exposure of storm water to significant materials associated with industrial activity through other direct or indirect pathways such as from industrial activities that generate dust and particulates.

g) There is periodic re-evaluation of the facility to ensure conditions (a), (b), (d), (e), and (f) above are continuously met. At a minimum, re-evaluation shall be conducted once a year.

2) Regional Water Board Certification Programs

The Regional Water Board may grant an exemption to the Section 5. Sampling and Analysis requirements if it determines a discharger has met the conditions set forth in a Regional Water Board certification program. Regional Water Board certification programs may include conditions to (a) exempt the discharger whose facilities infrequently discharge storm water to waters of the United States, and (b) exempt the discharger that demonstrate compliance with the terms and conditions of Order No. R8-2009-0021.

3) Local Agency Certifications

A local agency may develop a local agency certification program. Such programs must be approved by the Regional Water Board. An approved local agency program may either grant an exemption from Section 5. Sampling and Analysis requirements or reduce the frequency of sampling if it determines that a discharger has demonstrated compliance with the terms and conditions of the Industrial Activities Storm Water General Permit Order No. 97-03-DWQ which was adopted by the State Water Resources Control Board on April 17, 1997.

b. Sampling and Analysis Reduction

1) A discharger may reduce the number of sampling events required to be sampled for the remaining term of Order No. R8-2009-0021 if the discharger provides certification that the following conditions have been met:

a) The discharger has collected and analyzed samples from a minimum of six storm events from all required drainage areas;

b) All prohibited non-storm water discharges have been eliminated or otherwise permitted;

c) The discharger demonstrates compliance with the terms and conditions of the Order No. R8-2009-0021 for the previous two years (i.e., completed Annual Stormwater Reports, performed visual observations, implemented appropriate BMPs, etc.);

d) The discharger demonstrates that the facility's storm water discharges and authorized non-storm water discharges do not contain significant quantities of pollutants; and

e) Conditions (b), (c), and (d) above are expected to remain in effect for a minimum of one year after filing the certification.

2) Unless otherwise instructed by the Regional Water Board, the discharger shall collect and analyze samples from two additional storm events during the remaining term of Order No. R8-2009-0021 in accordance with Table A, below. The discharger shall collect samples of the first storm event of the wet season. The discharger that does not collect samples from the first storm event of the wet season shall collect samples from another storm event during the same wet season. The discharger that does not collect a sample in a required wet season shall collect the sample from another storm event in the next wet season. The discharger shall explain in the "Annual Stormwater Report" why the first storm event of a wet season was not sampled or a sample was not taken from any storm event in accordance with the Table A schedule, below.

Table A. REDUCED MONITORING SAMPLING SCHEDULE

Discharger Filing Sampling Reduction Certification By	Samples Shall be Collected and Analyzed in these wet seasons	
	Sample 1	Sample 2
Sept. 1, 2008	Oct. 1, 2008-May 31, 2009	Oct. 1, 2008-May 31, 2009
Sept. 1, 2009	Oct. 1, 2009-May 31, 2010	Oct. 1, 2009-May 31, 2010
Sept. 1, 2010	Oct. 1, 2010-May 31, 2011	Oct. 1, 2010-May 31, 2011
Sept. 1, 2011	Oct. 1, 2011-May 31, 2012	Oct. 1, 2011-May 31, 2012
Sept. 1, 2012	Oct. 1, 2012-May 31, 2013	Oct. 1, 2012-May 31, 2013
Sept. 1, 2013	Oct. 1, 2013-May 31, 2014	Oct. 1, 2013-May 31, 2014

11. Records

Records of all storm water monitoring information and copies of all reports (including the Annual Stormwater Reports) required by Order No. R8-2009-0021 shall be retained for a period of at least five years. These records shall include:

a. The date, place, and time of site inspections, sampling, visual observations, and/or measurements;

b. The individual(s) who performed the site inspections, sampling, visual observations, and or measurements;

c. Flow measurements or estimates;

d. The date and approximate time of analyses;

e. The individual(s) who performed the analyses;

f. Analytical results, method detection limits, and the analytical techniques or methods used;

g. Quality assurance/quality control records and results;

h. Non-storm water discharge inspections and visual observations and storm water discharge visual observation records (see Sections 3. and 4., above);

i. Visual observation and sample collection exception records (see Section 5.a, 6.d, 7, and 10.b.(2), above;

j. All calibration and maintenance records of on-site instruments used;

k. All Sampling and Analysis Exemption and Reduction certifications and supporting documentation (see Section 10);

l. The records of any corrective actions and follow-up activities that resulted from the visual observations.

12. Annual Report

The discharger shall submit an Annual Stormwater Report by July 1 of each year to the Executive Officer of the Regional Water Board and to the local agency (if requested). The report shall include a summary of visual observations and sampling results, an evaluation of the visual observation and sampling and analysis results, laboratory reports, the Annual Comprehensive Site Compliance Evaluation Report required in Section 9. of Attachment "J" of Order No. R8-2009-0021, an explanation of why a facility did not implement any activities required by Order No. R8-2009-0021 (if not already included in the Evaluation Report), and records specified in Section 11., above. The method detection limit of each analytical parameter shall be included. Analytical results that are less than the method detection limit shall be reported as "less than the method detection limit". The Annual Stormwater Report shall be signed and certified in accordance with Attachment D. Federal Standard Provisions, Section V-Reporting, Subsection B. Signatory and Certification requirements of Order No. R8-2009-0021. The discharger shall prepare and submit their Annual Stormwater Reports using the annual report forms provided by the State Water Board or Regional Water Board or shall submit their information on a form that contains equivalent information.

13. Watershed Monitoring Option

Regional Water Boards may approve proposals to substitute watershed monitoring for some or all of the requirements of this section if the Regional Water Board finds that the watershed monitoring will provide substantially similar monitoring information in evaluating discharger compliance with the requirements of Order No. R8-2009-0021.

ATTACHMENT L – CHINO BASIN MAXIMUM BENEFIT COMMITMENTS

Table 5-8a of Resolution No. R8-2004-0001

Chino Basin Maximum Benefit Commitments

Description of Commitment	Compliance Date – as soon as possible, but no later than
1. Surface Water Monitoring Program	
a. Submit Draft Monitoring Program to Regional Board	a. January 23, 2005 (complied)
b. Implement Monitoring Program	b. Within 30 days from date of Regional Board approval of monitoring plan
c. Quarterly data report submittal	c. April 15, July 15, October 15, January 15
d. Annual data report submittal	d. February 15th
2. Groundwater Monitoring Program	
a. Submit Draft Monitoring Program to Regional Board	a. January 23, 2005(complied)
b. Implement Monitoring Program	b. Within 30 days from date of Regional Board approval of monitoring plan
c. Annual data report submittal	c. February 15th
3. Chino Desalters	
a. Chino 1 desalter expansion to 10 MGD	a. Prior to recharge of recycled water
b. Chino 2 desalter at 10 MGD design	b. Recharge of recycled water allowed once award of contract and notice to proceed issued for construction of desalter treatment plant
4. Future desalters plan and schedule submittal	October 1, 2005 Implement plan and schedule upon Regional Board approval
5. Recharge facilities (17) built and in operation	June 30, 2005 (Partially complied)
6. IEUA wastewater quality improvement plan and schedule submittal	60 days after agency-wide 12 month running average effluent TDS quality equals or exceeds 545 mg/L for 3 consecutive months or agency-wide 12 month running average TIN equals or exceeds 8 mg/L in any month. Implement plan and schedule upon approval by Regional Board

Table 5-8a of Resolution No. R8-2004-0001

Chino Basin Maximum Benefit Commitments (cont.)

Description of Commitment	Compliance Date – as soon as possible, but no later than
7. Recycled water will be blended with other recharge sources so that the 5-year running average TDS and nitrate-nitrogen concentrations of water recharged are equal to or less than the "maximum benefit" water quality objectives for the affected Management Zone (Chino North or Cucamonga).	Compliance must be achieved by end of 5th year after initiation of recycled water recharge operations.
a. Submit a report that documents the location, amount of recharge, and TDS and nitrogen quality of stormwater recharge before the OBMP recharge improvements were constructed and what is projected to occur after the recharge improvements are completed	a. Prior to initiation of recycled water recharge
b. Submit documentation of amount, TDS and nitrogen quality of all sources of recharge and recharge locations. For stormwater recharge used for blending, submit documentation that the recharge is the result of CBW/IEUA enhanced recharge facilities.	b. Annually, by February 15th, after initiation of construction of basins/other facilities to support enhanced stormwater recharge.
8. Hydraulic Control Failure	
a. Plan and schedule to correct loss of hydraulic control	a. 60 days from Regional Board finding that hydraulic control is not being maintained
b. Achievement and maintenance of hydraulic control	b. In accordance with plan and schedule approved by Regional Board. The schedule shall assure that hydraulic control is achieved as soon as possible but no later than 180 days after loss of hydraulic control is identified.
c. Mitigation plan for temporary failure to achieve/maintain hydraulic control	c. By January 23, 2005(complied). Implement plan upon Regional Board determination that hydraulic control is not being maintained.
9. Ambient groundwater quality determination	July 1, 2005 and every 3 years thereafter

Appendix B
Plant Facilities Calculations

Appendix B
Plant Facilities Calculations

B.1 Calculations follow for Tables in Section 4:

(Only those tables in Section 4 that have calculated or estimated values are shown herein. See Section 4 for other tables, references, and explanations.)

Table 4-2
Design Raw Wastewater Characteristics [1]

Parameter	Units	Value	Reference
Annual Average Raw Influent Quality:			
BOD-5 day	mg/L	245	See Note 2
TSS	mg/L	256	See Note 2
Ammonia	mg/L	28	See Note 2
TKN	mg/L	43	See Note 2
Average temperature	degrees C	23	See Note 2
Annual Average Raw Influent Loadings at 14 mgd:			
BOD-5 day	lbs/day	28,600	calculated [3]
TSS	lbs/day	29,880	calculated [3]
Peak Month Average Raw Influent Quality:			
BOD-5day	mg/L	294	See Note 2
TSS	mg/L	308	See Note 2
Ammonia	mg/L	34	See Note 2
TKN	mg/L	52	See Note 2
Winter temperature	degrees C	20	See Note 2
Summer temperature	degrees C	26	See Note 2
Peak Month Average Raw Influent Loadings at 14 mgd:			
BOD-5 day	lbs/day	34,320	calculated [3]
TSS	lbs/day	35,960	calculated [3]

1. Raw wastewater characteristics based on RP-4 data from June 2000 through July 2001.
2. Black & Veatch, 2002.
3. For more information on calculated values, see comments in right margin.

Comment [MSOffice1]: 245 mg/L * 14 mgd * 8.34 lb/mil gal/mg/L = 28,600 lb/d

Comment [MSOffice2]: 256 mg/L * 14 mgd * 8.34 lb/mil gal/mg/L = 29,880 lb/d

Comment [MSOffice3]: 294 mg/L * 14 mgd * 8.34 lb/mil gal/mg/L = 34,320 lb/d

Comment [MSOffice4]: 308 mg/L * 14 mgd * 8.34 lb/mil gal/mg/L = 35,960 lb/d

Table 4-3
Headworks Design Criteria

Parameter	Units	Value	Reference
Mechanical Bar Screens:			
Number	units	2	See Note 1
Channel width	feet	6.0	See Note 1
Channel depth	feet	18.0	See Note 1
Bar clear opening	inches	0.375	See Note 1
Max velocity through screen	feet/second	1.5	See Note 1
Peak flow capacity	mgd, each	36.2	See Note 1
Total peak flow capacity	mgd	72.4	calculated [2]
Screenings Press:			
Number	units	1	See Note 1
Capacity	cu ft/hour	32	See Note 1
Percent solids	percent	8	See Note 1
Influent Pump Stations Nos. 1 & 2:			
Pump Station Number 1:			
Number of pumps	units	5	See Note 1
Type	type	centrifugal	See Note 1
Motor horsepower, each	hp	50	See Note 1
Rated Capacity per pump	gpm	3,275	See Note 1
Rated head @ 870 rpm	ft	38	See Note 1
Pump Station Number 2:			
Number of pumps	units	3	See Note 1
Type	type	submersible	See Note 1
Motor horsepower, each	hp	100	See Note 1
Rated Capacity per pump	gpm	6,000	See Note 1
Rated head	ft	40	See Note 1
Reliable capacity with 7 pumps	mgd	40.8	calculated [2]
Magnetic Flow Meter:			
Number	units	1	See Note 3
Throat size	inches	42	See Notes 1 & 3
Maximum capacity	mgd	48.3	See Notes 1 & 3
Grit Chambers:			
Number	units	2	See Note 1
Type	type	vortex	See Note 1
Diameter	feet	16	See Note 4
Depth	feet	2.92	See Note 4

Comment [MSOffice5]: 2 units*36.2 mgd/unit = 72.4 mgd

Comment [MSOffice6]: ((5 units*3,275 gpm + 2 units * 6,000 gpm) * 1,440 min/d) / 10^6) = 40.8 mgd

Table 4-3
Headworks Design Criteria

Parameter	Units	Value	Reference
Volume, each	gallons	4,400	calculated [2]
Detention time at PHWWF, all units in service	minutes	0.39	calculated [2]
Peak design capacity, each	mgd	20	See Note 1
Grit Pumps:			
Number	units	3	See Note 5
Type	type	Recessed impeller, centrifugal	See Note 5
Motor horsepower	hp	2 @ 5; 1 @ 7.5	See Note 5
Capacity, each	gpm	250	See Note 1
Rated head	feet	30	See Note 1
Grit Dewatering Equipment:			
Number of cyclones	units	2	See Notes 5 & 6
Number of classifiers	units	2	See Notes 5 & 6

1. Black & Veatch, 2004.
2. For more information on calculated values, see comments in right margin.
3. Black & Veatch, 2002.
4. NBS/Lowry, 2000.
5. IEUA staff, 2004-2009.
6. IEUA, 2005.

Comment [MSOffice7]: 1 unit*3.14/4*16ft^2 * 2.92ft*7.5gal/cuft = 4,400 gal

Comment [MSOffice8]: (4,400 gal * 2 tanks)/32,200,000 gpd*(1 day/1440 min)) = 0.39 min

Table 4-5
Primary Treatment Design Criteria

Parameter	Units	Value	Reference
Primary Clarifiers:			
Number	units	2	See Note 1
Diameter	ft	105	See Note 1
Side Water Depth	ft	13	See Note 1
Surface Area, each	sq.ft.	8,659	calculated [2]
Volume, each	gallons	844,254	calculated [2]
Design Capacity, each	mgd	7	See Note 1
Overflow rate at AADF, all units in service	gpd/sf	810	See Note 1
Overflow rate at PHWWF, all units in service	gpd/sf	1,860	calculated [2]
Annual Average Title 22 Capacity	mgd	14	See Note 3

1. Black & Veatch, 2004.
2. For more information on calculated values, see comments in right margin.
3. See Section 4.

Comment [MSOffice9]: (3.1415 * 105^2) / 4 = 8,659 sf

Comment [MSOffice10]: 8,659 sf * 13 ft * 7.5 gal/cf = 844,254 gallons

Comment [DDB11]: 810 gpd/sf * 2.3 wet weather peaking factor = 1,863 gpd/sf

Table 4-6
Biological Secondary Treatment Design Criteria

Parameter	Units	Value	Reference
Anoxic Tanks 1A:			
Number	units	3	See Note 1
Volume, each	gallons	339,315	See Note 1
Detention Time, based on annual average flow of 7 mgd, each, without recycle	hours	1.16	calculated [2]
Anoxic Tank 1A Mixers:			
Type	type	Flygt submersible propeller	See Note 1
Number per tank	units	3	See Note 1
Motor horsepower, each	hp	6.2	See Note 1
Size	inches	63	See Note 1
Process Trains:			
Number	trains	3	See Note 1
Basins per train	units	2	See Note 1
Volume, each basin	gallons	1,486,000	See Note 1
Length	feet	383.5	See Note 1
Width	feet	35	See Note 1
Side Water Depth	feet	16	See Note 1
Average flow per basin	mgd	3.5	See Note 1
Hydraulic Detention Time, based on annual average flow of 3.5 mgd per basin	hours	10.2	calculated [2]
Anoxic Zone 1B:			
Number	units	6	See Note 1
Volume, each	gallons	120,000	See Note 1
Anoxic Zone 1B Mixers:			
Type	type	submersible propeller	See Note 1
Number per zone	units	1	See Note 1
Motor horsepower, each	hp	20	See Note 3
Size	inches	30	See Note 3
Average flow	mgd	3.5	See Note 3
Oxic Zone 1:			
Number	units	6	See Note 1
Volume, each	gallons	863,500	See Note 3
Anoxic Zone 2A:			
Number	units	6	See Note 1

Comment [MSOffice12]: 339,315 gal / (7 mgd * 10^6 gal/mg * (1 day/24 hr)) = 1.16 hr

Comment [MSOffice13]: 1,486,000 gal / (3.5 mgd * 10^6 gal/mg * (1 day/24 hr)) = 10.2 hr

Table 4-6
Biological Secondary Treatment Design Criteria

Parameter	Units	Value	Reference
Volume, each	gallons	117,300	See Note 1
Anoxic Zone 2B:			
Number	units	6	See Note 1
Volume, each	gallons	117,300	See Note 1
Anoxic Zone 2 Mixers:			
Type	type	submersible propeller	See Note 1
Number per zone	units	1	See Note 1
Motor horsepower, each	hp	20	See Note 1
Size	inches	30	See Note 1
Average flow	mgd	3.5	See Note 1
Oxic Zone 2:			
Number	units	6	See Note 1
Volume, each	gallons	228,300	See Note 3
Diffused Aeration System:			
Type	type	Fine Bubble Aerostrip	See Note 1
Oxic Zone 1:			
No. of diffusers per zone	units	338	See Note 3
Air requirements, per zone:			
Average	scfm	2,105	See Note 1
Max month (summer)	scfm	3,515	See Note 1
Peak Day	scfm	3,750	See Note 1
Oxic Zone 2:			
No. of diffusers per zone	units	80	See Note 3
Air requirements, per zone:			
Average	scfm	243	See Note 1
Max month (summer)	scfm	371	See Note 1
Peak Day	scfm	1,255	See Note 1
Air Blowers:			
Number	units	3	See Note 1
Rated capacity, each	scfm	8,000	See Note 1
Discharge pressure	psia	22.93	See Note 3
Motor hp, each	hp	2 @ 500; 1 @ 450	See Note 1
Mixed Liquor Recycle Pumps:			
Number	units	6	See Note 1
Number per basin	unit	1	See Note 1

Table 4-6
Biological Secondary Treatment Design Criteria

Parameter	Units	Value	Reference
Type	type	submersible horizontal propeller	See Note 1
Capacity range, each, at rated head	mgd	3.5 – 7.0	See Note 1
Motor hp, each	hp	40	See Note 1
Rated head	ft	1.4 to 4.5	See Note 1

1. Black & Veatch, 2004.
2. For more information on calculated values, see comments in right margin.
3. IEUA, 2005.

Table 4-7
Secondary Clarifier Design Criteria

Parameter	Units	Value	Reference
Secondary Clarifiers:			
Number	units	3	See Note 1
Diameter	ft	145	See Note 1
Side Water Depth	ft	18	See Note 1
Surface area, each	sf	16,500	See Note 1
Volume, each	gallons	2,212,000	calculated [2]
Average flow, each	mgd	7.0	See Note 1
Peak Capacity, each	mgd	16.1	calculated [2]
Overflow rate at 16.1 mgd	gpd/sf	976	calculated [2]
Inlet well diameter (minimum)	ft	10	See Note 3
Flocculating feedwell diameter (minimum)	ft	30	See Note 3
Collector Drive	Hp	1	See Note 1
Return Activated Sludge (RAS) Pumps			
Type	--	Horizontal non-clog centrifugal	See Note 1

Comment [MSOffice14]: 16,500 sf * 18 ft * 7.48 gal/cf = 2,212,000 gallons

Comment [MSOffice15]: 7.0 mgd * Peaking Factor 2.3 = 16.1 mgd

Comment [MSOffice16]: (16.1 mgd * 10^6 gal/mg) / 16,500 sf = 976 gpd/sf

Table 4-7
Secondary Clarifier Design Criteria

Parameter	Units	Value	Reference
Number	units	4 (3 duty, 1 standby)	See Note 1
Rated Capacity, each	gpm	7,072	See Note 1
Rated Head, each	ft	48	See Note 1
Motor hp, each	hp	100	See Note 1
Drive type	--	Variable frequency drive	See Note 1
RAS Flow, each train	mgd	2 – 8.75	See Note 1
Waste Activated Sludge (WAS)			
Number of Flow Control Valves	units	2	See Notes 1 & 4
WAS Production, annual average	ppd	11,214	See Note 1
WAS Production, maximum month	ppd	14,390	See Note 1
WAS Continuous Flow Rate, annual average	gpm	115	See Note 1
WAS Continuous Flow Rate, maximum month	gpm	141	See Note 1

1. Black & Veatch, 2004.
2. For more information on calculated values, see comments in right margin.
3. IEUA, 2005.
4. WAS system has two flow control valves: one valve wastes Mixed Liquor and the other valve wastes RAS from the RAS pumps' discharge line.

Table 4-9
Dual-Media Filtration
Coagulation/Flocculation/Clarification Facilities Design Criteria

Parameter	Units	Value	Reference
Type	type	"Contra-clarifier" upflow	See Notes 1, 2 & 3
Number of "contra-clarifier" cells	units	8	See Notes 1, 2 & 3
Length per cell	feet	14	See Note 3
Width per cell	feet	10	See Note 3
Side water depth	feet	9.5	See Notes 1, 2 & 3

Table 4-9
Dual-Media Filtration
Coagulation/Flocculation/Clarification Facilities Design Criteria

Parameter	Units	Value	Reference
Volume per cell	gallons	9,950	calculated[4]
Total volume, all cells in service	gallons	79,600	calculated[4]
Detention time at average flow, all filter cells in service	minutes	14.7	calculated[4]
Detention time at peak flow, all filter cells in service	minutes	6.4	calculated[4]
Alum storage and feed system			
Total Storage Bulk Tank (new) Day Tanks (2 X existing)	gallons	2,600 1,800 400 each	See Note 5
Number of pumps	units	2	See Note 3
Maximum dose	mg/L	20	See Note 1
Polymer storage and feed system – not typically used			
Total Storage	gallons	250	See Note 5
Number of pumps	units	2	See Note 3
Maximum dose	mg/L	1	See Note 1
Maximum coagulation/flocculation /clarification capacity, all cells in service	mgd	18.0 [1]	See Note 6
Annual average capacity (Title 22 reliable capacity), one cell for maintenance	mgd	6.8 [3]	See Note 6

1. Black & Veatch, 2004.
2. NBS/Lowry, 1996.
3. NBS/Lowry and North American Treatment Systems, 2000.
4. For more information on calculated values, see comments in right margin.
5. North American Treatment Systems, Inc., 1997.
6. Capacity is the same as that for the filtration process because the "contra-clarifiers" are an integral component of the dual-media gravity filters. See Section 4.

Comment [MSOffice17]: 14 ft *10 ft * 9.5 ft * 7.48 gal/cf = 9,950 gallons

Comment [MSOffice18]: 9,950 gal/unit * 8 units = 79,600 gallons

Comment [MSOffice19]: (79,600 gal / 7,800,000 gpd) * 1440 min/day) = 14.7 min

Comment [MSOffice20]: (79,600 gal / 18,000,000 gpd) * 1440 min/day) = 6.4 min

Table 4-10
Dual-media Filter Design Criteria

Parameter	Units	Value	Reference
Number of filters	units	1	See Note 1
Number of cells per filter	units	8	See Note 1
Type	type	Dual media	See Note 1
Media	type	Anthracite/sand	See Note 1
Depth	inches	Anthracite : 18 Sand : 12	See Note 2
Length per filter cell	feet	31.3	See Note 2
Width per filter cell	feet	10	See Note 2
Surface area per filter cell	sq ft	313	See Note 1
Total surface area, all filter cells in service	sq ft	2,504	See Note 1
Firm surface area, one filter cell out for maintenance or backwash	sq ft	2,191	calculated[3]
Maximum filtration rate, (Title 22 reliable capacity), one filter cell out for maintenance or backwash	gpm/sq ft	5	See Note 4
Maximum capacity per filter cell	mgd	2.25	See Note 1 and calculated[3]
Maximum capacity, all filter cells in service	mgd	18.0	See Note 1
Maximum capacity, (Title 22 reliable capacity), one filter cell out for maintenance	mgd	15.7 [5]	calculated[3]
Annual average capacity (Title 22 reliable capacity), one filter cell out for backwash	mgd	6.8 [6]	calculated[3]
Filter backwash pumping			
Number of pumps	units	2	See Note 7
Type	type	Vertical turbine	See Note 7
Capacity per pump	gpm	8,500	See Note 7
Total capacity	gpm	17,000	See Note 7

1. Black & Veatch, 2004.
2. NBS/Lowry and North American Treatment Systems, 2000.
3. For more information on calculated values, see comments in right margin.
4. California, 2001. Maximum filtration rate of 5 gpm/sf is used for calculations in this table.)
5. See Section 4 regarding reliable capacity (7 of 8 filter cells in service and 1 filter cell in backwash).

Comment [MSOffice21]: 2,504 sf – 313 sf = 2,191 sf

Comment [DDB22]: (313 sf * 5 gpm/sf) / 694.44 gpm/mgd = 2.25 mgd per filter

Comment [MSOffice23]: 2.25 mgd * 7 filters in service = 15.75 mgd

Comment [MSOffice24]: 15.75 mgd / peaking factor of 2.3= 6.8 mgd

6. Annual average capacity is based on maximum reliable capacity/PHWWF peaking factor (15.7/2.3 =6.8 mgd).
7. IEUA, 2004-2009.

Table 4-11
Vertical Flocculation Design Criteria

Parameter	Units	Value	Reference
Flocculator type	type	Vertical Impeller	See Note 1
Number per flocculation basin	each	1	See Note 1
Number of flocculation basins	each	3, in series	See Note 1
Length per basin	feet	16.5	See Note 1
Width per basin	feet	16.5	See Note 1
Side water depth	feet	10.8 to 12.1	See Note 1
Average Volume per basin	gallons	23,300 +	calculated[2]
Total volume, all 3 basins	gallons	70,000+	calculated[2]
Detention time at average flow (7.3 mgd), all 3 basins	minutes	13.8	calculated[2]
Detention time at peak flow (22.4 mgd), all basins in service	minutes	4.5	calculated[2]
Range of velocity gradient "G"	1/seconds	20 to 60	See Note 1
Maximum capacity, all filters in service	mgd	22.4 [3]	calculated[2]
Maximum capacity, (Title 22 reliable capacity), one filter out for maintenance	mgd	16.8 [4]	calculated[2]
Annual average capacity (Title 22 reliable capacity), one filter out for maintenance	mgd	7.3 [5]	calculated[2]

1. IEUA, 2005.
2. For more information on calculated values, see comments in right margin.
3. Maximum flow with four cloth filters operating at 6 gpm/sf, or 5.6 mgd each.
4. Based on three filters operating at 5.6 mgd per filter; one not in service.
5. Based on the maximum capacity of three filters and a PHWWF Peaking Factor of 2.3.

Comment [MSOffice25]: (16.5 ft * 16.5 ft * ((10.8 + 12.1)/2))* 7.48 = 23,300 gallons

Comment [MSOffice26]: 3 basins * 23,300 gal/basin = 69,900 gallons (rounded)

Comment [MSOffice27]: (70,000 gal / 7,300,000 gpd) * 1440 min/day) = 13.8 min

Comment [MSOffice28]: (69,900 gal / 22,400,000 gpd) * 1440 min/day) =4.5 min

Comment [MSOffice29]: See Table 4-12 calculations below

Comment [MSOffice30]: See Table 4-12 calculations below

Comment [MSOffice31]: See Table 4-12 calculations below

Table 4-12
Cloth Disc Filter Design Criteria

Parameter	Units	Value	Reference
Filter backwash pumping:			
Number of pumps per filter	units	2	See Note 1
Type	type	horizontal centrifugal	See Note 1
Capacity per pump	gpm	130	See Note 1
Total dynamic head	ft	41	See Note 1
Number of filters	units	4	See Note 1
Number of discs per filter	units	12	See Note 1
Submerged surface area per disc	sq ft	53.8	See Note 1
Maximum hydraulic loading rate	gpm/sf	6	See Note 2
Maximum capacity per filter	mgd	5.6	calculated[3]
Total submerged surface area, all filter discs in service	sq ft	2,582	calculated[3]
Firm submerged surface area, one filter out for maintenance	sq ft	1,937	calculated[3]
Maximum capacity, all filters in service	mgd	22.4 [4]	calculated[3]
Maximum capacity, (Title 22 reliable capacity), one filter out for maintenance	mgd	16.8 [5]	calculated[3]
Annual average capacity (Title 22 reliable capacity), one filter out for maintenance	mgd	7.3 [6]	calculated[3]

1. IEUA, 2005.
2. Black & Veatch, 2004.
3. For more information on calculated values, see comments in right margin.
4. Maximum flow with four cloth filters operating at 6 gpm/sf, or 5.6 mgd each.
5. Based on three filters operating at 5.6 mgd per filter; one not in service.
6. Based on the maximum capacity of three filters and a PHWWF Peaking Factor of 2.3.

Comment [MSOffice32]: (53.8 sf/disc * 12 discs/filter * 6 gpm/sf * 1,440 min/day)/ 10^6 = 5.6 mgd

Comment [MSOffice33]: 53.8 sf/disc * 12 disc/filter * 4 filters = 2,582 sf

Comment [MSOffice34]: 2,582 sf/4 filters * 0.75 = 1,937 sf for 3 filters

Comment [MSOffice35]: 5.6 mgd/filter * 4 filters = 22.4 mgd

Comment [MSOffice36]: 5.6 mgd/filter * 3 filters = 16.8 mgd

Comment [MSOffice37]: 16.8 mgd / peaking factor 2.3 = 7.3 mgd

Table 4-14
Existing Sodium Hypochlorite System Design Criteria

Parameter	Units	Value	Reference
Sodium hypochlorite concentration	percent available Cl_2	12.5	See Note 1
Maximum Cl_2 dose @ average flow	mg/L	25	See Note 1
Bulk Storage System:			
Number of tanks	units	3	See Note 2
Volume per tank	gallons	2,250	See Note 2
Total volume	gallons	6,750	calculated[3]
Feed System:			
Number of metering pumps	units	2	See Note 2
Capacity per pump	gph	180	See Note 1
Treatment Capacity:			
Peak capacity at 10 mg/L Cl_2 feedrate, all units in service	mgd	103.6	calculated[3]
Annual average capacity at 9 mg/L Cl_2 feedrate, all units in service	mgd	50.0	calculated[3]
Annual average capacity at 9 mg/L Cl_2 feedrate, one pump out of service	mgd	21.7	calculated[3]

1. Black & Veatch, 2004.
2. IEUA, 2004-2009.
3. For more information on calculated values, see comments in right margin.

Comment [MSOffice38]: 2,250 gallons/tank * 3 tanks = 6,750 gallons

Comment [MSOffice39]: (2 units * 180 gal/hr/unit * 1 lb/gal * 24 hr/day) / (10 mg/L*8.34 lb/mil gal/mg/L) =103.6 mgd

Comment [MSOffice40]: (2 units * 180 gal/hr/unit * 1 lb/gal * 24 hr/day) / (9 mg/L*8.34 lb/mil gal/mg/L * 2.3 peaking factor = 50.0 mgd

Comment [MSOffice41]: 50.0 mgd / 2.3 peaking factor = 21.7 mgd

Table 4-15
New Sodium Hypochlorite Metering System Design Criteria

Parameter	Units	Value	Reference
Sodium hypochlorite concentration	percent available Cl_2	12.5	See Note 1
Maximum Cl_2 dose @ average flow	mg/L	25	See Note 1
Number of metering pumps	units	2	See Note 1
Capacity per pump	gph	19 to 117	See Note 4
Annual average capacity at 9 mg/L Cl_2 feedrate	mgd	16.3	calculated[2,3]

1. Black & Veatch, 2003 and IEUA, 2009.
2. For more information on calculated values, see comments in right margin.
3. (117 gal/hr * 1 lb/gal * 24 hrs/day)/(9 mg/L * 8.34 lb/mil gal/mg/L * 2.3 peaking factor) = 16.3 mgd
4. IEUA, 2005.

Comment [MSOffice42]: (117 gal/hr * 1 lb/gal * 24 hrs/day)/(9 mg/L * 8.34 lb/mil gal/mg/L * 2.3 peaking factor) = 16.3 mgd

Table 4-16
Existing Chlorine Contact Basin Design Criteria

Parameter	Units	Value	Reference
Number of tanks	units	2	See Note 1
Chlorine Contact Basin 1A:			
Overall footprint	feet x feet	69 x 39	See Note 1
Number of passes	units	5	See Note 1
Length of each pass	feet	65.5	See Note 1
Effective overall length	feet	327.5	See Note 1
Channel width	feet	7.33	See Note 2
Side water depth	feet	13	See Note 1
Length : width	ratio	45 : 1	calculated[3]
Length : depth	ratio	25 : 1	calculated[3]
Volume	gallons	233,430	calculated[3]
Chlorine Contact Basin 1A Effluent Channel:			
Length	feet	63.6	See Note 4
Width	feet	7.0	See Note 4
Side water depth	feet	2.75	See Note 4
Volume	gallons	9,160	calculated[3]
Interconnecting Pipe (on-site):			
Length of 42-in. diam. pipe	feet	140	See Note 5
Volume of 42-in. diam. pipe	gallons	10,080	calculated[3]
Length of 36-in. diam. pipe	feet	370	See Note 4
Volume of 36-in. diam. pipe	gallons	19,560	calculated[3]
Total pipe volume	gallons	29,640	calculated[3]
Chlorine Contact Basin 1B:			
Overall footprint	feet x feet	163 x 49	See Note 1
Number of passes	units	6	See Note 1
Length of each pass	feet	163	See Notes 1 and 4
Effective overall length	feet	978	See Note 1
Channel width	feet	7.5	See Note 2
Side water depth	feet	16	See Note 1
Length : width	ratio	130 : 1	calculated[3]
Length : depth	ratio	61 : 1	calculated[3]
Volume	gallons	877,850	calculated[3]
Total Volume (Basins 1A & 1B, 1A Effluent Channel, & Interconnecting Pipe)	gallons	1,150,080	calculated[3]

Comment [MSOffice43]: 327.5 ft / 7.33 ft = 45

Comment [MSOffice44]: 327.5 ft / 13 ft = 25

Comment [MSOffice45]: 327.5 ft * 13 ft * 7.33 ft * 7.48 gal/cf
= 233,430 gallons

Comment [MSOffice46]: 63.6 ft * 7.0 ft * 2.75 ft * 7.48 gal/cf
= 9,160 gallons

Comment [MSOffice47]: π/4 * (42 in/12 in/ft)^2 * 140 ft * 7.48 gal/cu ft
= 10,080 gallons

Comment [MSOffice48]: π/4 * (36 in/12 in/ft)^2 * 370 ft * 7.48 gal/cu ft
= 19,560 gallons

Comment [MSOffice49]: 10,080 gal + 10,560 gal = 29,640 gallons

Comment [MSOffice50]: 978 ft / 7.5 ft = 130

Comment [MSOffice51]: 978ft / 16 ft = 61

Comment [MSOffice52]: 978 ft *7.5 ft * 16 ft *7.48 gal/cu ft
= 877,850 gallons

Comment [MSOffice53]: 233,430 gal + 9,160 gal + 10,080 gal + 877,850 gal + 19,560 gal
= 1,150,080 gallons

Table 4-16
Existing Chlorine Contact Basin Design Criteria

Parameter	Units	Value	Reference
Required modal contact time (at PHDWF)	minutes	90	See Note 6
Required CT (at PHDWF)	mg-min/L	450	See Note 6
Estimated Peak (dry weather) capacity, at 90 minutes modal contact time, all units in service	mgd	14.3 [7]	See Note 9
Estimated Annual Average capacity, at 90 minutes modal contact time, all units in service	mgd	7.2 [8]	calculated[3]
Estimated Peak (wet weather) capacity, all units in service	mgd	16.5 [10]	calculated[3]

1. Black & Veatch, 2004.
2. NBS/Lowry and North American Treatment Systems, 2000.
3. For more information on calculated values, see comments in right margin.
4. IEUA, 2004-2007.
5. Black & Veatch, 2003.
6. California, 2001.
7. Based on dye test results. See Appendix C.
8. Based on PHDWF capacity divided by the peaking factor (14.3/2.0 = 7.2)
9. SFE Global, 2005.
10. Based on AADF capacity times the wet weather peaking factor (7.2 x 2.3 = 16.5)

Comment [MSOffice54]: 14.3 mgd / PHDWF peaking factor of 2.0 = 7.2 mgd

Comment [DDB55]: 7.2 mgd * PHWWF peaking factor of 2.3 =16.5 mgd

Table 4-17
New Chlorine Contact Basin No. 2 Design Criteria

Parameter	Units	Value	Reference
Number of basins	units	1	See Note 1
Number of trains per basin	units	2	See Note 1
Number of passes per train	units	3	See Note 1
Overall basin footprint	feet x feet	53.33 x 198	See Note 1
Length of each pass	feet	188	See Note 1
Effective overall length per train	feet	564	calculated[2]
Width of each pass, or channel	feet	7.5	See Note 1
Side water depth	feet	16	See Note 1
Length : width per train	ratio	74 : 1	calculated[2]
Length : depth per train	ratio	35 : 1	calculated[2]
Volume per train	gallons	506,250	calculated[2]
Length : width, total basin	ratio	150 : 1	calculated[2]
Length : width, total basin	ratio	70 : 1	calculated[2]
Total Volume per basin	gallons	1,012,500	calculated[2]
Required modal contact time (at PHDWF)	minutes	90	See Note 3
Required CT (at PHDWF)	mg-min/L	450	See Note 3
Estimated Peak (dry weather) capacity, at 90 minutes modal contact time, all units in service	mgd	14.0	calculated[2]
Estimated Annual Average capacity, at 90 minutes modal contact time, all units in service	mgd	7.0	See Note 1
Estimated Peak (wet weather) capacity, all units in service	mgd	16.1 [5]	calculated[2]

1. Black & Veatch, 2004.
2. For more information on calculated values, see comments in margin at right.
3. California, 2001.
4. Based on AADF capacity times the wet weather peaking factor (7.0 x 2.3 = 16.1)

Comment [MSOffice56]: 188 ft/train * 3 trains = 564 ft

Comment [MSOffice57]: 564 ft/7.5 ft = 74

Comment [MSOffice58]: 564 ft / 16 ft = 35

Comment [MSOffice59]: 564 ft * 7.5 ft * 16 ft * 7.48 gal/cf
= 506,250 gallons

Comment [MSOffice60]: 506,250 gallons/train * 2 trains
= 1,012,500 gallons

Comment [MSOffice61]: 7.0* PHDWF peaking factor of 2.0 = 14.0

Comment [DDB62]: 7.0 mgd * PHWWF peaking factor of 2.3
= 16.1 mgd

Table 4-19
Dechlorination Design Criteria

Parameter	Units	Value	Reference
Influent Average Dry Weather Flow	mgd	14	See Note 1
Sodium Bisulfite Dosage Range	mg/L	0-23.8	See Note 1
Sodium Bisulfite Storage:			
Number of tanks	units	1	See Note 1
Volume	gallons	2,000	See Note 1
Capacity @ Avg Flow Rate and 10 mg/L feedrate	days	5.4	calculated[2]
Solution Strength	percent	38	See Notes 3 and 4
Sodium Bisulfite Feed Pumps:			
Number of pumps	units	1	See Note 1
Capacity per pump	gph	115	See Note 3
Max Feed rate	gpd	2,760	calculated[2]
Capacity at 20 mg/L feedrate, all units in service	mgd	52	calculated[2]
Capacity at 10 mg/L feedrate, all units in service	mgd	104	calculated[2]
Capacity at 10 mg/L, one pump out of service	mgd	0	calculated[2]
Dechlorination Chamber:			
Overall footprint	feet x feet	10 x 10	See Notes 1 and 3
Approximate depth	feet	10.5	See Note 1
Volume	gallons	7,854	calculated[2]
Mixer horsepower	hp	15	See Note 5

1. Black & Veatch, 2004 and IEUA, 2009.
2. For more information on calculated values, see comments in right margin.
3. Black & Veatch, 2003. Specification Section 11727.
4. 3.17 lb/gal for a 38% solution.
5. Black & Veatch, 2002.

Comment [MSOffice63]: (3.17 lb/gal * 2,000 gal) / (14 mgd * 10 mg/L * 8.34 #/gal) = 5.4 days

Comment [MSOffice64]: 115 gph/pump * 24 hr/d * 1 pump = 2,760 gpd

Comment [MSOffice65]: (2,760gpd * 3.17 #/gal)/ (8.34 #/gal * 20 ppm) = 52 mgd

Comment [MSOffice66]: 52 mgd * 20/10 = 104 mgd

Comment [MSOffice67]: No standby pump at RP-4. Use pump at RP-1.

Comment [MSOffice68]: 10 ft * 10 ft * 10.5 ft * 7.48 gal/cf
= 7,854 gallons

Table 4-20
On-Site Storage Pond & Return Pumping Design Criteria

Parameter	Units	Value	Reference
On-Site Storage Pond:			
Number of basins	units	1	See Note 1
Volume	million gallons	4	See Note 1
Volume as a percent of annual average flow	percent	28.5	calculated[2]
Retention time at annual average flow	hours	6.85	calculated[2]
Return Pumping:			
Number of pumps	units	2	See Note 1
Type of pumps	type	Self-priming centrifugal	See Note 1
Capacity per pump	gpm	3,275	See Note 1
Rated head @ 870 rpm	feet	38	See Note 1
Motor horsepower	hp	50	See Note 1

1. Black & Veatch, 2004.
2. For more information on calculated values, see comments in right margin.

Comment [MSOffice69]: (4 million gall/14 mgd) * 100 = 28.5%

Comment [MSOffice70]: 0.285 * 24 hours = 6.85 hours

Appendix C
Regional Plant No. 4
2005 Chlorine Contact Basin
Contact Time Testing

January 20, 2005

Inland Empires Utilities Agency
PO Box 9020
Chino Hills, CA
91709

Attention: Ms. Mary Blasingame

Re: Final Report – 2005 Contact Time Test - SFE Global Project #C46-02

Dear Madame,

Please find enclosed, our final report on the Contact Basin Testing performed January 5th, 2005 at the RP-4 WWTP.

Thank you for having SFE Global complete this work on your behalf. If you have any questions or comments, please do not hesitate to contact me directly.

Yours truly,
SFE Global

Kevin McMillan
Senior Project Manager

KMC/af

C.C.: Ms. LeAnne Hamilton

enclosed: final report

Rancho Cucamonga, California
CCB Contact Time Testing – RP-4 WWTP
January 2005
SFE File #C46-02

Final Report

Submitted To:

Inland Empires Utilities Agency
PO Box 9020
Chino Hills, California
91709
Attn: Ms. Mary Blasingame

SFE Global NW
Suite 3, 4141 Northgate Blvd.
Sacramento, California
95834
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1.0 INTRODUCTION

This report provides details of the Chlorine Contact Basin (CCB) testing conducted by SFE Global at the RP-4 WWTP near Rancho Cucamonga. California. The project included the injection of concentrated salt solution into the CCB and the measurement of conductivity at two points near the outlet of two contact basins connected in series. Testing was performed on January 5th, 2005.

Mr. Rob Larson, as Project Manager and Mr. Jason Scott as Field Service Technician represented SFE during this project.

2.0 TESTING PROGRAM

Testing was performed according to methodology developed by Turner Designs, the manufacturer of fluorometry equipment utilized by SFE Global. Due to high chlorine residual concentration an alternative method of testing was performed with a slug injection of supersaturated salt solution. Conductivity measurements were performed at the two CCB outlets with a Foxborough Digital Conductivity Meter and data logger. Logged data and manual readings were used to determine Modal contact time of the Chlorine Contact Basin, relative to the time of slug-injection at the inlet.

The methodology used for this application was as follows:

- Install conductivity meter at the outlet, approximately two feet below water surface.
- Dose granular salt into water and mix until dissolved.
- Slug inject salt solution near the CCB chlorine injection diffuser.
- Read conductivity data at outlet Site #1 and record values for calculation of Modal contact time.
- Move conductivity equipment to Site #2 and record values for calculation of Modal contact time.
- Site #2 is near the de-chlorination chemical injection

Conditions were excellent for this testing. Flow rate information from the plant filter magnetic meters and the Chlorine Contact Basin 1A ultrasonic flow meters was obtained and recorded during the test. Data obtained indicated a well-defined peak conductivity for Site #1 and a flatter, less pronounced peak for Site #2.

3.0 TEST RESULTS

Chlorine Contact Basin #2 modal contact time is the contact time for the whole system, including Basin #1, Basin #2 and the interconnecting pipeline.

Site 1: Chlorine Contact Basin #1	
Parameter	**Elapsed Time (minutes)**
Minimum	20
Maximum	64
Modal	30

Site 2: Chlorine Contact Basin #2	
Parameter	**Elapsed Time (minutes)**
Minimum	102
Maximum	N/A**
Modal	130

Average flow for duration of test: 9.912 mgd.

Note: Flow rate derived from average flow rate reported by the plant over the duration of the test. Flow rate values were provided by Distributed Control System staff as retrieved from the SCADA system output and converted from GPM to MGD by SFE Global.

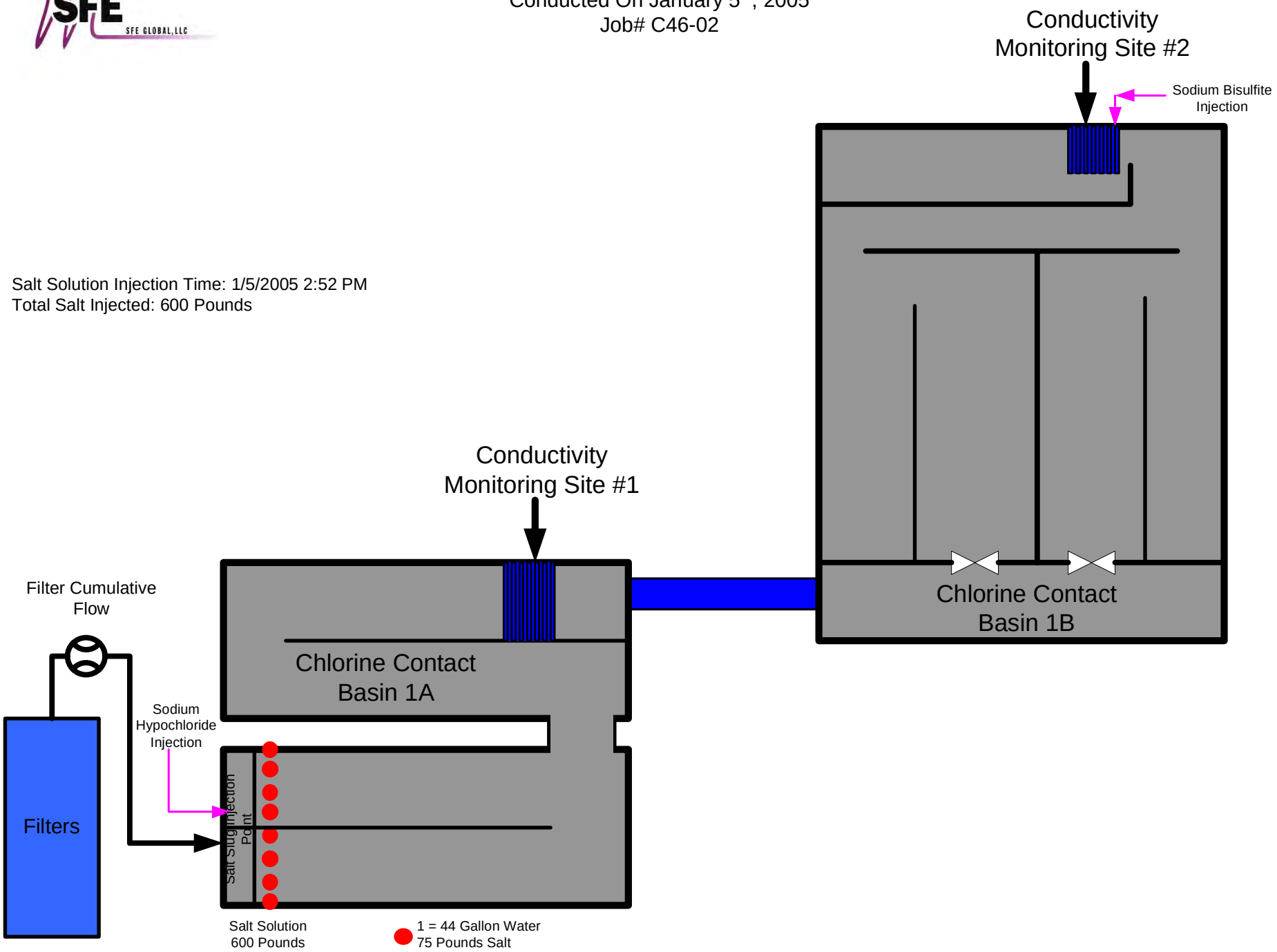
**** Residual salt was present in the CCB#2 for an extended period from dispersion; therefore no maximum contact time was available.**

4.0 CONCLUSION

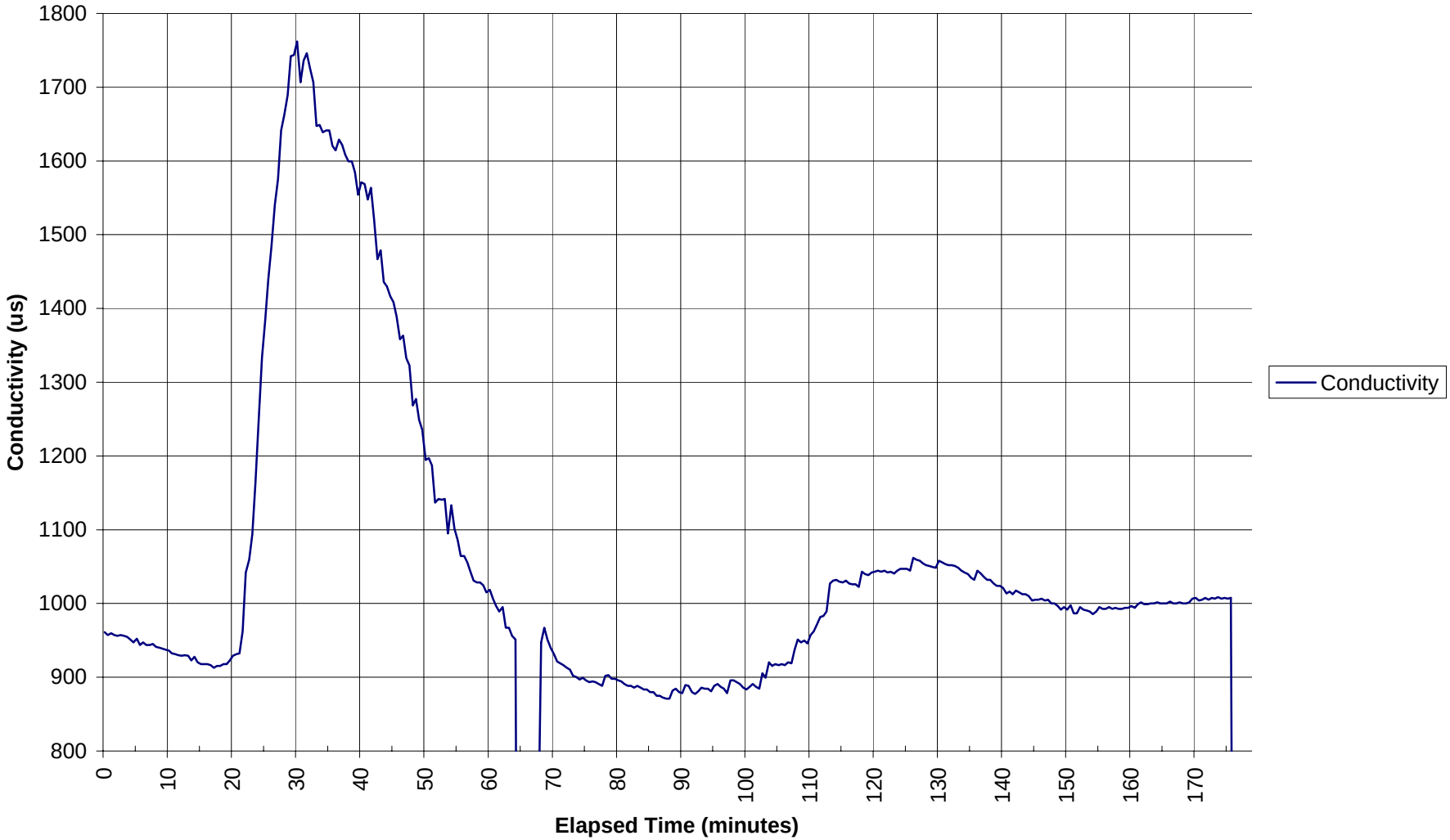
The testing performed on the RP-4 WWTP CCB was considered successful and a well-defined conductivity peak was observed. Plant flow rate was observed and recorded on the data spreadsheet attached.

Inland Empire Utilities Agency
RP-4 CCB Retention Time Testing
Conducted On January 5th, 2005
Job# C46-02

Salt Solution Injection Time: 1/5/2005 2:52 PM
Total Salt Injected: 600 Pounds



Inland Empire Utilities Agency
RP-4 CCB Retention Time Testing



Inland Empire
RP-4 Chloring Contact Basin Flow Rates
January 5th, 2004

Date / Time	Effluent Meter Flow MGD	Date / Time	Combined Filter Flow MGD
1/5/2005 14:52	8.507	1/5/2005 14:52	8.844
1/5/2005 14:52	8.384	1/5/2005 14:52	8.990
1/5/2005 14:53	8.648	1/5/2005 14:53	9.020
1/5/2005 14:54	8.800	1/5/2005 14:54	8.911
1/5/2005 14:54	8.929	1/5/2005 14:54	8.418
1/5/2005 14:55	8.721	1/5/2005 14:55	9.266
1/5/2005 14:56	8.934	1/5/2005 14:56	9.603
1/5/2005 14:56	9.284	1/5/2005 14:56	10.123
1/5/2005 14:57	9.976	1/5/2005 14:57	9.353
1/5/2005 14:58	10.106	1/5/2005 14:58	9.425
1/5/2005 14:58	10.077	1/5/2005 14:58	9.350
1/5/2005 15:00	10.089	1/5/2005 14:59	9.638
1/5/2005 15:01	10.038	1/5/2005 15:00	9.462
1/5/2005 15:01	10.167	1/5/2005 15:01	9.598
1/5/2005 15:02	10.050	1/5/2005 15:01	9.811
1/5/2005 15:03	10.179	1/5/2005 15:02	9.632
1/5/2005 15:03	10.140	1/5/2005 15:03	9.611
1/5/2005 15:04	10.055	1/5/2005 15:03	9.665
1/5/2005 15:05	10.027	1/5/2005 15:04	9.592
1/5/2005 15:05	10.122	1/5/2005 15:05	9.680
1/5/2005 15:06	10.275	1/5/2005 15:05	9.579
1/5/2005 15:07	10.257	1/5/2005 15:06	9.786
1/5/2005 15:07	10.347	1/5/2005 15:07	9.708
1/5/2005 15:08	10.336	1/5/2005 15:07	9.521
1/5/2005 15:09	10.302	1/5/2005 15:08	9.773
1/5/2005 15:09	10.314	1/5/2005 15:09	9.812
1/5/2005 15:10	10.325	1/5/2005 15:09	9.657
1/5/2005 15:11	10.342	1/5/2005 15:10	9.968
1/5/2005 15:12	**10.285**	1/5/2005 15:11	9.766
1/5/2005 15:13	10.363	1/5/2005 15:11	9.811
1/5/2005 15:13	10.324	**1/5/2005 15:12**	**9.793**
1/5/2005 15:15	10.363	1/5/2005 15:13	9.791
1/5/2005 15:15	10.465	1/5/2005 15:14	9.971
1/5/2005 15:16	10.432	1/5/2005 15:14	9.711
1/5/2005 15:17	10.500	1/5/2005 15:15	9.808
1/5/2005 15:17	10.471	1/5/2005 15:16	9.812
1/5/2005 15:18	10.455	1/5/2005 15:16	9.924
1/5/2005 15:19	10.465	1/5/2005 15:17	9.927
1/5/2005 15:20	10.556	1/5/2005 15:18	9.940
1/5/2005 15:20	10.522	1/5/2005 15:18	9.929
1/5/2005 15:21	10.562	1/5/2005 15:19	10.031
1/5/2005 15:22	**10.590**	1/5/2005 15:20	9.778
1/5/2005 15:22	10.516	1/5/2005 15:20	9.932
1/5/2005 15:23	10.471	1/5/2005 15:21	9.887
1/5/2005 15:24	10.561	**1/5/2005 15:22**	**9.903**
1/5/2005 15:24	10.533	1/5/2005 15:22	9.937
1/5/2005 15:25	10.522	1/5/2005 15:23	9.982
1/5/2005 15:26	10.426	1/5/2005 15:24	9.814
1/5/2005 15:26	10.482	1/5/2005 15:24	9.873

Salt Test Flow Rate Averag

Effluent Average	10.218
Filter Average	9.648
Average Flow	9.912
Min #1 Avg	10.039
Max #1 Avg	9.965
Modal #1 Avg	10.246
Min #2 Avg	10.969
Modal #2 Avg	9.277

1/5/2005 15:27	10.539	1/5/2005 15:25	9.930
1/5/2005 15:28	10.510	1/5/2005 15:26	10.175
1/5/2005 15:28	10.500	1/5/2005 15:26	9.809
1/5/2005 15:29	10.556	1/5/2005 15:27	9.848
1/5/2005 15:30	10.471	1/5/2005 15:28	9.950
1/5/2005 15:30	10.539	1/5/2005 15:28	9.884
1/5/2005 15:31	10.522	1/5/2005 15:29	9.812
1/5/2005 15:32	10.449	1/5/2005 15:30	9.782
1/5/2005 15:33	10.545	1/5/2005 15:31	9.687
1/5/2005 15:33	10.432	1/5/2005 15:31	9.935
1/5/2005 15:35	10.392	1/5/2005 15:32	9.873
1/5/2005 15:35	10.437	1/5/2005 15:33	9.956
1/5/2005 15:37	10.471	1/5/2005 15:33	9.808
1/5/2005 15:38	10.494	1/5/2005 15:34	10.009
1/5/2005 15:39	10.455	1/5/2005 15:35	9.752
1/5/2005 15:42	10.494	1/5/2005 15:35	9.801
1/5/2005 15:43	10.482	1/5/2005 15:36	9.956
1/5/2005 15:43	10.494	1/5/2005 15:37	9.847
1/5/2005 15:44	10.443	1/5/2005 15:37	10.011
1/5/2005 15:45	10.488	1/5/2005 15:38	9.841
1/5/2005 15:45	10.421	1/5/2005 15:39	9.834
1/5/2005 15:46	10.398	1/5/2005 15:39	9.858
1/5/2005 15:47	10.370	1/5/2005 15:40	9.742
1/5/2005 15:48	10.381	1/5/2005 15:41	9.684
1/5/2005 15:49	10.426	1/5/2005 15:41	9.806
1/5/2005 15:49	10.387	1/5/2005 15:42	9.804
1/5/2005 15:50	10.482	1/5/2005 15:43	9.835
1/5/2005 15:52	10.370	1/5/2005 15:43	9.942
1/5/2005 15:53	10.381	1/5/2005 15:44	9.662
1/5/2005 15:54	10.410	1/5/2005 15:45	9.742
1/5/2005 15:55	10.370	1/5/2005 15:45	9.560
1/5/2005 15:56	**10.308**	1/5/2005 15:46	9.867
1/5/2005 15:57	10.218	1/5/2005 15:47	9.681
1/5/2005 15:58	10.297	1/5/2005 15:47	9.648
1/5/2005 15:58	10.240	1/5/2005 15:48	9.776
1/5/2005 15:59	10.285	1/5/2005 15:49	9.769
1/5/2005 16:00	10.252	1/5/2005 15:50	9.729
1/5/2005 16:01	10.173	1/5/2005 15:50	9.599
1/5/2005 16:02	10.269	1/5/2005 15:51	9.550
1/5/2005 16:03	10.465	1/5/2005 15:52	9.603
1/5/2005 16:03	10.353	1/5/2005 15:52	9.622
1/5/2005 16:04	10.330	1/5/2005 15:53	9.756
1/5/2005 16:05	10.398	1/5/2005 15:54	10.051
1/5/2005 16:05	10.207	1/5/2005 15:54	9.613
1/5/2005 16:06	10.330	1/5/2005 15:55	9.776
1/5/2005 16:07	10.308	1/5/2005 15:56	9.792
1/5/2005 16:07	10.230	**1/5/2005 15:56**	**9.622**
1/5/2005 16:08	10.179	1/5/2005 15:57	9.736
1/5/2005 16:09	10.145	1/5/2005 15:58	9.742
1/5/2005 16:09	10.111	1/5/2005 15:58	9.596
1/5/2005 16:10	10.083	1/5/2005 15:59	9.644
1/5/2005 16:11	10.111	1/5/2005 16:00	9.685
1/5/2005 16:12	10.038	1/5/2005 16:01	9.507
1/5/2005 16:12	10.066	1/5/2005 16:01	9.474
1/5/2005 16:14	10.150	1/5/2005 16:02	9.337
1/5/2005 16:16	10.167	1/5/2005 16:03	9.926
1/5/2005 16:16	10.009	1/5/2005 16:03	9.622
1/5/2005 16:17	10.235	1/5/2005 16:04	9.516

1/5/2005 16:18	9.948	1/5/2005 16:05	9.405
1/5/2005 16:18	10.072	1/5/2005 16:05	9.580
1/5/2005 16:19	10.167	1/5/2005 16:06	9.734
1/5/2005 16:20	9.976	1/5/2005 16:07	9.249
1/5/2005 16:20	9.537	1/5/2005 16:08	9.179
1/5/2005 16:21	9.796	1/5/2005 16:08	9.462
1/5/2005 16:22	9.784	1/5/2005 16:09	9.179
1/5/2005 16:22	9.734	1/5/2005 16:10	9.190
1/5/2005 16:23	9.627	1/5/2005 16:10	9.456
1/5/2005 16:24	9.559	1/5/2005 16:11	9.562
1/5/2005 16:24	9.447	1/5/2005 16:12	9.605
1/5/2005 16:25	9.402	1/5/2005 16:12	9.693
1/5/2005 16:26	9.160	1/5/2005 16:13	9.553
1/5/2005 16:27	8.996	1/5/2005 16:14	9.513
1/5/2005 16:27	9.565	1/5/2005 16:14	9.511
1/5/2005 16:28	9.548	1/5/2005 16:15	9.547
1/5/2005 16:29	9.847	1/5/2005 16:16	9.387
1/5/2005 16:30	10.398	1/5/2005 16:16	9.579
1/5/2005 16:31	10.678	1/5/2005 16:17	9.259
1/5/2005 16:31	10.875	1/5/2005 16:18	9.937
1/5/2005 16:32	11.033	1/5/2005 16:18	8.829
1/5/2005 16:33	11.004	1/5/2005 16:19	8.548
1/5/2005 16:33	11.213	1/5/2005 16:20	10.205
1/5/2005 16:34	**11.285**	1/5/2005 16:20	10.469
1/5/2005 16:35	11.189	1/5/2005 16:21	8.569
1/5/2005 16:36	11.240	1/5/2005 16:22	8.608
1/5/2005 16:37	11.179	1/5/2005 16:22	8.652
1/5/2005 16:37	10.925	1/5/2005 16:23	8.692
1/5/2005 16:38	11.066	1/5/2005 16:24	9.055
1/5/2005 16:39	10.898	1/5/2005 16:25	8.450
1/5/2005 16:39	10.988	1/5/2005 16:25	8.621
1/5/2005 16:40	10.970	1/5/2005 16:26	8.816
1/5/2005 16:41	10.880	1/5/2005 16:27	9.122
1/5/2005 16:42	10.965	1/5/2005 16:27	9.095
1/5/2005 16:43	10.920	1/5/2005 16:28	9.213
1/5/2005 16:44	10.892	1/5/2005 16:29	10.623
1/5/2005 16:44	10.858	1/5/2005 16:29	10.607
1/5/2005 16:45	10.869	1/5/2005 16:30	10.912
1/5/2005 16:46	10.976	1/5/2005 16:31	10.639
1/5/2005 16:46	10.925	1/5/2005 16:31	10.606
1/5/2005 16:48	10.835	1/5/2005 16:32	10.843
1/5/2005 16:48	10.824	1/5/2005 16:33	10.596
1/5/2005 16:49	10.712	1/5/2005 16:33	10.483
1/5/2005 16:50	10.605	**1/5/2005 16:34**	**10.653**
1/5/2005 16:52	10.555	1/5/2005 16:35	10.502
1/5/2005 16:52	10.527	1/5/2005 16:35	10.387
1/5/2005 16:53	10.077	1/5/2005 16:36	10.270
1/5/2005 16:54	9.665	1/5/2005 16:37	10.081
1/5/2005 16:54	9.436	1/5/2005 16:37	10.079
1/5/2005 16:55	9.312	1/5/2005 16:38	10.292
1/5/2005 16:56	9.166	1/5/2005 16:39	10.421
1/5/2005 16:56	9.036	1/5/2005 16:40	10.133
1/5/2005 16:57	9.086	1/5/2005 16:40	10.204
1/5/2005 16:58	9.041	1/5/2005 16:41	10.176
1/5/2005 16:59	9.075	1/5/2005 16:42	9.996
1/5/2005 17:00	9.222	1/5/2005 16:42	10.260
1/5/2005 17:01	9.362	1/5/2005 16:43	10.248
1/5/2005 17:02	**9.464**	1/5/2005 16:44	10.328

1/5/2005 16:44	10.093
1/5/2005 16:45	10.339
1/5/2005 16:46	10.136
1/5/2005 16:46	9.979
1/5/2005 16:47	10.113
1/5/2005 16:48	9.936
1/5/2005 16:48	9.756
1/5/2005 16:49	10.017
1/5/2005 16:50	9.726
1/5/2005 16:50	9.863
1/5/2005 16:51	9.742
1/5/2005 16:52	9.317
1/5/2005 16:52	8.329
1/5/2005 16:53	8.554
1/5/2005 16:54	8.122
1/5/2005 16:55	8.231
1/5/2005 16:55	8.453
1/5/2005 16:56	8.656
1/5/2005 16:57	8.582
1/5/2005 16:57	8.706
1/5/2005 16:58	8.760
1/5/2005 16:59	9.012
1/5/2005 16:59	8.844
1/5/2005 17:00	8.810
1/5/2005 17:01	8.974
1/5/2005 17:01	8.983
1/5/2005 17:02	**9.091**

Appendix D
Regional Plant No. 4
Alarms

RP-4 List of Alarms

Equipment Tag	Associated Process Area / Equipment	Description of Alarm
P-6 to P-8	Influent Pump Station - Pumps	Pump Failure
P-6 to P-8	Influent Pump Station - Pumps	AFD Fault
LIT-1101 (Primary) LIT-1102 (Reference)	Influent Pump Station - Wetwell Level	5% Discrepancy Alarm
LSLL-1101	Influent Pump Station - Wetwell Level	Low Water Cutoff Level Reached
AIT-1100	Influent Wetwell Ambient Gas Detector	Ambient Gas LEL Alarm Level Reached
AIT-1100	Bar Screen Enclosure Ambient Gas Detector	Ambient Gas LEL Alarm Level Reached
AIT-1100	Influent Wetwell Ambient Gas Detector	Detector Failure
FPSP-1100	Influent Pump Station Fire Alarm Control Panel	General Alarm
DSW-1270	Grit Classifier and Dewatering Screw	Classifier Failure
GRB-1210	Vortex Grit Basin	Drive Failure
V-1221	Vortex Grit Basin Flushing Water Valve	Valve Failure
P-1240	Grit Pump	Pump Failure
P-1240	Grit Pump	Low Seal Water
MX-3310-1 to MX-3310-6	Aeration Basin Anoxic Zone Mixers	Mixer Failure
MX-3610-1 to MX-3610-6	Aeration Basin Anoxic Zone Mixers	Mixer Failure
MX-3620-1 to MX-3620-6	Aeration Basin Anoxic Zone Mixers	Mixer Failure
AIT-3410-1 to AIT-3410-6 AIT-3420-1 to AIT-3420-6 AIT-3430-1 to AIT-3430-6 AIT-3710-1 to AIT-3710-6	Aeration Basin No. 2 Oxic Zone DO Meter	High DO

RP-4 List of Alarms

Equipment Tag	Associated Process Area / Equipment	Description of Alarm
AIT-3410-1 to AIT-3410-6 AIT-3420-1 to AIT-3420-6 AIT-3430-1 to AIT-3430-6 AIT-3710-1 to AIT-3710-6	Aeration Basin No. 2 Oxic Zone DO Meter	Low DO
AIT-3410-1 to AIT-3410-6 AIT-3420-1 to AIT-3420-6 AIT-3430-1 to AIT-3430-6 AIT-3710-1 to AIT-3710-6	Aeration Basin No. 2 Oxic Zone DO Meter	Aeration Air Low Flow
V-3410-1 to V-3410-6 V-3420-1 to V-3420-6 V-3430-1 to V-3430-6 V-3440-1 to V-3440-6 V-3450-1 to V-3450-6 V-3460-1 to V-3460-6 V-3470-1 to V 3470-6 V-3480-1 to V-3480-6	Aeration Diffuser Valves	Valve Failure
V-3115A/B, V-3125A/B, V-3135-A/B	Aeration Process Manifold Header Air Bleed Valves	Valve Failure
V-3110B, V-3120B, V-3130B	Aeration Process Manifold Header Air Flow Control Valves	Valve Fail
FIT-3110A/B, FIT-3120A/B, FIT-3130A/B FIT-3410-1 to FIT-3410-6 FIT-3440-1 to FIT-3440-6 FIT-3480-1 to FIT-3480-6 FIT-3710-1 to FIT-3710-6	Aerostrip Diffuser Collapse/Flex Control Air Flow	Low Flow
MX-5001	Rapid Mixer Basin	Mixer Failure
FLC-5110, FLC-5120, FLC-5130	Flocculation Basin Mixers	Mixer Failure
NAOC-7410	Sodium Hypochlorite Metering Pump	Pump Failure
NAOC-7410	Sodium Hypochlorite Metering Pump	High Discharge Pressure
MPCP-7310, P-7320	Sodium Bisulfite Metering Pumps	Pump Failure
MPCP-7310, P-7320	Sodium Bisulfite Metering Pumps	High Discharge Pressure
P-7510, P-7520	Alum Transfer Pump	Pump Failure

RP-4 List of Alarms

Equipment Tag	Associated Process Area / Equipment	Description of Alarm
P-7530, P-7540	Alum Metering Pumps (new cloth filters)	Pump Failure
P-7530, P-7540	Alum Metering Pumps (new cloth filters)	High Discharge Pressure
P-3530, P3540	Mixed Liquor Recycle Pumps	Pump Failure
MX-2010	Primary Clarifier Splitter Box Mixer	Mixer Failure
SLC-2110, SLC-2120	Primary Clarifier Sludge Collectors	High-High Torque Alarm
SLC-2110, SLC-2120	Primary Clarifier Sludge Collectors	Collector Failure
AIT-2100A/B	Primary Clarifier No. 1 and 2 Ambient Gas Detector	Alarm Level Reached
AIT-2100C	Primary Clarifier No. 2 Scum Pit Gas Detector	Alarm Level Reached
AIT-2100	Primary Clarifier Area Gas Detector	Detector Failure
V-2172, V-2182	Primary Sludge Valves	Valve Fail
V-2121	Primary Scum Valve	Valve Failure
SCW-4115, SCW-4125, SCW-4135	Secondary Clarifier Rotating Scum Weir	Scum Weir Failure
SLC-4110, SLC-4120, SLC-4130	Secondary Sludge Collector	Collector Failure
SLC-4110, SLC-4120, SLC-4130	Secondary Sludge Collector	High Torque Alarm
V-4150	Secondary Scum Valve	Valve Failure
LIT-4101	Secondary Scum Wetwell Level	High Level Alarm
P-4210, P-4220, P-4230, P-4240	Return Activated Sludge (RAS) Pumps	Pump Failure
P-4210, P-4220, P-4230, P-4240	Return Activated Sludge (RAS) Pumps	Low Seal Water Pressure
LCP-4210	RAS Pump Station Sump	High Level Alarm
FPSP-2100	RAS Pump Station Fire Alarm Control Panel	General Alarm
V-3910	Waste Activated Sludge (WAS) Control Valve	Valve Failure

RP-4 List of Alarms

Equipment Tag	Associated Process Area / Equipment	Description of Alarm
ES/EEW-7001, 7002, 7003	Ferric Chloride / Polymer Feed Area Eyewash Station	Alarm Activated
LSH-7001	Ferric Chloride / Polymer Feed Area Sump	High Level Alarm
P-7110, P-7120	Ferric Chloride Metering Pumps	Pump Failure
P-7110, P-7120	Ferric Chloride Metering Pumps	High Discharge Pressure
LCP-7210, 7220	Coagulant Aid Polymer Feeder Blenders	Feeder/Blender Failure
OCP-8110	Odor Control Fan	Fan Failure
OCP-8110	Odor Control Fan	Fan Low Current Draw Alarm (Ventilation System Failure)
LCP-8101	Odor Control Area Sump	High Level Alarm
PIT-	Aeration Blowers Discharge Header Pressure	High Discharge Pressure
PIT-	Aeration Blowers Discharge Header Pressure	Low Discharge Pressure
AB-02	Aeration Blowers	Motor Temperature High Alarm
AB-02	Aeration Blowers	Blower Vibration High Alarm
AB-02	Aeration Blowers	Blower Surge Alarm
AB-02	Aeration Blowers	Blower Overload Overload Alarm
AB-02	Aeration Blowers	Blower Motor Fail Alarm
AB-02	Aeration Blowers	Blower Emergency Stop Alarm
AB-02	Aeration Blowers	Blower Common Alarm
AIT-4110	Secondary Effluent Turbidity	Filter Influent Turbidity (Notifies operator to check the turbidimeter and/or alum feed pumps)
AIT-5210	Filter Effluent Turbidity	High Filter Effluent Turbidity Alarm (Effluent is diverted to on-site storage pond and RP-1)

RP-4 List of Alarms

Equipment Tag	Associated Process Area / Equipment	Description of Alarm
AIT-6110A, 6110B, AIT 6120A, 6120B	Residual Chlorine Analyzers	Monitors residual chlorine. Residual chlorine is used with effluent flow to calculate CT. Low CT Alarm (Effluent is diverted to on-site storage pond and RP-1)
FIT-5510, 5520, 5530 5540	Filter Influent Flow Meters	Filter flow is used with residual chlorine to calculate CT. Low CT Alarm (Effluent is diverted to on-site storage pond and RP-1)
FCP-7500	Alum Bulk Storage Tank Level	Low Alum Bulk Storage Alarm (Tank is refilled. Effluent is diverted to on-site storage pond and RP-1 if effluent phosporus or turbidity goes above the setpoint limit.)
FLCP-1/2	Filtration High Level	Filter High Level Alarm (Overflow of filter or backflow. Operator performs additional backwash or isolates filter.)
FLCP-1/2	Backwash Tank Low Level	Backwash Tank Low Level Alarm (Stops filter backwash for all filters)
LCP-6010	Sodium Hypochlorite Mixer Failure	Mixer Failure Alarm (Effluent is diverted to on-site storage pond and RP-1)

IEUA RP-4 SUMMARY OF ALARMS

Tag Name	Description	Direction	Severity
FILT\1_CLAR_AIR_VALV_FAIL	UNIT #1 CLARIFIER AIR VALVE FAILURE TO SCADA	ON	1
FILT\1_CLAR_OVER_PRESS_SD	UNIT #1 CLARIFIER OVER PRESSURE SHUTDOWN TO SCADA	ON	1
FILT\1_EFF_VALV_FAIL	Unit #1 Effluent Valve Fail To Scada	ON	1
FILT\1_HIGH_DP	UNIT 1 HIGH DP	ON	1
FILT\1_INF_VALV_FAIL	Unit #1 Influent Valve Fail To Scada	ON	1
FILT\2_CLAR_OVER_PRESS_SD	Unit #2 Clarifier Overpressure Shutdown To Scada	ON	1
FILT\2_EFF_VALV_FAIL	Unit #2 Effluent Valve Failure To Scada	ON	1
FILT\2_HIGH_DP	UNIT 2 HIGH DP	ON	1
FILT\2_INF_VALV_FAIL	Unit #2 Influent Valve Failure To Scada	ON	1
FILT\3_CLAR_OVER_PRESS_SD	Unit #3 Clarifier Overpressure Shutdown To Scada	ON	1
FILT\3_EFF_VALV_FAIL	Unit #3 Effluent Valve Fail To Scada	ON	1
FILT\3_HIGH_DP	UNIT 3 HIGH DP	ON	1
FILT\3_INF_VALV_FAIL	Unit #3 Influent Valve Fail To Scada	ON	1
FILT\4_CLAR_OVER_PRESS_SD	UNIT #4 CLARIFIER OVERPRESSURE SHUT DOWN TO SCADA	ON	1
FILT\4_EFF_VALV_FAIL	UNIT #4 FAIL TO SCADA	ON	1
FILT\4_HIGH_DP	UNIT 4 HIGH DP	ON	1
FILT\4_INF_VALV_FAIL	UNIT #4 INFLUENT VALVE FAIL TO SCADA	ON	1
FILT\5_CLAR_OVER_PRESS_SD	UNIT #5 CLARIFIER OVERPRESSURE SHUT DOWN TO SCADA	ON	1
FILT\5_EFF_VALV_FAIL	UNIT # 5 EFF VALVE FAIL TO SCADA	ON	1
FILT\5_HIGH_DP	UNIT 5 HIGH DP	ON	1
FILT\5_INF_VALV_FAIL	UNIT #5 INFLUENT VALVE FAIL TO SCADA	ON	1
FILT\6_CLAR_OVER_PRESS_SD	UNIT #6 CLARIFIER OVER PRESSURE SHUT DOWN TO SCADA	ON	1
FILT\6_EFF_VALV_FAIL	UNIT #6 EFF VALVE FAIL TO SCADA	ON	1
FILT\6_HIGH_DP	UNIT 6 HIGH DP	ON	1
FILT\6_INF_VALV_FAIL	UNIT #6 INFLUENT VALVE FAIL TO SCADA	ON	1
FILT\7_CLAR_OVER_PRESS_SD	UNIT #7 CLARIFIER OVER PRESSURE SHUT DOWN TO SCADA	ON	1
FILT\7_EFF_VALV_FAIL	UNIT #7 EFF VALVE FAIL TO SCADA	ON	1
FILT\7_FILT_HI_HDLOSS_SW	UNIT 7 FILTER HI HEADLOSS SWITCH PSL701	ON	1
FILT\7_HIGH_DP	UNIT 7 HIGH DP	ON	1
FILT\7_INF_VALV_FAIL	UNIT #7 INFLUENT VALVE FAIL TO SCADA	ON	1
FILT\8_CLAR_OVER_PRESS_SD	UNIT #8 CLARIFIER OVER PRESSURE SHUT DOWN TO SCADA	ON	1
FILT\8_EFF_VALV_FAIL	UNIT #8 EFF VALVE FAIL TO SCADA	ON	1
FILT\8_HIGH_DP	UNIT 8 HIGH DP	ON	1
FILT\8_INF_VALV_FAIL	UNIT #8 INFLUENT VALVE FAIL TO SCADA	ON	1
FILT\AIR_PRESS_LOW	Pneumatic System Low Pressure Alarm To Scada	ON	1
FILT\BLOWER_1_FAIL	FILTER AIR BLOWER #1 FAILURE	ON	1
FILT\BLOWER_2_FAIL	FILTER AIR BLOWER #2 FAILURE	ON	1
FILT\BW_FLO_FAIL	Back Wash Flow Fail Alarm To Scada	ON	1
FILT\BW_HI_RATE_VAL_FAIL	BACKWASH HIGH RATE VALVE FAILURE	ON	1
FILT\BW_LOW_RATE_VAL_FAIL	BACKWASH LOW RATE VALVE FAILURE	ON	1
FILT\BW_PMP_1_FAIL	FILTER BACKWASK PUMP 1 FAILURE	ON	1
FILT\BW_PMP_2_FAIL	FILTER BACKWASH PUMP 2 FAILURE	ON	1
FILT\FILT_MSG_BLK_FAIL		ON	1
FILT\HDWKS_FLOW_SIGNAL_FAIL		ON	1
FILT\RTU1_COMM_FAIL	RTU1 COMM FAIL TO FILTERS	ON	1
Filters\F1\ALARMS\Backwash_Pump_1_FAULT	F1: Backwash Pump 1 FAULT Alarm Trigger 12	ON	1
Filters\F1\ALARMS\Backwash_Pump_1_HIGH_Vacu	F1: Backwash Pump 1 HIGH Vacuum Alarm Trigger 46	ON	1
Filters\F1\ALARMS\Backwash_Pump_2_FAULT	F1: Backwash Pump 2 FAULT Alarm Trigger 13	ON	1
Filters\F1\ALARMS\Backwash_Pump_2_HIGH_Vacu	F1: Backwash Pump 2 HIGH Vacuum Alarm Trigger 47	ON	1
Filters\F1\ALARMS\Backwash_Pump_3_FAULT	F1: Backwash Pump 3 FAULT Alarm Trigger 14	ON	1
Filters\F1\ALARMS\Backwash_Pump_4_FAULT	F1: Backwash Pump 4 FAULT Alarm Trigger 15	ON	1
Filters\F1\ALARMS\Backwash_Pump_5_FAULT	F1: Backwash Pump 5 FAULT Alarm Trigger 16	ON	1
Filters\F1\ALARMS\Backwash_Pump_6_FAULT	F1: Backwash Pump 6 FAULT Alarm Trigger 17	ON	1
Filters\F1\ALARMS\Basin_Level_HIGH	F1: Basin Level HIGH Alarm Trigger 4	ON	1
Filters\F1\ALARMS\Basin_Level_HIGH_HIGH	F1: Basin Level HIGH HIGH Alarm Trigger 9	ON	1
Filters\F1\ALARMS\Effluent_Level_HIGH	F1: Effluent Level HIGH Alarm Trigger 5	ON	1
Filters\F1\ALARMS\Effluent_Turbidity_HIGH	F1: Effluent Turbidity HIGH Alarm Trigger 49	ON	1
Filters\F1\ALARMS\Filter_Air_Pressure	F1: Filter Air Pressure Alarm Trigger 8	ON	1
Filters\F1\ALARMS\Filter_Main_Drive_Motor_MCP_T	F1: Filter Main Drive Motor MCP TRIP Alarm Trigger 52	ON	1
Filters\F1\ALARMS\Filter_Sludge_Pump_MCP_TRIP	F1: Filter Sludge Pump MCP TRIP Alarm Trigger 53	ON	1
Filters\F1\ALARMS\HPS_Pump_1_FAULT	F1: HPS Pump 1 FAULT Alarm Trigger 18	ON	1
Filters\F1\ALARMS\HPS_Pump_2_FAULT	F1: HPS Pump 2 FAULT Alarm Trigger 19	ON	1
Filters\F1\ALARMS\Level_Switch_Fault	F1: Level Switch Fault Alarm Trigger 55	ON	1
Filters\F1\ALARMS\Main_Drive_Motor_FAULT	F1: Main Drive Motor FAULT Alarm Trigger 10	ON	1
Filters\F1\ALARMS\PLC-HMI_Communication_LOSS	F1: PLC-HMI Communication LOSS Alarm Trigger 2	ON	1
Filters\F1\ALARMS\PLC-SCADA_Communication_L(	F1: PLC-SCADA Communication LOSS Alarm Trigger 3	ON	1
Filters\F1\ALARMS\Sludge_Waste_Pump_Motor_FA	F1: Sludge Waste Pump Motor FAULT Alarm Trigger 11	ON	1
Filters\F2\ALARMS\Backwash_Pump_1_FAULT	F2: Backwash Pump 1 FAULT Alarm Trigger 12	ON	1
Filters\F2\ALARMS\Backwash_Pump_2_FAULT	F2: Backwash Pump 2 FAULT Alarm Trigger 13	ON	1

IEUA RP-4 SUMMARY OF ALARMS

Tag Name	Description	Direction	Severity
Filters\F2\ALARMS\Backwash_Pump_3_FAULT	F2: Backwash Pump 3 FAULT Alarm Trigger 14	ON	1
Filters\F2\ALARMS\Backwash_Pump_4_FAULT	F2: Backwash Pump 4 FAULT Alarm Trigger 15	ON	1
Filters\F2\ALARMS\Backwash_Pump_5_FAULT	F2: Backwash Pump 5 FAULT Alarm Trigger 16	ON	1
Filters\F2\ALARMS\Backwash_Pump_6_FAULT	F2: Backwash Pump 6 FAULT Alarm Trigger 17	ON	1
Filters\F2\ALARMS\Basin_Level_HIGH	F2: Basin Level HIGH Alarm Trigger 4	ON	1
Filters\F2\ALARMS\Basin_Level_HIGH_HIGH	F2: Basin Level HIGH HIGH Alarm Trigger 9	ON	1
Filters\F2\ALARMS\Effluent_Level_HIGH	F2: Effluent Level HIGH Alarm Trigger 5	ON	1
Filters\F2\ALARMS\Effluent_Turbidity_HIGH	F2: Effluent Turbidity HIGH Alarm Trigger 49	ON	1
Filters\F2\ALARMS\Effluent_Turbidity_Transducer_O	F2: Effluent Turbidity Transducer OUT of RANGE Alarm Trigger 58	ON	1
Filters\F2\ALARMS\Filter_Air_Pressure	F2: Filter Air Pressure Alarm Trigger 8	ON	1
Filters\F2\ALARMS\Filter_Main_Drive_Motor_MCP_T	F2: Filter Main Drive Motor MCP TRIP Alarm Trigger 52	ON	1
Filters\F2\ALARMS\Filter_Sludge_Pump_MCP_TRIP	F2: Filter Sludge Pump MCP TRIP Alarm Trigger 53	ON	1
Filters\F2\ALARMS\HPS_Pump_1_FAULT	F2: HPS Pump 1 FAULT Alarm Trigger 18	ON	1
Filters\F2\ALARMS\HPS_Pump_2_FAULT	F2: HPS Pump 2 FAULT Alarm Trigger 19	ON	1
Filters\F2\ALARMS\Level_Switch_Fault	F2: Level Switch Fault Alarm Trigger 55	ON	1
Filters\F2\ALARMS\Main_Drive_Motor_FAULT	F2: Main Drive Motor FAULT Alarm Trigger 10	ON	1
Filters\F2\ALARMS\PLC-HMI_Communication_LOSS	F2: PLC-HMI Communication LOSS Alarm Trigger 2	ON	1
Filters\F2\ALARMS\PLC-SCADA_Communication_L(	F2: PLC-SCADA Communication LOSS Alarm Trigger 3	ON	1
Filters\F2\ALARMS\Sludge_Waste_Pump_Motor_FA	F2: Sludge Waste Pump Motor FAULT Alarm Trigger 11	ON	1
Filters\F3\ALARMS\Backwash_Pump_1_FAULT	F3: Backwash Pump 1 FAULT Alarm Trigger 12	ON	1
Filters\F3\ALARMS\Backwash_Pump_2_FAULT	F3: Backwash Pump 2 FAULT Alarm Trigger 13	ON	1
Filters\F3\ALARMS\Backwash_Pump_3_FAULT	F3: Backwash Pump 3 FAULT Alarm Trigger 14	ON	1
Filters\F3\ALARMS\Backwash_Pump_4_FAULT	F3: Backwash Pump 4 FAULT Alarm Trigger 15	ON	1
Filters\F3\ALARMS\Backwash_Pump_5_FAULT	F3: Backwash Pump 5 FAULT Alarm Trigger 16	ON	1
Filters\F3\ALARMS\Backwash_Pump_6_FAULT	F3: Backwash Pump 6 FAULT Alarm Trigger 17	ON	1
Filters\F3\ALARMS\Basin_Level_HIGH	F3: Basin Level HIGH Alarm Trigger 4	ON	1
Filters\F3\ALARMS\Basin_Level_HIGH_HIGH	F3: Basin Level HIGH HIGH Alarm Trigger 9	ON	1
Filters\F3\ALARMS\Effluent_Level_HIGH	F3: Effluent Level HIGH Alarm Trigger 5	ON	1
Filters\F3\ALARMS\Effluent_Turbidity_HIGH	F3: Effluent Turbidity HIGH Alarm Trigger 49	ON	1
Filters\F3\ALARMS\Filter_Air_Pressure	F3: Filter Air Pressure Alarm Trigger 8	ON	1
Filters\F3\ALARMS\Filter_Main_Drive_Motor_MCP_T	F3: Filter Main Drive Motor MCP TRIP Alarm Trigger 52	ON	1
Filters\F3\ALARMS\Filter_Sludge_Pump_MCP_TRIP	F3: Filter Sludge Pump MCP TRIP Alarm Trigger 53	ON	1
Filters\F3\ALARMS\HPS_Pump_1_FAULT	F3: HPS Pump 1 FAULT Alarm Trigger 18	ON	1
Filters\F3\ALARMS\HPS_Pump_2_FAULT	F3: HPS Pump 2 FAULT Alarm Trigger 19	ON	1
Filters\F3\ALARMS\Level_Switch_Fault	F3: Level Switch Fault Alarm Trigger 55	ON	1
Filters\F3\ALARMS\Main_Drive_Motor_FAULT	F3: Main Drive Motor FAULT Alarm Trigger 10	ON	1
Filters\F3\ALARMS\PLC-HMI_Communication_LOSS	F3: PLC-HMI Communication LOSS Alarm Trigger 2	ON	1
Filters\F3\ALARMS\PLC-SCADA_Communication_L(	F3: PLC-SCADA Communication LOSS Alarm Trigger 3	ON	1
Filters\F3\ALARMS\Sludge_Waste_Pump_Motor_FA	F3: Sludge Waste Pump Motor FAULT Alarm Trigger 11	ON	1
Filters\F4\ALARMS\Backwash_Pump_1_FAULT	F4: Backwash Pump 1 FAULT Alarm Trigger 12	ON	1
Filters\F4\ALARMS\Backwash_Pump_2_FAULT	F4: Backwash Pump 2 FAULT Alarm Trigger 13	ON	1
Filters\F4\ALARMS\Backwash_Pump_3_FAULT	F4: Backwash Pump 3 FAULT Alarm Trigger 14	ON	1
Filters\F4\ALARMS\Backwash_Pump_4_FAULT	F4: Backwash Pump 4 FAULT Alarm Trigger 15	ON	1
Filters\F4\ALARMS\Backwash_Pump_5_FAULT	F4: Backwash Pump 5 FAULT Alarm Trigger 16	ON	1
Filters\F4\ALARMS\Backwash_Pump_6_FAULT	F4: Backwash Pump 6 FAULT Alarm Trigger 17	ON	1
Filters\F4\ALARMS\Basin_Level_HIGH	F4: Basin Level HIGH Alarm Trigger 4	ON	1
Filters\F4\ALARMS\Basin_Level_HIGH_HIGH	F4: Basin Level HIGH HIGH Alarm Trigger 9	ON	1
Filters\F4\ALARMS\Effluent_Flow_Transducer_OUT_	F4: Effluent Flow Transducer OUT of RANGE Alarm Trigger 57	ON	1
Filters\F4\ALARMS\Effluent_Level_HIGH	F4: Effluent Level HIGH Alarm Trigger 5	ON	1
Filters\F4\ALARMS\Effluent_Turbidity_HIGH	F4: Effluent Turbidity HIGH Alarm Trigger 49	ON	1
Filters\F4\ALARMS\Effluent_Turbidity_Transducer_O	F4: Effluent Turbidity Transducer OUT of RANGE Alarm Trigger 58	ON	1
Filters\F4\ALARMS\Filter_Main_Drive_Motor_MCP_T	F4: Filter Main Drive Motor MCP TRIP Alarm Trigger 52	ON	1
Filters\F4\ALARMS\Filter_Sludge_Pump_MCP_TRIP	F4: Filter Sludge Pump MCP TRIP Alarm Trigger 53	ON	1
Filters\F4\ALARMS\HPS_Pump_1_FAULT	F4: HPS Pump 1 FAULT Alarm Trigger 18	ON	1
Filters\F4\ALARMS\HPS_Pump_2_FAULT	F4: HPS Pump 2 FAULT Alarm Trigger 19	ON	1
Filters\F4\ALARMS\Level_Switch_Fault	F4: Level Switch Fault Alarm Trigger 55	ON	1
Filters\F4\ALARMS\Main_Drive_Motor_FAULT	F4: Main Drive Motor FAULT Alarm Trigger 10	ON	1
Filters\F4\ALARMS\PLC-HMI_Communication_LOSS	F4: PLC-HMI Communication LOSS Alarm Trigger 2	ON	1
Filters\F4\ALARMS\PLC-SCADA_Communication_L(	F4: PLC-SCADA Communication LOSS Alarm Trigger 3	ON	1
Filters\F4\ALARMS\Sludge_Waste_Pump_Motor_FA	F4: Sludge Waste Pump Motor FAULT Alarm Trigger 11	ON	1
MEMTAGS\FILTERS_PLC_FAIL	FILTERS PLC FAILURE (OR ALL RTU'S, FILTERS, UV)	ON	1
MEMTAGS\RTU_1_FAIL	RTU 1 PLC FAILURE (OR FROM ALL RTU'S, FILTERS, UV)	ON	1
MEMTAGS\RTU_2_FAIL	RTU 2 FAILURE (OR ALL RTU'S, FILTERS, UV)	ON	1
MEMTAGS\RTU_3_FAIL	RTU 3 FAILURE (OR ALL RTU'S, FILTERS, UV)	ON	1
MEMTAGS\RTU_4_FAIL	RTU 4 FAILURE (OR ALL RTU'S, FILTERS, UV)	ON	1
RP4_DO_BLOWERS\BLWR_1_HI_OIL_TEMP	BLOWER 1 HIGH OIL TEMPATURE ALARM	ON	1
RP4_DO_BLOWERS\BLWR_1_HIGH_OIL_TEMP	BLOWER 1 HIGH OIL TEMP ALARM	ON	1
RP4_DO_BLOWERS\BLWR_1_INLET_AIR_TEMP	BLOWER 1 INLET AIR TEMP ALARM	ON	1
RP4_DO_BLOWERS\BLWR_1_LOW_OIL_LEVEL	BLOWER 1 LOW OIL LEVEL ALARM	ON	1

IEUA RP-4 SUMMARY OF ALARMS

Tag Name	Description	Direction	Severity
RP4_DO_BLOWERS\BLWR_1_LOW_OIL_LVL	BLOWER 1 LOW OIL LEVEL ALARM	ON	1
RP4_DO_BLOWERS\BLWR_1_LOW_OIL_PRESS	BLOWER 1 LOW OIL PRESSURE	ON	1
RP4_DO_BLOWERS\BLWR_1_SURGE_TRIP	BLOWER 1 SURGE TRIP ALARM	ON	1
RP4_DO_BLOWERS\BLWR_2_HI_OIL_TEMP	BLOWER 2 HIGH OIL TEMPATURE ALARM	ON	1
RP4_DO_BLOWERS\BLWR_2_HIGH_OIL_TEMP	BLOWER 2 HIGH OIL TEMP ALARM	ON	1
RP4_DO_BLOWERS\BLWR_2_INLET_AIR_TEMP	BLOWER 2 INLET AIR TEMP ALARM	ON	1
RP4_DO_BLOWERS\BLWR_2_LOW_OIL_LEVEL	BLOWER 2 LOW OIL LEVEL ALARM	ON	1
RP4_DO_BLOWERS\BLWR_2_LOW_OIL_LVL	BLOWER 2 LOW OIL LEVEL ALARM	ON	1
RP4_DO_BLOWERS\BLWR_2_LOW_OIL_PRESS	BLOWER 2 LOW OIL PRESSURE	ON	1
RP4_DO_BLOWERS\BLWR_2_SURGE_TRIP	BLOWER 2 SURGE TRIP ALARM	ON	1
RP4_DO_BLOWERS\BLWR1_INLET_AIR_TEMP	BLOWER 1 INLET AIR TEMPATURE ALARM	ON	1
RP4_DO_BLOWERS\BLWR2_INLET_AIR_TEMP	BLOWER 2 INLET AIR TEMPATURE ALARM	ON	1
RP4_DO_BLOWERS\RTU1_To_Blowers_MCP_Con	RTU1 to Blower MCP HeartBeat Alarm	ON	1
RTU1\BKR_52A_OPEN_ALM	BREAKER 52-A OPEN ALARM	ON	1
RTU1\BKR_52B_OPEN_ALM	BREAKER 52-B OPEN ALARM	ON	1
RTU1\BKR_52C_OPEN_ALM	BREAKER 52-C OPEN ALARM	ON	1
RTU1\BS_Hydro_Alarm	Barscreen High Hydrogen Level Alarm	ON	1
RTU1\BS_LEL_Alarm	Barscreen High LEL Alarm	ON	1
RTU1\CLIMBER_SCRN_FAIL	CLIMBER SCREEN FAIL	ON	1
RTU1\DWS_1270_Alarm_Fail	Classifier Fail	ON	1
RTU1\DWS_1270_Alarm_FTStart	Classifier Fail to Start	ON	1
RTU1\DWS_1270_Alarm_FTStop	Classifier Fail to Stop	ON	1
RTU1\DWS_1270_Alarm_Over_Torq	Classifier Over Torque	ON	1
RTU1\Edison_Fail_Stopped_Blowrs_RWPumps	Edison fail disabled Blwrs and RW Pumps, use HMI Resets	OFF	1
RTU1\FILTERS_PLC_FAIL	FILTERS PLC/ FAILURE	ON	1
RTU1\GEN_BKR_CLOSED_ALM	GENERATOR BREAKER CLOSED	ON	1
RTU1\GRB_1210_Alarm_Fail	Fail	ON	1
RTU1\GRB_1210_Alarm_FTStart	Grit Basin Fail to Start	ON	1
RTU1\GRB_1210_Alarm_FTStop	Grit Basin Fail to Stop	ON	1
RTU1\GRIT_HOP_HIGH_LVL	GRIT HOPPER HIGH LEVEL	ON	1
RTU1\HDWKS_HIGH_INF_LVL	HEADWORKS HIGH INF CHANNEL LEVEL	ON	1
RTU1\Headworks_Gas_Detect_Fail	Headworks Gas Detection System Fail	ON	1
RTU1\HIGH_GEN_AMPS	HIGH GENERATOR AMPERAGE	ON	1
RTU1\HIGH_INF_COND	HIGH INFLUENT CONDUCTIVITY	ON	1
RTU1\HIGH_INF_PH	HIGH INFLUENT pH	ON	1
RTU1\HIGH_PLT_AMPS	HIGH PLANT AMPERAGE	ON	1
RTU1\HIGH_PLT_INF_FLOW	HIGH PLANT INFLUENT FLOW	ON	1
RTU1\INF_PMP_1_FAIL	INFLUENT PUMP #1 FAIL (PASSED FROM IPS)	ON	1
RTU1\INF_PMP_2_FAIL	INFLUENT PUMP #2 FAIL (PASSED FROM IPS)	ON	1
RTU1\INF_PMP_3_FAIL	INFLUENT PUMP #3 FAIL (PASSED FROM IPS)	ON	1
RTU1\INF_PMP_4_FAIL	INFLUENT PUMP #4 FAIL (PASSED FROM IPS)	ON	1
RTU1\INF_PMP_5_FAIL	INFLUENT PUMP #5 FAIL (PASSED FROM IPS)	ON	1
RTU1\INF_PMP_STA_HIGH_LVL	INFLUENT PUMP STATION HIGH LEVEL (PASSED FROM IPS)	ON	1
RTU1\INF_PMP_STA_LOW_AIR	IPS LOW AIR	ON	1
RTU1\INF_PMP_STA_LOW_LVL	INFLUENT PUMP STATION LOW LEVEL (PASSED FROM IPS)	ON	1
RTU1\IPS_PLC_FAIL	IPS PLC/COMM FAILURE	ON	1
RTU1\LIT_1101_Val_1_hi	IPS Wet Well High Level Alarm	ON	1
RTU1\LIT_1101_Val_1_lo	IPS Wet Well Low Level Alarm	ON	1
RTU1\LOW_INF_PH	LOW INFLUENT pH	ON	1
RTU1\LOW_PLT_INF_FLOW	LOW PLANT INFLUENT FLOW	ON	1
RTU1\MCC1_POWER_LOSS_TX2	MCC-1 LOSS OF POWER TX2	ON	1
RTU1\MCC1_POWER_LOSS_TX3	MCC-1 LOSS OF POWER TX3	ON	1
RTU1\MESSAGE_BLK_FAIL		ON	1
RTU1\MX_3310_1FAILURE	Mixer Failure	ON	1
RTU1\MX_3310_2FAILURE	Mixer Failure	ON	1
RTU1\MX_3310_3_Alarm_Fail	Fail	ON	1
RTU1\MX_3310_3_Alarm_FTStart	Mixer Fail to Start	ON	1
RTU1\MX_3310_3_Alarm_FTStop	Mixer Fail to Stop	ON	1
RTU1\MX_3310_4_Alarm_Fail	Fail	ON	1
RTU1\MX_3310_4_Alarm_FTStart	Mixer Fail to Start	ON	1
RTU1\MX_3310_4_Alarm_FTStop	Mixer Fail to Stop	ON	1
RTU1\MX_3610_1FAILURE	Mixer Failure	ON	1
RTU1\MX_3610_2FAILURE	Mixer Failure	ON	1
RTU1\MX_3610_3_Alarm_Fail	Fail	ON	1
RTU1\MX_3610_3_Alarm_FTStart	Mixer Fail to Start	ON	1
RTU1\MX_3610_3_Alarm_FTStop	Mixer Fail to Stop	ON	1
RTU1\MX_3610_4_Alarm_Fail	Fail	ON	1
RTU1\MX_3610_4_Alarm_FTStart	Mixer Fail to Start	ON	1
RTU1\MX_3610_4_Alarm_FTStop	Mixer Fail to Stop	ON	1

IEUA RP-4 SUMMARY OF ALARMS

Tag Name	Description	Direction	Severity
RTU1\MX_3620_1FAILURE	Mixer Failure	ON	1
RTU1\MX_3620_2FAILURE	Mixer Failure	ON	1
RTU1\MX_3620_3_Alarm_Fail	Fail	ON	1
RTU1\MX_3620_3_Alarm_FTStart	Mixer Fail to Start	ON	1
RTU1\MX_3620_3_Alarm_FTStop	Mixer Fail to Stop	ON	1
RTU1\MX_3620_4_Alarm_Fail	Fail	ON	1
RTU1\MX_3620_4_Alarm_FTStart	Mixer Fail to Start	ON	1
RTU1\MX_3620_4_Alarm_FTStop	Mixer Fail to Stop	ON	1
RTU1\P_1110_Alarm_Fail	IPS Pump 1 Fail	ON	1
RTU1\P_1110_Alarm_FTStart	IPS Pump 1 Fail to Start	ON	1
RTU1\P_1110_Alarm_FTStop	IPS Pump 1 Fail to Stop	ON	1
RTU1\P_1120_Alarm_Fail	IPS Pump 2 Fail	ON	1
RTU1\P_1120_Alarm_FTStart	IPS Pump 2 Fail to Start	ON	1
RTU1\P_1120_Alarm_FTStop	IPS Pump 2 Fail to Stop	ON	1
RTU1\P_1130_Alarm_Fail	IPS Pump 3 Fail	ON	1
RTU1\P_1130_Alarm_FTStart	IPS Pump 3 Fail to Start	ON	1
RTU1\P_1130_Alarm_FTStop	IPS Pump 3 Fail to Stop	ON	1
RTU1\P_1140_Alarm_Fail	IPS Pump 4 Fail	ON	1
RTU1\P_1140_Alarm_FTStart	IPS Pump 4 Fail to Start	ON	1
RTU1\P_1140_Alarm_FTStop	IPS Pump 4 Fail to Stop	ON	1
RTU1\P_1150_Alarm_Fail	IPS Pump 5 Fail	ON	1
RTU1\P_1150_Alarm_FTStart	IPS Pump 5 Fail to Start	ON	1
RTU1\P_1150_Alarm_FTStop	IPS Pump 5 Fail to Stop	ON	1
RTU1\P_1160_Alarm_FTStart	IPS Pump 6 Fail to Start	ON	1
RTU1\P_1160_Alarm_FTStop	IPS Pump 6 Fail to Stop	ON	1
RTU1\P_1160_Alarm_VFD_Fail	IPS Pump 6 VFD Fail	ON	1
RTU1\P_1170_Alarm_FTStart	IPS Pump 7 Fail to Start	ON	1
RTU1\P_1170_Alarm_FTStop	IPS Pump 7 Fail to Stop	ON	1
RTU1\P_1170_Alarm_VFD_Fail	IPS Pump 7 VFD Fail	ON	1
RTU1\P_1180_Alarm_Fail	IPS Pump 8 Fail	ON	1
RTU1\P_1180_Alarm_FTStart	IPS Pump 8 Fail to Start	ON	1
RTU1\P_1180_Alarm_FTStop	IPS Pump 8 Fail to Stop	ON	1
RTU1\P_1240_Alarm_Fail	Pump Fail	ON	1
RTU1\P_1240_Alarm_FTStart	Pump Fail to Start	ON	1
RTU1\P_1240_Alarm_FTStop	Pump Fail to Stop	ON	1
RTU1\RTU_2_PLC_FAIL	RTU 2 PLC/COMM FAILURE	ON	1
RTU1\RTU_3_PLC_FAIL	RTU 3 PLC/COMM FAILURE	ON	1
RTU1\RTU_4_PLC_FAIL	RTU 4 PLC/COMM FAILURE	ON	1
RTU1\RTU1_FO_CHAN_A_FAIL	RTU1 FIBER OPTIC CHANNEL A FAILURE	ON	1
RTU1\RTU1_FO_CHAN_B_FAIL	RTU1 FIBER OPTIC CHANNEL B FAILURE	ON	1
RTU1\SCREEN_PRESS_PER_ALM	SCREENING PRESS PERSONNEL ALARM	ON	1
RTU1\SCRN_PRESS_FAIL	SCREENING PRESS FAIL	ON	1
RTU1\V_1221_Alarm_Fail	Valve Failure	ON	1
RTU1\V_1221_Alarm_FTClose	Valve Faile to Close	ON	1
RTU1\V_1221_Alarm_FTOpen	Valve Fail to Open	ON	1
RTU1\WAUK_NOT_RUNNING	WALKASHA NOT RUNNING	ON	1
RTU1\WW_LEL_Alarm	Wetwell High LEL Alarm	ON	1
RTU2\AIT_5210_Turb_Hi_Alarm	AQUA DISK FILTER EFFLUENT TURBIDITY HIGH ALARM	ON	1
RTU2\ALUM_DAY_TNK_LO_LVL	ALUM DAY TANK LOW LEVEL	ON	1
RTU2\CL2_HIGH_ALARM	CL2 RESIDUAL HIGH ALARM	ON	1
RTU2\CL2_LOW_ALARM	CL2 RESIDUAL LOW ALARM	ON	1
RTU2\EFF_COND_HI_ALM	EFFLUENT CONDUCTIVITY HIGH ALARM	ON	1
RTU2\EFF_GATE_CLOSED	EFFLUENT GATE CLOSED	ON	1
RTU2\EFF_GATE_FAIL_CLS		ON	1
RTU2\EFF_GATE_FAIL_OPN		ON	1
RTU2\EFF_PH_HI_ALM	EFFLUENT pH HIGH ALARM	ON	1
RTU2\EFF_PH_LO_ALM	EFFLUENT pH LOW ALARM	ON	1
RTU2\ES_7501	Chemical Room East Eyewash Station	ON	1
RTU2\ES_7502	Chemical Room West Eyewash Station	ON	1
RTU2\FIBER_CHANNEL_A_FAIL	RTU2 FIBER OPTIC CHANNEL A HAS FAILED	ON	1
RTU2\FIBER_CHANNEL_B_FAIL	RTU2 FIBER OPTIC CHANNEL B FAILURE	ON	1
RTU2\FILTERS_PLC_FAIL	FILETRS PLC FAILURE	ON	1
RTU2\FLT_AIR_COMP__1_FAIL	FILTER AIR COMPRESSOR #1 FAIL	ON	1
RTU2\FLT_AIR_COMP__2_FAIL	FILTER AIR COMPRESSOR #2 FAIL	ON	1
RTU2\HI_TURB_ALM	HIGH TURBIDITY ALARM	ON	1
RTU2\MESSAGE_BLK_FAIL		ON	1
RTU2\PRO_W_AIR_COM_LO_AIR	PROCESS WATER AIR COMPRESSOR LOW AIR	ON	1
RTU2\PRO_W_PMP_1_MTR_FAIL	PROCESS WATER PUMP #1 MOTOR FAIL	ON	1
RTU2\PRO_W_PMP_2_MTR_FAIL	PROCESS WATER PUMP #2 MOTOR FAIL	ON	1

IEUA RP-4 SUMMARY OF ALARMS

Tag Name	Description	Direction	Severity
RTU2\RECYC_PMP_1_MTR_FAIL	RECYCLE PUMP #1 MOTOR FAIL (PASSED FROM RPS)	ON	1
RTU2\RECYC_PMP_2_MTR_FAIL	RECYCLE PUMP #2 MOTOR FAIL (PASSED FROM RPS)	ON	1
RTU2\RECYC_PMP_STA_HI_LVL	RECYCLE PUMP STATION HIGH LEVEL (PASSED FROM RPS)	ON	1
RTU2\RTU_1_PLC_FAIL	RTU 1 PLC FAILURE	ON	1
RTU2\RTU_4_FAIL	RTU 4 PLC FAILURE	ON	1
RTU2\TX_4_POWER_FAIL	MCC-2 LOSS OF POWER TX4	ON	1
RTU2\TX_5_POWER_FAIL	MCC-2 LOSS OF POWER TX5	ON	1
RTU2A\CB1A_Mixer_Fail	CB1A WATER CHAMP FAIL	ON	1
RTU2A\CB1A_NAOCL_PUMP_1_FAILED		ON	1
RTU2A\CB1A_NAOCL_Pump_1_High_Press		ON	1
RTU2A\CB1A_NAOCL_PUMP_2_FAILED		ON	1
RTU2A\CB1A_NAOCL_Pump_2_High_Press		ON	1
RTU2A\Reliant_Water_Flow_Alarm	Reliant water flowing alarm	ON	1
RTU2A\RP4_CT	CL2 LOW CONTACT TIME<450	<450	1
RTU2A\RP4_DT	DETENTION TIME <90	<90	1
RTU2A\RP4_FL	FILTER LOADING	>5	1
RTU3\Aeration_Flex_Air_Low_Flow_4	Aeration Basin Train 4 Air Low Flow Alarm	ON	1
RTU3\Aeration_Flex_Failure_1	Aeration Flex Operation Failure Train 1	ON	1
RTU3\Aeration_Flex_Failure_2	Aeration Flex Operation Failure Train 2	ON	1
RTU3\B_REC_PMP_1_VFD_FAIL	BIO RECIRC PUMP #1 VFD FAIL	ON	1
RTU3\B_REC_PMP_2_VFD_FAIL	BIO RECIRC PUMP #2 VFD FAIL	ON	1
RTU3\B_REC_PMP_3_VFD_FAIL	BIO RECIRC PUMP #3 VFD FAIL	ON	1
RTU3\Basin_2E_Grp1_Hi_DO	Basin 2 East Valve Group 1 High DO Alarm	ON	1
RTU3\Basin_2E_Grp1_Hi_Flow	Basin 2 East Valve Group 1 High Flow Alarm	ON	1
RTU3\Basin_2E_Grp1_Lo_DO	Basin 2 East Valve Group 1 Low DO Alarm	ON	1
RTU3\Basin_2E_Grp1_Lo_Flow	Basin 2 East Valve Group 1 Low Flow Alarm	ON	1
RTU3\Basin_2E_Grp2_Hi_DO	Basin 2 East Valve Group 2 High DO Alarm	ON	1
RTU3\Basin_2E_Grp2_Hi_Flow	Basin 2 East Valve Group 2 High Flow Alarm	ON	1
RTU3\Basin_2E_Grp2_Lo_DO	Basin 2 East Valve Group 2 Low DO Alarm	ON	1
RTU3\Basin_2E_Grp2_Lo_Flow	Basin 2 East Valve Group 2 Low Flow Alarm	ON	1
RTU3\Basin_2E_Grp3_Hi_DO	Basin 2 East Valve Group 3 High DO Alarm	ON	1
RTU3\Basin_2E_Grp3_Hi_Flow	Basin 2 East Valve Group 3 High Flow Alarm	ON	1
RTU3\Basin_2E_Grp3_Lo_DO	Basin 2 East Valve Group 3 Low DO Alarm	ON	1
RTU3\Basin_2E_Grp3_Lo_Flow	Basin 2 East Valve Group 3 Low Flow Alarm	ON	1
RTU3\Basin_2E_Grp4_Hi_DO	Basin 2 East Valve Group 4 High DO Alarm	ON	1
RTU3\Basin_2E_Grp4_Hi_Flow	Basin 2 East Valve Group 4 High Flow Alarm	ON	1
RTU3\Basin_2E_Grp4_Lo_DO	Basin 2 East Valve Group 4 Low DO Alarm	ON	1
RTU3\Basin_2E_Grp4_Lo_Flow	Basin 2 East Valve Group 4 Low Flow Alarm	ON	1
RTU3\Basin_2W_Grp1_Hi_DO	Basin 2 West Valve Group 1 High DO Alarm	ON	1
RTU3\Basin_2W_Grp1_Hi_Flow	Basin 2 West Valve Group 1 High Flow Alarm	ON	1
RTU3\Basin_2W_Grp1_Lo_DO	Basin 2 West Valve Group 1 Low DO Alarm	ON	1
RTU3\Basin_2W_Grp1_Lo_Flow	Basin 2 West Valve Group 1 Low Flow Alarm	ON	1
RTU3\Basin_2W_Grp2_Hi_DO	Basin 2 West Valve Group 2 High DO Alarm	ON	1
RTU3\Basin_2W_Grp2_Hi_Flow	Basin 2 West Valve Group 2 High Flow Alarm	ON	1
RTU3\Basin_2W_Grp2_Lo_DO	Basin 2 West Valve Group 2 Low DO Alarm	ON	1
RTU3\Basin_2W_Grp2_Lo_Flow	Basin 2 West Valve Group 2 Low Flow Alarm	ON	1
RTU3\Basin_2W_Grp3_Hi_DO	Basin 2 West Valve Group 3 High DO Alarm	ON	1
RTU3\Basin_2W_Grp3_Hi_Flow	Basin 2 West Valve Group 3 High Flow Alarm	ON	1
RTU3\Basin_2W_Grp3_Lo_DO	Basin 2 West Valve Group 3 Low DO Alarm	ON	1
RTU3\Basin_2W_Grp3_Lo_Flow	Basin 2 West Valve Group 3 Low Flow Alarm	ON	1
RTU3\Basin_2W_Grp4_Hi_DO	Basin 2 West Valve Group 4 High DO Alarm	ON	1
RTU3\Basin_2W_Grp4_Hi_Flow	Basin 2 West Valve Group 4 High Flow Alarm	ON	1
RTU3\Basin_2W_Grp4_Lo_DO	Basin 2 West Valve Group 4 Low DO Alarm	ON	1
RTU3\Basin_2W_Grp4_Lo_Flow	Basin 2 West Valve Group 4 Low Flow Alarm	ON	1
RTU3\Basin_Flex_Train_1_Aborted_Alarm	Train 1 Flex Aborted Alarm	ON	1
RTU3\Basin_Flex_Train_1_Alarm	Flex Failure	ON	1
RTU3\Basin_Flex_Train_2_Aborted_Alarm	Train 2 Flex Aborted Alarm	ON	1
RTU3\Basin_Flex_Train_2_Alarm	Flex Failure	ON	1
RTU3\Basin_Flex_Train_3_Aborted_Alarm	Train 3 Flex Aborted Alarm	ON	1
RTU3\Basin_Flex_Train_3_Alarm	Flex Failure	ON	1
RTU3\Basin_Flex_Train_4_Aborted_Alarm	Train 4 Flex Aborted Alarm	ON	1
RTU3\Basin_Flex_Train_4_Alarm	Flex Failure	ON	1
RTU3\DH_1_HIGH_LVL	DITCH #1 HIGH LEVEL	ON	1
RTU3\DH_1_OD_CN_FLOW_LOW	DITCH #1 ODOR CONTROL FLOW LOW	ON	1
RTU3\DH_1_OD_CN_VALV_FAIL	DITCH #1 ODOR CONTROL VALVE FAIL	ON	1
RTU3\DH_2_HIGH_LVL	DITCH #2 HIGH LEVEL	ON	1
RTU3\DH_3_HIGH_LVL	DITCH #3 HIGH LEVEL	ON	1
RTU3\DITCH_LOCKOUT	DITCH HIGH LEVEL LOCKOUT	ON	1
RTU3\MESSAGE_BLK_FAIL		ON	1

IEUA RP-4 SUMMARY OF ALARMS

Tag Name	Description	Direction	Severity
RTU3\Oxic_Zone_Aeration_Hi_Flow_1	Oxic Zone Aeration High Flow Alarm Group 1	ON	1
RTU3\Oxic_Zone_Aeration_Hi_Flow_2	Oxic Zone Aeration High Flow Alarm Group 2	ON	1
RTU3\Oxic_Zone_Aeration_Hi_Flow_3	Oxic Zone Aeration High Flow Alarm Group 3	ON	1
RTU3\Oxic_Zone_Aeration_Hi_Flow_4	Oxic Zone Aeration High Flow Alarm Group 4	ON	1
RTU3\Oxic_Zone_Aeration_Hi_Flow_5	Oxic Zone Aeration High Flow Alarm Group 5	ON	1
RTU3\Oxic_Zone_Aeration_Hi_Flow_6	Oxic Zone Aeration High Flow Alarm Group 6	ON	1
RTU3\Oxic_Zone_Aeration_Hi_Flow_7	Oxic Zone Aeration High Flow Alarm Group 7	ON	1
RTU3\Oxic_Zone_Aeration_Hi_Flow_8	Oxic Zone Aeration High Flow Alarm Group 8	ON	1
RTU3\Oxic_Zone_Low_DO_1	Oxic Zone Low DO Alarm Group 1	ON	1
RTU3\Oxic_Zone_Low_DO_2	Oxic Zone Low DO Alarm Group 2	ON	1
RTU3\Oxic_Zone_Low_DO_3	Oxic Zone Low DO Alarm Group 3	ON	1
RTU3\Oxic_Zone_Low_DO_4	Oxic Zone Low DO Alarm Group 4	ON	1
RTU3\Oxic_Zone_Low_DO_5	Oxic Zone Low DO Alarm Group 5	ON	1
RTU3\Oxic_Zone_Low_DO_6	Oxic Zone Low DO Alarm Group 6	ON	1
RTU3\Oxic_Zone_Low_DO_7	Oxic Zone Low DO Alarm Group 7	ON	1
RTU3\Oxic_Zone_Low_DO_8	Oxic Zone Low DO Alarm Group 8	ON	1
RTU3\P_3510Failure	Pump Failure	ON	1
RTU3\P_3520Failure	Pump Failure	ON	1
RTU3\RTU_1_PLC_FAIL	RTU 1 PLC FAILURE	ON	1
RTU3\RTU_2_PLC_FAILURE	RTU 2 PLC FAILURE	ON	1
RTU3\RTU_4_PLC_FAIL	RTU 4 PLC FAILURE	ON	1
RTU3\V_3110A_F	Valve Failure	ON	1
RTU3\V_3110B_F	Valve Failure	ON	1
RTU3\V_3115AFailure	Valve Failure	ON	1
RTU3\V_3115BFailure	Valve Failure	ON	1
RTU3\V_3120A_Alarm_Fail	Valve Failure	ON	1
RTU3\V_3120B_Alarm_Fail	Valve Failure	ON	1
RTU3\V_3125A_Failure	Valve Failure	ON	1
RTU3\V_3125B_Failure	Valve Failure	ON	1
RTU3\V_3410_1_F	Valve Failed during Operation	ON	1
RTU3\V_3410_2_F	Valve Failed during Operation	ON	1
RTU3\V_3410_3_Alarm_Fail	Valve Failure	ON	1
RTU3\V_3410_4_Alarm_Fail	Valve Failure	ON	1
RTU3\V_3420_1_F	Valve Failed during Operation	ON	1
RTU3\V_3420_2_F	Valve Failed during Operation	ON	1
RTU3\V_3420_3_Alarm_Fail	Valve Failure	ON	1
RTU3\V_3420_4_Alarm_Fail	Valve Failure	ON	1
RTU3\V_3430_1_F	Valve Failed during Operation	ON	1
RTU3\V_3430_2_F	Valve Failed during Operation	ON	1
RTU3\V_3430_3_Alarm_Fail	Valve Failure	ON	1
RTU3\V_3430_4_Alarm_Fail	Valve Failure	ON	1
RTU3\V_3440_1_F	Valve Failed during Operation	ON	1
RTU3\V_3440_2_F	Valve Failed during Operation	ON	1
RTU3\V_3440_3_Alarm_Fail	Valve Failure	ON	1
RTU3\V_3440_4_Alarm_Fail	Valve Failure	ON	1
RTU3\V_3450_1_F	Valve Failed during Operation	ON	1
RTU3\V_3450_2_F	Valve Failed during Operation	ON	1
RTU3\V_3450_3_Alarm_Fail	Valve Failure	ON	1
RTU3\V_3450_4_Alarm_Fail	Valve Failure	ON	1
RTU3\V_3460_1_F	Valve Failed during Operation	ON	1
RTU3\V_3460_2_F	Valve Failed during Operation	ON	1
RTU3\V_3460_3_Alarm_Fail	Valve Failure	ON	1
RTU3\V_3460_4_Alarm_Fail	Valve Failure	ON	1
RTU3\V_3470_1_F	Valve Failed during Operation	ON	1
RTU3\V_3470_2_F	Valve Failed during Operation	ON	1
RTU3\V_3470_3_Alarm_Fail	Valve Failure	ON	1
RTU3\V_3470_4_Alarm_Fail	Valve Failure	ON	1
RTU3\V_3480_1_F	Valve Failed during Operation	ON	1
RTU3\V_3480_2_F	Valve Failed during Operation	ON	1
RTU3\V_3480_3_Alarm_Fail	Valve Failure	ON	1
RTU3\V_3480_4_Alarm_Fail	Valve Failure	ON	1
RTU3\V_3710_1_F	Valve Failed during Operation	ON	1
RTU3\V_3710_2_F	Valve Failed during Operation	ON	1
RTU3\V_3710_3_Alarm_Fail	Valve Failure	ON	1
RTU3\V_3710_4_Alarm_Fail	Valve Failure	ON	1
RTU3\V_3720_1_F	Valve Failed during Operation	ON	1
RTU3\V_3720_2_F	Valve Failed during Operation	ON	1
RTU3\V_3720_3_Alarm_Fail	Valve Failure	ON	1
RTU3\V_3720_4_Alarm_Fail	Valve Failure	ON	1

IEUA RP-4 SUMMARY OF ALARMS

Tag Name	Description	Direction	Severity
RTU3A\BLOWER_1_FAIL	BLOWER #1 FAIL	ON	1
RTU3A\BLOWER_2_FAIL	BLOWER #4 FAIL	ON	1
RTU3A\BLOWER_3_FAIL	BLOWER #2 FAIL	ON	1
RTU3A\RTU_3A_PLC_FAIL	RTU 3A PLC FAILURE	ON	1
RTU4\EDISON_INT_DISABLE	EDISON INTERUPT DISABLE	OFF	1
RTU4\FIBER_OP_A_FAIL	FIBEROPTIC CHANNEL 'A' FAILURE	ON	1
RTU4\FIBER_OP_B_FAIL	FIBEROPTIC CHANNEL 'B' FAILURE	ON	1
RTU4\MESSAGE_BLK_FAIL		ON	1
RTU4\PAGER_TEST_ALM		ON	1
RTU4\RP1_TELEM_ALARM	RP1 TO RP4 TELEMETRY FAIL	ON	1
RTU4\RP4_ATTND_STAT	RP4 PLANT ATTENDDED STATUS	ON	1
RTU4\SCE_INT_ALM	SCE INTERUPT ALARM	ON	1
RTU4\SCE_TRIP_ALM	SCE TRIP ALARM	ON	1
RTU5\AIT_6110A_HI_Alarm	AIT 6110A CL2 High Alarm CCB2 East	ON	1
RTU5\AIT_6110A_Lo_Alarm	AIT 6110A CL2 Low Alarm CCB2 East	ON	1
RTU5\AIT_6110B_HI_Alarm	AIT 6110B CL2 High Alarm CCB2 East	ON	1
RTU5\AIT_6110B_Lo_Alarm	AIT 6110B CL2 Low Alarm CCB2 East	ON	1
RTU5\AIT_6120A_HI_Alarm	AIT 6120A CL2 High Alarm CCB2 West	ON	1
RTU5\AIT_6120A_Lo_Alarm	AIT 6120A CL2 Low Alarm CCB2 West	ON	1
RTU5\AIT_6120B_HI_Alarm	AIT 6120B CL2 High Alarm CCB2 West	ON	1
RTU5\AIT_6120B_Lo_Alarm	AIT 6120B CL2 Low Alarm CCB2 West	ON	1
RTU5\CB1B_Final_Eff_CL2_High_Alarm	Contact Basin 1B Final Effluent CL2 High Alarm	ON	1
RTU5\CB1B_Final_Eff_CL2_Low_Alarm	Contact Basin 1B Final Effluent CL2 Low Alarm	ON	1
RTU5\Final_Eff_Turbidity_Hi_Alarm	Final Effluent Turbidity High	ON	1
RTU5\Final_Eff_Turbidity_Hi_Hi_Alarm	Final Effluent Turbidity High-High	ON	1
RTU5\Final_Eff_Turbidity_Page_Alm	RP4 Final Effluent Turbidity Value	>1	1
RTU5\FINAL_PH_HI_ALM		ON	1
RTU5\FINAL_PH_LO_ALM		ON	1
RTU5\RP4_RP1_HB_ALARM	RP4 TO RP1 HEARTBEAT ALARM	ON	1
RTU5\RTU_5C_COMMFAIL	RTU 5C to RTU 5 COMMUNICATION FAIL ALARM	ON	1
RTU5\RTU1_To_RTU5_Comm_Fail	RTU1 to RTU5 Heartbeat Alarm	ON	1
RTU5\RWPS_IN_OVERRIDE	RP4 RW PUMPS IN OVERRIDE PB	ON	1
RTU5\RWPS_QUALITY_SHUTDOWN	RP4 RWPS WATER QUALITY SHUTDOWN	ON	1
RTU5\Z1158_HI_HI_SYSTEM_PRESS	Zone 1158 Hi Hi System Pressure	ON	1
RTU5\Z1158_LO_LO_SYSTEM_PRESS	Zone 1158 Lo Lo System Pressure	ON	1
RTU5\Z3_Hi_Press	RP4 PRESS MODE	ON	1
RTU5\Z3_Low_Level_Shut_Down	Recycled Water Pump Station Low Level Shut Down	ON	1
RTU5\Z3_Pump_1_Alarm	Recycled Water Pump Station Pump 1 Alarm	ON	1
RTU5\Z3_Pump_2_Alarm	Recycled Water Pump Station Pump 2 Alarm	ON	1
RTU5\Z3_Pump_3_Alarm	Recycled Water Pump Station Pump 3 Alarm	ON	1
RTU5B\ALARMS\AC7470_HI_HI_ALARM	AIR COMPRESSOR 7470 TANK HI HI PRESSURE ALARM	ON	1
RTU5B\ALARMS\AC7470_LO_LO_ALARM	AIR COMPRESSOR 7470 TANK LO LO PRESSURE ALARM	ON	1
RTU5B\ALARMS\M7450_HI_HI_ALARM	SURGE TANK 7450 HI HI ALARM	ON	1
RTU5B\ALARMS\M7450_LO_LO_ALARM	SURGE TANK 7450 LO LO ALARM	ON	1
RTU5B\ALARMS\M7460_HI_HI_ALALRM	SURGE TANK 7460 HI HI ALARM	ON	1
RTU5B\ALARMS\M7460_LO_LO_ALARM	SURGE TANK 7460 LO LO ALARM	ON	1
RTU5B\ALARMS\RTU_5_COMM_FAIL	RTU 5 to RTU 5B COMMUNICATION FAULT	ON	1
RTU5B\ALARMS\RTU_5C_COMM_FAIL	RTU 5C to RTU 5B COMMUNICATION FAULT	ON	1
RTU5B\ALARMS\Z1299_HI_HI_SYSTEM_PRESS	Zone 1299 Hi Hi System Pressure	ON	1
RTU5B\ALARMS\Z1299_LO_LO_SYSTEM_PRESS	Zone 1299 Lo Lo System Pressure	ON	1
RTU5C\ALARMS\1158_RES_1_ALTITUDE_VLV_ST	1158 Reservoir 1 Altitude Valve Status	OFF	1
RTU5C\ALARMS\1158_RES_2_ALTITUDE_VLV_ST	1158 Reservoir 2 Altitude Valve Status	OFF	1
RTU5C\ALARMS\R1_HI_HI_LEVEL_ALARM	RESERVOIR 1 HI HI LEVEL ALARM	ON	1
RTU5C\ALARMS\R1_LO_LEVEL_ALARM	RESERVOIR 1 LO LEVEL ALARM	ON	1
RTU5C\ALARMS\R2_HI_HI_LEVEL_ALARM	RESERVOIR 2 HI HI LEVEL ALARM	ON	1
RTU5C\ALARMS\R2_LO_LEVEL_ALARM	RESERVOIR 2 LO LEVEL ALARM	ON	1
RTU5C\ALARMS\RTU5C_INTRUSION_ALARM	1158 Reservoir Intrusion Alarm	ON	1
RTU6\Clar_Gas_Detect_Fail	Clarifier 1/2 Gas Detection System Fail	ON	1
RTU6\Clar1_LEL_Alarm	Clarifier 1 LEL Alarm	ON	1
RTU6\Clar2_LEL_Alarm	Clarifier 2 LEL Alarm	ON	1
RTU6\ES_7001	Eye Wash Station Alarm	ON	1
RTU6\ES_7002	Eye Wash Station Alarm	ON	1
RTU6\ES_7003	Eye Wash Station Alarm	ON	1
RTU6\ES_7004	Eye Wash Station Alarm	ON	1
RTU6\ES_7005	Eye Wash Station Alarm	ON	1
RTU6\ES_7006	Eye Wash Station Alarm	ON	1
RTU6\LSH_4201	RAS Pump Station Sump High Level	ON	1
RTU6\LSH_7001	FeCl / Polymer Sump Level High	ON	1
RTU6\LSH_8101	Odor Control Sump Level High	ON	1

IEUA RP-4 SUMMARY OF ALARMS

Tag Name	Description	Direction	Severity
RTU6\MX_2010FAILURE	Mixer Failure	ON	1
RTU6\OCF_8110_Alarm_Fail	Fan Fail	ON	1
RTU6\OCF_8110_Alarm_Lo_Press	Fan Low Pressure (Ventilation System Failure)	ON	1
RTU6\P_3510_COS	P_3510 Fail to Start/Stop	ON	1
RTU6\P_3520_COS	P_3520 Fail to Start/Stop	ON	1
RTU6\P_3530_Alarm_Fail	Pump Fail	ON	1
RTU6\P_3530_Alarm_FTStart	Pump Fail to Start	ON	1
RTU6\P_3530_Alarm_FTStop	Pump Fail to Stop	ON	1
RTU6\P_3540_Alarm_Fail	Pump Fail	ON	1
RTU6\P_3540_Alarm_FTStart	Pump Fail to Start	ON	1
RTU6\P_3540_Alarm_FTStop	Pump Fail to Stop	ON	1
RTU6\P_4210FAILURE	RAS Pump Failure (Low Pressure,AFD Fail, High Temperature)	ON	1
RTU6\P_4210LOW_PRESS	Pump Low Seal Water Pressure	ON	1
RTU6\P_4220FAILURE	RAS Pump Failure (Low Pressure,AFD Fail, High Temperature)	ON	1
RTU6\P_4220LOW_PRESS	Pump Low Seal Water Pressure	ON	1
RTU6\P_4230FAILURE	RAS Pump Failure (Low Pressure,AFD Fail, High Temperature)	ON	1
RTU6\P_4230LOW_PRESS	Pump Low Seal Water Pressure	ON	1
RTU6\RAS_LOW_FLOW_ALARM	RAS LOW FLOW ALARM	ON	1
RTU6\SCW_4115FAILURE	Scum Weir Fail	ON	1
RTU6\SCW_4125FAILURE	Scum Weir Fail	ON	1
RTU6\SCW_4135FAILURE	Scum Weir Fail	ON	1
RTU6\SLC_2110FAILURE	Motor Failure	ON	1
RTU6\SLC_2110HIGH_TORQUE	High Torque Alarm	ON	1
RTU6\SLC_2120FAILURE	Motor Failure	ON	1
RTU6\SLC_2120HIGH_TORQUE	High Torque Alarm	ON	1
RTU6\SLC_4120FAILURE	Motor Failure	ON	1
RTU6\SLC_4120HIGH_TORQUE	High Torque Alarm	ON	1
RTU6\SLC_4130FAILURE	Motor Failure	ON	1
RTU6\SLC_4130HIGH_TORQUE	High Torque Alarm	ON	1
RTU6\V_2121_HiLvl_Alarm	Primary Clarifiers Scum Pit High Level Alarm	ON	1
RTU6\V_2121FAILURE	Valve Failed during Operation	ON	1
RTU6\V_2172FAILURE	Valve Failed during Operation	ON	1
RTU6\V_2182FAILURE	Valve Failed during Operation	ON	1
RTU6\V_3910FAILURE	Valve Failed during Operation	ON	1
RTU6\V_4150FAILURE	Valve Failed during Operation	ON	1
BLWRS\LCP1\BLWR_HS_IN_TEMP_ALM		ON	2
BLWRS\LCP1\BLWR_HS_OUT_TEMP_ALM		ON	2
BLWRS\LCP1\BLWR_HS_THRUST_TEMP_ALM		ON	2
BLWRS\LCP1\BLWR_SS_IN_TEMP_ALM		ON	2
BLWRS\LCP1\BLWR_SS_OUT_TEMP_ALM		ON	2
BLWRS\LCP1\BLWR_VIB_ALM		ON	2
BLWRS\LCP1\DI_PLC_PS1_FAULT		ON	2
BLWRS\LCP1\DI_PLC_PS2_FAULT		ON	2
BLWRS\LCP1\DIRTY_OIL_FILTER_ALM		ON	2
BLWRS\LCP1\DISCH_AIR_TEMP_ALM		ON	2
BLWRS\LCP1\HI_OIL_TEMP_ALM		ON	2
BLWRS\LCP1\INLET_AIR_TEMP_ALM		ON	2
BLWRS\LCP1\LOW_OIL_LEVEL_ALM		ON	2
BLWRS\LCP1\LOW_OIL_TEMP_ALM		ON	2
BLWRS\LCP1\MTR_AMP_ALM		ON	2
BLWRS\LCP1\MTR_B_WIND_TEMP_ALM		ON	2
BLWRS\LCP1\REV_ROTATION_ALM		ON	2
BLWRS\LCP2\BLWR_HS_IN_TEMP_ALM		ON	2
BLWRS\LCP2\BLWR_HS_OUT_TEMP_ALM		ON	2
BLWRS\LCP2\BLWR_HS_THRUST_TEMP_ALM		ON	2
BLWRS\LCP2\BLWR_SS_IN_TEMP_ALM		ON	2
BLWRS\LCP2\BLWR_SS_OUT_TEMP_ALM		ON	2
BLWRS\LCP2\BLWR_VIB_ALM		ON	2
BLWRS\LCP2\DIRTY_INLET_ALM		ON	2
BLWRS\LCP2\DIRTY_OIL_FILTER_ALM		ON	2
BLWRS\LCP2\HI_OIL_TEMP_ALM		ON	2
BLWRS\LCP2\INLET_AIR_TEMP_ALM		ON	2
BLWRS\LCP2\LOW_OIL_LEVEL_ALM		ON	2
BLWRS\LCP2\LOW_OIL_TEMP_ALM		ON	2
BLWRS\LCP2\MTR_A_WIND_TEMP_ALM		ON	2
BLWRS\LCP2\MTR_B_WIND_TEMP_ALM		ON	2
BLWRS\LCP2\MTR_C_WIND_TEMP_ALM		ON	2
BLWRS\LCP2\REV_ROTATION_ALM		ON	2
BLWRS\LCP4\BLWR_HS_IN_TEMP_ALM		ON	2

IEUA RP-4 SUMMARY OF ALARMS

Tag Name	Description	Direction	Severity
BLWRS\LCP4\BLWR_HS_OUT_TEMP_ALM		ON	2
BLWRS\LCP4\BLWR_HS_THRUST_TEMP_ALM		ON	2
BLWRS\LCP4\BLWR_HS_X_VIB_ALM		ON	2
BLWRS\LCP4\BLWR_HS_Y_VIB_ALM		ON	2
BLWRS\LCP4\BLWR_HS_Z_MAX_ALM		ON	2
BLWRS\LCP4\BLWR_HS_Z_MIN_ALM		ON	2
BLWRS\LCP4\BLWR_SS_IN_TEMP_ALM		ON	2
BLWRS\LCP4\BLWR_SS_OUT_TEMP_ALM		ON	2
BLWRS\LCP4\BLWR_SS_X_ALM		ON	2
BLWRS\LCP4\BLWR_SS_Y_ALM		ON	2
BLWRS\LCP4\BLWR_VIB_ALM		ON	2
BLWRS\LCP4\DIRTY_OIL_FILTER_ALM		ON	2
BLWRS\LCP4\DIRTY_SEC_INLET_ALM		ON	2
BLWRS\LCP4\DISCH_AIR_TEMP_ALM		ON	2
BLWRS\LCP4\HI_OIL_TEMP_ALM		ON	2
BLWRS\LCP4\INLET_AIR_TEMP_ALM		ON	2
BLWRS\LCP4\LOW_OIL_LEVEL_ALM		ON	2
BLWRS\LCP4\LOW_OIL_TEMP_ALM		ON	2
BLWRS\LCP4\MTR_AMP_ALM		ON	2
BLWRS\LCP4\MTR_B_WIND_TEMP_ALM		ON	2
BLWRS\LCP4\MTR_C_WIND_TEMP_ALM		ON	2
BLWRS\LCP4\MTR_IN_BRG_TEMP_ALM		ON	2
BLWRS\LCP4\MTR_OUT_BRG_TEMP_ALM		ON	2
BLWRS\LCP4\MTR_TEMP_ALM		ON	2
FILT\1_BW_VALV_FAIL	Unit #1 Back Wash Valve Fail To Scada	ON	2
FILT\1_FILT_AIR_VALV_FAIL	Unit #1 Filter Air Valve Failure To Scada	ON	2
FILT\1_FTW_VALV_FAIL	Filter To Waste Valve Travel Time	ON	2
FILT\1_W_GATE_FAIL	Unit #1 Waste Gate Failure To Scada	ON	2
FILT\2_BW_VALV_FAIL	Unit #2 Back Wash Valve Fail To Scada	ON	2
FILT\2_CLAR_AIR_VALV_FAIL	Unit #2 Clarifier Air Valve Failure To Scada	ON	2
FILT\2_FILT_AIR_VALV_FAIL	Unit #2 Filter Air Valve Failure To Scada	ON	2
FILT\2_FTW_VALV_FAIL	Unit #2 Filter To Waste Valve Failure To Scada	ON	2
FILT\2_W_GATE_FAIL	Unit #2 Waste Gate Failure To Scada	ON	2
FILT\3_BW_VALV_FAIL	Unit #3 Back Wash Valve Fail To Scada	ON	2
FILT\3_CLAR_AIR_VALV_FAIL	Unit #3 Clarifier Air Valve Failure To Scada	ON	2
FILT\3_FILT_AIR_VALV_FAIL	Unit #3 Filter Air Valve Failure To Scada	ON	2
FILT\3_FTW_VALV_FAIL	Unit #3 Filter To Waste Valve Failure To Scada	ON	2
FILT\3_W_GATE_FAIL	Unit #3 Waste Gate Failure To Scada	ON	2
FILT\4_BW_VALV_FAIL	UNIT #4 BACKWASH VALVE FAILURE TO SCADA	ON	2
FILT\4_CLAR_AIR_VALV_FAIL	UNIT #4 CLARIFIER AIR VALVE FAILURE TO SCADA	ON	2
FILT\4_FILT_AIR_VALV_FAIL	UNIT #4 FILTER AIR VALVE FAIL TO SCADA	ON	2
FILT\4_FTW_VALV_FAIL	UNIT #4 FILTER TO WASTE VALVE FAIL TO SCADA	ON	2
FILT\4_W_GATE_FAIL	UNIT #4 WASTE GATE FAIL TO SCADA	ON	2
FILT\5_BW_VALV_FAIL	UNIT #5 BACKWASH VALVE FAILURE TO SCADA	ON	2
FILT\5_CLAR_AIR_VALV_FAIL	UNIT #5 CLARIFIER AIR VALVE FAILURE TO SCADA	ON	2
FILT\5_FILT_AIR_VALV_FAIL	UNIT #5 FILTER AIR VALVE FAIL TO SCADA	ON	2
FILT\5_FTW_VALV_FAIL	UNIT #5 FILTER TO WASTE VALVE FAIL TO SCADA	ON	2
FILT\5_W_GATE_FAIL	UNIT #5 WASTE GATE FAIL TO SCADA	ON	2
FILT\6_BW_VALV_FAIL	UNIT #6 BACKWASH VALVE FAILURE TO SCADA	ON	2
FILT\6_CLAR_AIR_VALV_FAIL	UNIT #6 CLARIFIER AIR VALVE FAILURE TO SCADA	ON	2
FILT\6_FILT_AIR_VALV_FAIL	UNIT #6 FILTER AIR VALVE FAIL TO SCADA	ON	2
FILT\6_FTW_VALV_FAIL	UNIT #6 FILTER TO WASTE VALVE FAIL TO SCADA	ON	2
FILT\6_W_GATE_FAIL	UNIT #6 WASTE GATE FAIL TO SCADA	ON	2
FILT\7_BW_VALV_FAIL	UNIT #7 BACKWASH VALVE FAILURE TO SCADA	ON	2
FILT\7_CLAR_AIR_VALV_FAIL	UNIT #7 CLARIFIER AIR VALVE FAILURE TO SCADA	ON	2
FILT\7_FILT_AIR_VALV_FAIL	UNIT #7 FILTER AIR VALVE FAIL TO SCADA	ON	2
FILT\7_FTW_VALV_FAIL	UNIT #7 FILTER TO WASTE VALVE FAIL TO SCADA	ON	2
FILT\7_W_GATE_FAIL	UNIT #7 WASTE GATE FAIL TO SCADA	ON	2
FILT\8_BW_VALV_FAIL	UNIT #8 BACKWASH VALVE FAILURE TO SCADA	ON	2
FILT\8_CLAR_AIR_VALV_FAIL	UNIT #8 CLARIFIER AIR VALVE FAILURE TO SCADA	ON	2
FILT\8_FILT_AIR_VALV_FAIL	UNIT #8 FILTER AIR VALVE FAIL TO SCADA	ON	2
FILT\8_FTW_VALV_FAIL	UNIT #8 FILTER TO WASTE VALVE FILTER TO SCADA	ON	2
FILT\8_W_GATE_FAIL	UNIT #8 WASTE GATE FAIL TO SCADA	ON	2
FILT\BW_TM_EXCEEDED	BACKWASH TIME EXCEEDED	ON	2
FILT\FLSH_TM_EXCEEDED	FLUSH TIME EXCEEDED	ON	2
FILT\NO_BLOWERS_AVAIL		ON	2
FILT\NO_BW_PMPS_AVAIL		ON	2
Filters\F1\ALARMS\Backwash_Valve_1_Failed_to_C	F1: Backwash Valve 1 Failed to CLOSE Alarm Trigger 25	ON	2
Filters\F1\ALARMS\Backwash_Valve_1_Failed_to_C	F1: Backwash Valve 1 Failed to OPEN Alarm Trigger 24	ON	2

IEUA RP-4 SUMMARY OF ALARMS

Tag Name	Description	Direction	Severity
Filters\F1\ALARMS\Backwash_Valve_2_Failed_to_C	F1: Backwash Valve 2 Failed to CLOSE Alarm Trigger 27	ON	2
Filters\F1\ALARMS\Backwash_Valve_2_Failed_to_C	F1: Backwash Valve 2 Failed to OPEN Alarm Trigger 26	ON	2
Filters\F1\ALARMS\Backwash_Valve_3_Failed_to_C	F1: Backwash Valve 3 Failed to CLOSE Alarm Trigger 29	ON	2
Filters\F1\ALARMS\Backwash_Valve_3_Failed_to_C	F1: Backwash Valve 3 Failed to OPEN Alarm Trigger 28	ON	2
Filters\F1\ALARMS\Backwash_Valve_4_Failed_to_C	F1: Backwash Valve 4 Failed to CLOSE Alarm Trigger 31	ON	2
Filters\F1\ALARMS\Backwash_Valve_4_Failed_to_C	F1: Backwash Valve 4 Failed to OPEN Alarm Trigger 30	ON	2
Filters\F1\ALARMS\Backwash_Valve_5_Failed_to_C	F1: Backwash Valve 5 Failed to CLOSE Alarm Trigger 33	ON	2
Filters\F1\ALARMS\Backwash_Valve_5_Failed_to_C	F1: Backwash Valve 5 Failed to OPEN Alarm Trigger 32	ON	2
Filters\F1\ALARMS\Backwash_Valve_6_Failed_to_C	F1: Backwash Valve 6 Failed to CLOSE Alarm Trigger 35	ON	2
Filters\F1\ALARMS\Backwash_Valve_6_Failed_to_C	F1: Backwash Valve 6 Failed to OPEN Alarm Trigger 34	ON	2
Filters\F1\ALARMS\Basin_Level_Too_LOW_For_Bac	F1: Basin Level Too LOW For Backwash Alarm Trigger 6	ON	2
Filters\F1\ALARMS\Basin_Level_Too_LOW_For_Slu	F1: Basin Level Too LOW For Sludge Waste Alarm Trigger 7	ON	2
Filters\F1\ALARMS\Effluent_Flow_Transducer_OUT_	F1: Effluent Flow Transducer OUT of RANGE Alarm Trigger 57	ON	2
Filters\F1\ALARMS\Effluent_Turbidity_Transducer_O	F1: Effluent Turbidity Transducer OUT of RANGE Alarm Trigger 58	ON	2
Filters\F1\ALARMS\Filter_Basin_Level_Transducer_(	F1: Filter Basin Level Transducer OUT of RANGE Alarm Trigger 50	ON	2
Filters\F1\ALARMS\Filter_Effluent_Level_Transducer	F1: Filter Effluent Level Transducer OUT of RANGE Alarm Trigger 51	ON	2
Filters\F1\ALARMS\HPS_Drain_Valve_Failed_to_CL	F1: HPS Drain Valve Failed to CLOSE Alarm Trigger 45	ON	2
Filters\F1\ALARMS\HPS_Drain_Valve_Failed_to_OP	F1: HPS Drain Valve Failed to OPEN Alarm Trigger 44	ON	2
Filters\F1\ALARMS\HPS_Reservoir_Level_LOW	F1: HPS Reservoir Level LOW Alarm Trigger 48	ON	2
Filters\F1\ALARMS\HPS_Wash_Valve_1_Failed_to_	F1: HPS Wash Valve 1 Failed to CLOSE Alarm Trigger 37	ON	2
Filters\F1\ALARMS\HPS_Wash_Valve_1_Failed_to_	F1: HPS Wash Valve 1 Failed to OPEN Alarm Trigger 36	ON	2
Filters\F1\ALARMS\HPS_Wash_Valve_2_Failed_to_	F1: HPS Wash Valve 2 Failed to CLOSE Alarm Trigger 39	ON	2
Filters\F1\ALARMS\HPS_Wash_Valve_2_Failed_to_	F1: HPS Wash Valve 2 Failed to OPEN Alarm Trigger 38	ON	2
Filters\F1\ALARMS\HPS_Wash_Valve_3_Failed_to_	F1: HPS Wash Valve 3 Failed to CLOSE Alarm Trigger 41	ON	2
Filters\F1\ALARMS\HPS_Wash_Valve_3_Failed_to_	F1: HPS Wash Valve 3 Failed to OPEN Alarm Trigger 40	ON	2
Filters\F1\ALARMS\HPS_Wash_Valve_4_Failed_to_	F1: HPS Wash Valve 4 Failed to CLOSE Alarm Trigger 43	ON	2
Filters\F1\ALARMS\HPS_Wash_Valve_4_Failed_to_	F1: HPS Wash Valve 4 Failed to OPEN Alarm Trigger 42	ON	2
Filters\F1\ALARMS\Influent_Turbidity_Transducer_O	F1: Influent Turbidity Transducer OUT of RANGE Alarm Trigger 56	ON	2
Filters\F1\ALARMS\Influent_Valve_Failed_to_CLOSE	F1: Influent Valve Failed to CLOSE Alarm Trigger 21	ON	2
Filters\F1\ALARMS\Influent_Valve_Failed_to_OPEN	F1: Influent Valve Failed to OPEN Alarm Trigger 20	ON	2
Filters\F1\ALARMS\PLC_Battery_LOW	F1: PLC Battery LOW Alarm Trigger 1	ON	2
Filters\F1\ALARMS\Sludge_Valve_Failed_to_CLOSE	F1: Sludge Valve Failed to CLOSE Alarm Trigger 23	ON	2
Filters\F1\ALARMS\Sludge_Valve_Failed_to_OPEN	F1: Sludge Valve Failed to OPEN Alarm Trigger 22	ON	2
Filters\F2\ALARMS\Backwash_Pump_1_HIGH_Vacu	F2: Backwash Pump 1 HIGH Vacuum Alarm Trigger 46	ON	2
Filters\F2\ALARMS\Backwash_Pump_2_HIGH_Vacu	F2: Backwash Pump 2 HIGH Vacuum Alarm Trigger 47	ON	2
Filters\F2\ALARMS\Backwash_Valve_1_Failed_to_C	F2: Backwash Valve 1 Failed to CLOSE Alarm Trigger 25	ON	2
Filters\F2\ALARMS\Backwash_Valve_1_Failed_to_C	F2: Backwash Valve 1 Failed to OPEN Alarm Trigger 24	ON	2
Filters\F2\ALARMS\Backwash_Valve_2_Failed_to_C	F2: Backwash Valve 2 Failed to CLOSE Alarm Trigger 27	ON	2
Filters\F2\ALARMS\Backwash_Valve_2_Failed_to_C	F2: Backwash Valve 2 Failed to OPEN Alarm Trigger 26	ON	2
Filters\F2\ALARMS\Backwash_Valve_3_Failed_to_C	F2: Backwash Valve 3 Failed to CLOSE Alarm Trigger 29	ON	2
Filters\F2\ALARMS\Backwash_Valve_3_Failed_to_C	F2: Backwash Valve 3 Failed to OPEN Alarm Trigger 28	ON	2
Filters\F2\ALARMS\Backwash_Valve_4_Failed_to_C	F2: Backwash Valve 4 Failed to CLOSE Alarm Trigger 31	ON	2
Filters\F2\ALARMS\Backwash_Valve_4_Failed_to_C	F2: Backwash Valve 4 Failed to OPEN Alarm Trigger 30	ON	2
Filters\F2\ALARMS\Backwash_Valve_5_Failed_to_C	F2: Backwash Valve 5 Failed to CLOSE Alarm Trigger 33	ON	2
Filters\F2\ALARMS\Backwash_Valve_5_Failed_to_C	F2: Backwash Valve 5 Failed to OPEN Alarm Trigger 32	ON	2
Filters\F2\ALARMS\Backwash_Valve_6_Failed_to_C	F2: Backwash Valve 6 Failed to CLOSE Alarm Trigger 35	ON	2
Filters\F2\ALARMS\Backwash_Valve_6_Failed_to_C	F2: Backwash Valve 6 Failed to OPEN Alarm Trigger 34	ON	2
Filters\F2\ALARMS\Basin_Level_Too_LOW_For_Bac	F2: Basin Level Too LOW For Backwash Alarm Trigger 6	ON	2
Filters\F2\ALARMS\Basin_Level_Too_LOW_For_Slu	F2: Basin Level Too LOW For Sludge Waste Alarm Trigger 7	ON	2
Filters\F2\ALARMS\Effluent_Flow_Transducer_OUT_	F2: Effluent Flow Transducer OUT of RANGE Alarm Trigger 57	ON	2
Filters\F2\ALARMS\Filter_Basin_Level_Transducer_(	F2: Filter Basin Level Transducer OUT of RANGE Alarm Trigger 50	ON	2
Filters\F2\ALARMS\Filter_Effluent_Level_Transducer	F2: Filter Effluent Level Transducer OUT of RANGE Alarm Trigger 51	ON	2
Filters\F2\ALARMS\HPS_Drain_Valve_Failed_to_CL	F2: HPS Drain Valve Failed to CLOSE Alarm Trigger 45	ON	2
Filters\F2\ALARMS\HPS_Drain_Valve_Failed_to_OP	F2: HPS Drain Valve Failed to OPEN Alarm Trigger 44	ON	2
Filters\F2\ALARMS\HPS_Reservoir_Level_LOW	F2: HPS Reservoir Level LOW Alarm Trigger 48	ON	2
Filters\F2\ALARMS\HPS_Wash_Valve_1_Failed_to_	F2: HPS Wash Valve 1 Failed to CLOSE Alarm Trigger 37	ON	2
Filters\F2\ALARMS\HPS_Wash_Valve_1_Failed_to_	F2: HPS Wash Valve 1 Failed to OPEN Alarm Trigger 36	ON	2
Filters\F2\ALARMS\HPS_Wash_Valve_2_Failed_to_	F2: HPS Wash Valve 2 Failed to CLOSE Alarm Trigger 39	ON	2
Filters\F2\ALARMS\HPS_Wash_Valve_2_Failed_to_	F2: HPS Wash Valve 2 Failed to OPEN Alarm Trigger 38	ON	2
Filters\F2\ALARMS\HPS_Wash_Valve_3_Failed_to_	F2: HPS Wash Valve 3 Failed to CLOSE Alarm Trigger 41	ON	2
Filters\F2\ALARMS\HPS_Wash_Valve_3_Failed_to_	F2: HPS Wash Valve 3 Failed to OPEN Alarm Trigger 40	ON	2
Filters\F2\ALARMS\HPS_Wash_Valve_4_Failed_to_	F2: HPS Wash Valve 4 Failed to CLOSE Alarm Trigger 43	ON	2
Filters\F2\ALARMS\HPS_Wash_Valve_4_Failed_to_	F2: HPS Wash Valve 4 Failed to OPEN Alarm Trigger 42	ON	2
Filters\F2\ALARMS\Influent_Turbidity_Transducer_O	F2: Influent Turbidity Transducer OUT of RANGE Alarm Trigger 56	ON	2
Filters\F2\ALARMS\Influent_Valve_Failed_to_CLOSE	F2: Influent Valve Failed to CLOSE Alarm Trigger 21	ON	2
Filters\F2\ALARMS\Influent_Valve_Failed_to_OPEN	F2: Influent Valve Failed to OPEN Alarm Trigger 20	ON	2
Filters\F2\ALARMS\PLC_Battery_LOW	F2: PLC Battery LOW Alarm Trigger 1	ON	2
Filters\F2\ALARMS\Sludge_Valve_Failed_to_CLOSE	F2: Sludge Valve Failed to CLOSE Alarm Trigger 23	ON	2
Filters\F2\ALARMS\Sludge_Valve_Failed_to_OPEN	F2: Sludge Valve Failed to OPEN Alarm Trigger 22	ON	2

IEUA RP-4 SUMMARY OF ALARMS

Tag Name	Description	Direction	Severity
Filters\F3\ALARMS\Backwash_Pump_1_HIGH_Vacu	F3: Backwash Pump 1 HIGH Vacuum Alarm Trigger 46	ON	2
Filters\F3\ALARMS\Backwash_Pump_2_HIGH_Vacu	F3: Backwash Pump 2 HIGH Vacuum Alarm Trigger 47	ON	2
Filters\F3\ALARMS\Backwash_Valve_1_Failed_to_C	F3: Backwash Valve 1 Failed to CLOSE Alarm Trigger 25	ON	2
Filters\F3\ALARMS\Backwash_Valve_1_Failed_to_C	F3: Backwash Valve 1 Failed to OPEN Alarm Trigger 24	ON	2
Filters\F3\ALARMS\Backwash_Valve_2_Failed_to_C	F3: Backwash Valve 2 Failed to CLOSE Alarm Trigger 27	ON	2
Filters\F3\ALARMS\Backwash_Valve_2_Failed_to_C	F3: Backwash Valve 2 Failed to OPEN Alarm Trigger 26	ON	2
Filters\F3\ALARMS\Backwash_Valve_3_Failed_to_C	F3: Backwash Valve 3 Failed to CLOSE Alarm Trigger 29	ON	2
Filters\F3\ALARMS\Backwash_Valve_3_Failed_to_C	F3: Backwash Valve 3 Failed to OPEN Alarm Trigger 28	ON	2
Filters\F3\ALARMS\Backwash_Valve_4_Failed_to_C	F3: Backwash Valve 4 Failed to CLOSE Alarm Trigger 31	ON	2
Filters\F3\ALARMS\Backwash_Valve_4_Failed_to_C	F3: Backwash Valve 4 Failed to OPEN Alarm Trigger 30	ON	2
Filters\F3\ALARMS\Backwash_Valve_5_Failed_to_C	F3: Backwash Valve 5 Failed to CLOSE Alarm Trigger 33	ON	2
Filters\F3\ALARMS\Backwash_Valve_5_Failed_to_C	F3: Backwash Valve 5 Failed to OPEN Alarm Trigger 32	ON	2
Filters\F3\ALARMS\Backwash_Valve_6_Failed_to_C	F3: Backwash Valve 6 Failed to CLOSE Alarm Trigger 35	ON	2
Filters\F3\ALARMS\Backwash_Valve_6_Failed_to_C	F3: Backwash Valve 6 Failed to OPEN Alarm Trigger 34	ON	2
Filters\F3\ALARMS\Basin_Level_Too_LOW_For_Ba	F3: Basin Level Too LOW For Backwash Alarm Trigger 6	ON	2
Filters\F3\ALARMS\Basin_Level_Too_LOW_For_Slu	F3: Basin Level Too LOW For Sludge Waste Alarm Trigger 7	ON	2
Filters\F3\ALARMS\Effluent_Flow_Transducer_OUT	F3: Effluent Flow Transducer OUT of RANGE Alarm Trigger 57	ON	2
Filters\F3\ALARMS\Effluent_Turbidity_Transducer_O	F3: Effluent Turbidity Transducer OUT of RANGE Alarm Trigger 58	ON	2
Filters\F3\ALARMS\Filter_Basin_Level_Transducer_(	F3: Filter Basin Level Transducer OUT of RANGE Alarm Trigger 50	ON	2
Filters\F3\ALARMS\Filter_Effluent_Level_Transducer	F3: Filter Effluent Level Transducer OUT of RANGE Alarm Trigger 51	ON	2
Filters\F3\ALARMS\HPS_Drain_Valve_Failed_to_CL	F3: HPS Drain Valve Failed to CLOSE Alarm Trigger 45	ON	2
Filters\F3\ALARMS\HPS_Drain_Valve_Failed_to_OP	F3: HPS Drain Valve Failed to OPEN Alarm Trigger 44	ON	2
Filters\F3\ALARMS\HPS_Reservoir_Level_LOW	F3: HPS Reservoir Level LOW Alarm Trigger 48	ON	2
Filters\F3\ALARMS\HPS_Wash_Valve_1_Failed_to_	F3: HPS Wash Valve 1 Failed to CLOSE Alarm Trigger 37	ON	2
Filters\F3\ALARMS\HPS_Wash_Valve_1_Failed_to_	F3: HPS Wash Valve 1 Failed to OPEN Alarm Trigger 36	ON	2
Filters\F3\ALARMS\HPS_Wash_Valve_2_Failed_to_	F3: HPS Wash Valve 2 Failed to CLOSE Alarm Trigger 39	ON	2
Filters\F3\ALARMS\HPS_Wash_Valve_2_Failed_to_	F3: HPS Wash Valve 2 Failed to OPEN Alarm Trigger 38	ON	2
Filters\F3\ALARMS\HPS_Wash_Valve_3_Failed_to_	F3: HPS Wash Valve 3 Failed to CLOSE Alarm Trigger 41	ON	2
Filters\F3\ALARMS\HPS_Wash_Valve_3_Failed_to_	F3: HPS Wash Valve 3 Failed to OPEN Alarm Trigger 40	ON	2
Filters\F3\ALARMS\HPS_Wash_Valve_4_Failed_to_	F3: HPS Wash Valve 4 Failed to CLOSE Alarm Trigger 43	ON	2
Filters\F3\ALARMS\HPS_Wash_Valve_4_Failed_to_	F3: HPS Wash Valve 4 Failed to OPEN Alarm Trigger 42	ON	2
Filters\F3\ALARMS\Influent_Turbidity_Transducer_O	F3: Influent Turbidity Transducer OUT of RANGE Alarm Trigger 56	ON	2
Filters\F3\ALARMS\Influent_Valve_Failed_to_CLOSE	F3: Influent Valve Failed to CLOSE Alarm Trigger 21	ON	2
Filters\F3\ALARMS\Influent_Valve_Failed_to_OPEN	F3: Influent Valve Failed to OPEN Alarm Trigger 20	ON	2
Filters\F3\ALARMS\PLC_Battery_LOW	F3: PLC Battery LOW Alarm Trigger 1	ON	2
Filters\F3\ALARMS\Sludge_Valve_Failed_to_CLOSE	F3: Sludge Valve Failed to CLOSE Alarm Trigger 23	ON	2
Filters\F3\ALARMS\Sludge_Valve_Failed_to_OPEN	F3: Sludge Valve Failed to OPEN Alarm Trigger 22	ON	2
Filters\F4\ALARMS\Backwash_Pump_1_HIGH_Vacu	F4: Backwash Pump 1 HIGH Vacuum Alarm Trigger 46	ON	2
Filters\F4\ALARMS\Backwash_Pump_2_HIGH_Vacu	F4: Backwash Pump 2 HIGH Vacuum Alarm Trigger 47	ON	2
Filters\F4\ALARMS\Backwash_Valve_1_Failed_to_C	F4: Backwash Valve 1 Failed to CLOSE Alarm Trigger 25	ON	2
Filters\F4\ALARMS\Backwash_Valve_1_Failed_to_C	F4: Backwash Valve 1 Failed to OPEN Alarm Trigger 24	ON	2
Filters\F4\ALARMS\Backwash_Valve_2_Failed_to_C	F4: Backwash Valve 2 Failed to CLOSE Alarm Trigger 27	ON	2
Filters\F4\ALARMS\Backwash_Valve_2_Failed_to_C	F4: Backwash Valve 2 Failed to OPEN Alarm Trigger 26	ON	2
Filters\F4\ALARMS\Backwash_Valve_3_Failed_to_C	F4: Backwash Valve 3 Failed to CLOSE Alarm Trigger 29	ON	2
Filters\F4\ALARMS\Backwash_Valve_3_Failed_to_C	F4: Backwash Valve 3 Failed to OPEN Alarm Trigger 28	ON	2
Filters\F4\ALARMS\Backwash_Valve_4_Failed_to_C	F4: Backwash Valve 4 Failed to CLOSE Alarm Trigger 31	ON	2
Filters\F4\ALARMS\Backwash_Valve_4_Failed_to_C	F4: Backwash Valve 4 Failed to OPEN Alarm Trigger 30	ON	2
Filters\F4\ALARMS\Backwash_Valve_5_Failed_to_C	F4: Backwash Valve 5 Failed to CLOSE Alarm Trigger 33	ON	2
Filters\F4\ALARMS\Backwash_Valve_5_Failed_to_C	F4: Backwash Valve 5 Failed to OPEN Alarm Trigger 32	ON	2
Filters\F4\ALARMS\Backwash_Valve_6_Failed_to_C	F4: Backwash Valve 6 Failed to CLOSE Alarm Trigger 35	ON	2
Filters\F4\ALARMS\Backwash_Valve_6_Failed_to_C	F4: Backwash Valve 6 Failed to OPEN Alarm Trigger 34	ON	2
Filters\F4\ALARMS\Basin_Level_Too_LOW_For_Ba	F4: Basin Level Too LOW For Backwash Alarm Trigger 6	ON	2
Filters\F4\ALARMS\Basin_Level_Too_LOW_For_Slu	F4: Basin Level Too LOW For Sludge Waste Alarm Trigger 7	ON	2
Filters\F4\ALARMS\Filter_Air_Pressure	F4: Filter Air Pressure Alarm Trigger 8	ON	2
Filters\F4\ALARMS\Filter_Basin_Level_Transducer_(	F4: Filter Basin Level Transducer OUT of RANGE Alarm Trigger 50	ON	2
Filters\F4\ALARMS\Filter_Effluent_Level_Transducer	F4: Filter Effluent Level Transducer OUT of RANGE Alarm Trigger 51	ON	2
Filters\F4\ALARMS\HPS_Drain_Valve_Failed_to_CL	F4: HPS Drain Valve Failed to CLOSE Alarm Trigger 45	ON	2
Filters\F4\ALARMS\HPS_Drain_Valve_Failed_to_OP	F4: HPS Drain Valve Failed to OPEN Alarm Trigger 44	ON	2
Filters\F4\ALARMS\HPS_Reservoir_Level_LOW	F4: HPS Reservoir Level LOW Alarm Trigger 48	ON	2
Filters\F4\ALARMS\HPS_Wash_Valve_1_Failed_to_	F4: HPS Wash Valve 1 Failed to CLOSE Alarm Trigger 37	ON	2
Filters\F4\ALARMS\HPS_Wash_Valve_1_Failed_to_	F4: HPS Wash Valve 1 Failed to OPEN Alarm Trigger 36	ON	2
Filters\F4\ALARMS\HPS_Wash_Valve_2_Failed_to_	F4: HPS Wash Valve 2 Failed to CLOSE Alarm Trigger 39	ON	2
Filters\F4\ALARMS\HPS_Wash_Valve_2_Failed_to_	F4: HPS Wash Valve 2 Failed to OPEN Alarm Trigger 38	ON	2
Filters\F4\ALARMS\HPS_Wash_Valve_3_Failed_to_	F4: HPS Wash Valve 3 Failed to CLOSE Alarm Trigger 41	ON	2
Filters\F4\ALARMS\HPS_Wash_Valve_3_Failed_to_	F4: HPS Wash Valve 3 Failed to OPEN Alarm Trigger 40	ON	2
Filters\F4\ALARMS\HPS_Wash_Valve_4_Failed_to_	F4: HPS Wash Valve 4 Failed to CLOSE Alarm Trigger 43	ON	2
Filters\F4\ALARMS\HPS_Wash_Valve_4_Failed_to_	F4: HPS Wash Valve 4 Failed to OPEN Alarm Trigger 42	ON	2
Filters\F4\ALARMS\Influent_Turbidity_Transducer_O	F4: Influent Turbidity Transducer OUT of RANGE Alarm Trigger 56	ON	2
Filters\F4\ALARMS\Influent_Valve_Failed_to_CLOSE	F4: Influent Valve Failed to CLOSE Alarm Trigger 21	ON	2

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Tag Name	Description	Direction	Severity
Filters\F4\ALARMS\Influent_Valve_Failed_to_OPEN	F4: Influent Valve Failed to OPEN Alarm Trigger 20	ON	2
Filters\F4\ALARMS\PLC_Battery_LOW	F4: PLC Battery LOW Alarm Trigger 1	ON	2
Filters\F4\ALARMS\Sludge_Valve_Failed_to_CLOSE	F4: Sludge Valve Failed to CLOSE Alarm Trigger 23	ON	2
Filters\F4\ALARMS\Sludge_Valve_Failed_to_OPEN	F4: Sludge Valve Failed to OPEN Alarm Trigger 22	ON	2
Reliant\Reliant_PLC_to_RTU2A_comm_fail		ON	2
Reliant\Reliant_Water_High_Level_Alarm		ON	2
Reliant\Reliant_Water_Low_Level_Alarm		ON	2
Reliant\Reliant_Water_Valve_Fail_To_Close		ON	2
Reliant\Reliant_Water_Valve_Fail_To_Open		ON	2
RTU1\ANOX_MX_1_NT_IN_AUTO	ANOXIC MIXER #1 NOT IN AUTO	ON	2
RTU1\ANOX_MX_2_NT_IN_AUTO	ANOXIC MIXER #2 NOT IN AUTO	ON	2
RTU1\ANOX_MX_3_NT_IN_AUTO	ANOXIC MIXER #3 NOT IN AUTO	ON	2
RTU1\ANOX_MX_4_NT_IN_AUTO	ANOXIC MIXER #4 NOT IN AUTO	ON	2
RTU1\ANOX_MX_5_NT_IN_AUTO	ANOXIC MIXER #5 NOT IN AUTO	ON	2
RTU1\ANOX_MX_6_NT_IN_AUTO	ANOXIC MIXER #6 NOT IN AUTO	ON	2
RTU1\ANOX_MX_7_NT_IN_AUTO	ANOXIC MIXER #7 NOT IN AUTO	ON	2
RTU1\ANOX_MX_8_NT_IN_AUTO	ANOXIC MIXER #8 NOT IN AUTO	ON	2
RTU1\ANOX_MX_9_NT_IN_AUTO	ANOXIC MIXER #9 NOT IN AUTO	ON	2
RTU1\ANOXIC_MIXER_1_FAIL	ANOXIC MIXER #1 FAIL	ON	2
RTU1\ANOXIC_MIXER_2_FAIL	ANOXIC MIXER #2 FAIL	ON	2
RTU1\ANOXIC_MIXER_3_FAIL	ANOXIC MIXER #3 FAIL	ON	2
RTU1\ANOXIC_MIXER_4_FAIL	ANOXIC MIXER #4 FAIL	ON	2
RTU1\ANOXIC_MIXER_5_FAIL	ANOXIC MIXER #5 FAIL	ON	2
RTU1\ANOXIC_MIXER_6_FAIL	ANOXIC MIXER #6 FAIL	ON	2
RTU1\ANOXIC_MIXER_7_FAIL	ANOXIC MIXER #7 FAIL	ON	2
RTU1\ANOXIC_MIXER_8_FAIL	ANOXIC MIXER #8 FAIL	ON	2
RTU1\ANOXIC_MIXER_9_FAIL	ANOXIC MIXER #9 FAIL	ON	2
RTU1\BS_Hydro_Warning	Barscreen High Hydrogen Level Warning	ON	2
RTU1\BS_LEL_Warning	Barscreen High LEL Warning	ON	2
RTU1\GEN_BRKR_STATUS	GENERATOR BREAKER STATUS	ON	2
RTU1\INF_PMP_1_NT_IN_AUTO	INFLUENT PUMP #1 NOT IN AUTO (PASSED FROM IPS)	OFF	2
RTU1\INF_PMP_2_NT_IN_AUTO	INFLUENT PUMP #2 NOT IN AUTO (PASSED FROM IPS)	OFF	2
RTU1\INF_PMP_3_NT_IN_AUTO	INFLUENT PUMP #3 NOT IN AUTO (PASSED FROM IPS)	OFF	2
RTU1\INF_PMP_4_NT_IN_AUTO	INFLUENT PUMP #4 NOT IN AUTO (PASSED FROM IPS)	OFF	2
RTU1\INF_PMP_5_NT_IN_AUTO	INFLUENT PUMP #5 NOT IN AUTO (PASSED FROM IPS)	OFF	2
RTU1\MX_3310_1_COS	MX_3310_1 Fail to Start/Stop	ON	2
RTU1\MX_3310_2_COS	MX_3310_2 Fail to Start/Stop	ON	2
RTU1\MX_3310_5_Alarm_Fail	Fail	ON	2
RTU1\MX_3310_5_Alarm_FTStart	Mixer Fail to Start	ON	2
RTU1\MX_3310_5_Alarm_FTStop	Mixer Fail to Stop	ON	2
RTU1\MX_3310_6_Alarm_Fail	Fail	ON	2
RTU1\MX_3310_6_Alarm_FTStart	Mixer Fail to Start	ON	2
RTU1\MX_3310_6_Alarm_FTStop	Mixer Fail to Stop	ON	2
RTU1\MX_3610_1_COS	MX_3610_1 Fail to Start/Stop	ON	2
RTU1\MX_3610_2_COS	MX_3610_2 Fail to Start/Stop	ON	2
RTU1\MX_3610_5_Alarm_Fail	Fail	ON	2
RTU1\MX_3610_5_Alarm_FTStart	Mixer Fail to Start	ON	2
RTU1\MX_3610_5_Alarm_FTStop	Mixer Fail to Stop	ON	2
RTU1\MX_3610_6_Alarm_Fail	Fail	ON	2
RTU1\MX_3610_6_Alarm_FTStart	Mixer Fail to Start	ON	2
RTU1\MX_3610_6_Alarm_FTStop	Mixer Fail to Stop	ON	2
RTU1\MX_3620_1_COS	MX_3620_1 Fail to Start/Stop	ON	2
RTU1\MX_3620_2_COS	MX_3620_2 Fail to Start/Stop	ON	2
RTU1\MX_3620_5_Alarm_Fail	Fail	ON	2
RTU1\MX_3620_5_Alarm_FTStart	Mixer Fail to Start	ON	2
RTU1\MX_3620_5_Alarm_FTStop	Mixer Fail to Stop	ON	2
RTU1\MX_3620_6_Alarm_Fail	Fail	ON	2
RTU1\MX_3620_6_Alarm_FTStart	Mixer Fail to Start	ON	2
RTU1\MX_3620_6_Alarm_FTStop	Mixer Fail to Stop	ON	2
RTU1\WW_LEL_Warning	Wetwell High LEL Warning	ON	2
RTU2\FLC_5110_Alarm_Fail	Flocculator Fail	ON	2
RTU2\FLC_5110_Alarm_FTStart	Flocculator Fail to Start	ON	2
RTU2\FLC_5110_Alarm_FTStop	Flocculator Fail to Stop	ON	2
RTU2\FLC_5120_Alarm_Fail	Flocculator Fail	ON	2
RTU2\FLC_5120_Alarm_FTStart	Flocculator Fail to Start	ON	2
RTU2\FLC_5120_Alarm_FTStop	Flocculator Fail to Stop	ON	2
RTU2\FLC_5130_Alarm_Fail	Flocculator Fail	ON	2
RTU2\FLC_5130_Alarm_FTStart	Flocculator Fail to Start	ON	2
RTU2\FLC_5130_Alarm_FTStop	Flocculator Fail to Stop	ON	2

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Tag Name	Description	Direction	Severity
RTU2\LOW_CHANNEL		ON	2
RTU2\MX_5001_Alarm_Fail	Mixer Fail	ON	2
RTU2\MX_5001_Alarm_FTStart	Mixer Fail to Start	ON	2
RTU2\MX_5001_Alarm_FTStop	Mixer Fail to Stop	ON	2
RTU2\P_7310_Alarm_Fail	Pump Fail	ON	2
RTU2\P_7310_Alarm_FTStart	Pump Fail to Start	ON	2
RTU2\P_7310_Alarm_FTStop	Pump Fail to Stop	ON	2
RTU2\P_7310_Alarm_Hi_Press	High Discharge Pressure	ON	2
RTU2\P_7320_Alarm_Fail	Pump Fail	ON	2
RTU2\P_7320_Alarm_FTStart	Pump Fail to Start	ON	2
RTU2\P_7320_Alarm_FTStop	Pump Fail to Stop	ON	2
RTU2\P_7320_Alarm_Hi_Press	High Discharge Pressure	ON	2
RTU2\P_7410_Alarm_Fail	Pump Fail	ON	2
RTU2\P_7410_Alarm_FTStart	Pump Fail to Start	ON	2
RTU2\P_7410_Alarm_FTStop	Pump Fail to Stop	ON	2
RTU2\P_7410_Alarm_Hi_Press	High Discharge Pressure	ON	2
RTU2\P_7420_Alarm_Fail	Pump Fail	ON	2
RTU2\P_7420_Alarm_FTStart	Pump Fail to Start	ON	2
RTU2\P_7420_Alarm_FTStop	Pump Fail to Stop	ON	2
RTU2\P_7420_Alarm_Hi_Press	High Discharge Pressure	ON	2
RTU2\P_7530_Alarm_Fail	Pump Fail	ON	2
RTU2\P_7530_Alarm_FTStart	Pump Fail to Start	ON	2
RTU2\P_7530_Alarm_FTStop	Pump Fail to Stop	ON	2
RTU2\P_7530_Alarm_Hi_Press	High Discharge Pressure	ON	2
RTU2\P_7540_Alarm_Fail	Pump Fail	ON	2
RTU2\P_7540_Alarm_FTStart	Pump Fail to Start	ON	2
RTU2\P_7540_Alarm_FTStop	Pump Fail to Stop	ON	2
RTU2\P_7540_Alarm_Hi_Press	High Discharge Pressure	ON	2
RTU2\REC_PMP_1_NT_IN_AUTO	RECYCLE PUMP #1 NOT IN AUTO	ON	2
RTU2\REC_PMP_2_NT_IN_AUTO	RECYCLE PUMP #2 NOT IN AUTO	ON	2
RTU2\REC_PMP_ST_LO_LV_ALM	RECYC PUMP STATION LOW LEVEL ALARM	ON	2
RTU2\Sec_Turb_Hi_Alarm	Secondary Splitter box Turbidity Alarm	ON	2
RTU2A\CB1A_Sample_Pump_1_Low_Flow		ON	2
RTU2A\CB1A_TANK_VOL_HALVED		ON	2
RTU2A\CCT_ONE_HALF	ONLY 2 SECTIONS OF CCT ONLINE	ON	2
RTU2A\CCT_ONE_QUARTER	ONLY 1 SECTION OF CCT ONLINE	ON	2
RTU2A\CCT_THREE_QUARTERS	ONLY 3 SECTIONS OF CCT ONLINE	ON	2
RTU3\Aeration_Flex_Air_Low_Flow_1	Aeration Flex Low Flow Alarm	OFF	2
RTU3\Aeration_Flex_Air_Low_Flow_2	Aeration Flex Low Flow Alarm	OFF	2
RTU3\Aeration_Flex_Air_Low_Flow_3	Aeration Basin Train 3 Air Low Flow Alarm	ON	2
RTU3\Aeration_Flex_Air_Low_Flow_5	Aeration Basin Train 5 Air Low Flow Alarm	ON	2
RTU3\Aeration_Flex_Air_Low_Flow_6	Aeration Basin Train 6 Air Low Flow Alarm	ON	2
RTU3\B_REC_P_1_NT_IN_AUTO	BIO RECIRC PUMP #1 NOT IN AUTO	ON	2
RTU3\B_REC_P_2_NT_IN_AUTO	BIO RECIRC PUMP #2 NOT IN AUTO	ON	2
RTU3\B_REC_P_3_NT_IN_AUTO	BIO RECIRC PUMP #3 NOT IN AUTO	ON	2
RTU3\Basin_3E_Grp1_Hi_DO	Basin 3 East Valve Group 1 High DO Alarm	ON	2
RTU3\Basin_3E_Grp1_Hi_Flow	Basin 3 East Valve Group 1 High Flow Alarm	ON	2
RTU3\Basin_3E_Grp1_Lo_DO	Basin 3 East Valve Group 1 Low DO Alarm	ON	2
RTU3\Basin_3E_Grp1_Lo_Flow	Basin 3 East Valve Group 1 Low Flow Alarm	ON	2
RTU3\Basin_3E_Grp2_Hi_DO	Basin 3 East Valve Group 2 High DO Alarm	ON	2
RTU3\Basin_3E_Grp2_Hi_Flow	Basin 3 East Valve Group 2 High Flow Alarm	ON	2
RTU3\Basin_3E_Grp2_Lo_DO	Basin 3 East Valve Group 2 Low DO Alarm	ON	2
RTU3\Basin_3E_Grp2_Lo_Flow	Basin 3 East Valve Group 2 Low Flow Alarm	ON	2
RTU3\Basin_3E_Grp3_Hi_DO	Basin 3 East Valve Group 3 High DO Alarm	ON	2
RTU3\Basin_3E_Grp3_Hi_Flow	Basin 3 East Valve Group 3 High Flow Alarm	ON	2
RTU3\Basin_3E_Grp3_Lo_DO	Basin 3 East Valve Group 3 Low DO Alarm	ON	2
RTU3\Basin_3E_Grp3_Lo_Flow	Basin 3 East Valve Group 3 Low Flow Alarm	ON	2
RTU3\Basin_3E_Grp4_Hi_DO	Basin 3 East Valve Group 4 High DO Alarm	ON	2
RTU3\Basin_3E_Grp4_Hi_Flow	Basin 3 East Valve Group 4 High Flow Alarm	ON	2
RTU3\Basin_3E_Grp4_Lo_DO	Basin 3 East Valve Group 4 Low DO Alarm	ON	2
RTU3\Basin_3E_Grp4_Lo_Flow	Basin 3 East Valve Group 4 Low Flow Alarm	ON	2
RTU3\Basin_3W_Grp1_Hi_DO	Basin 3 West Valve Group 1 High DO Alarm	ON	2
RTU3\Basin_3W_Grp1_Hi_Flow	Basin 3 West Valve Group 1 High Flow Alarm	ON	2
RTU3\Basin_3W_Grp1_Lo_DO	Basin 3 West Valve Group 1 Low DO Alarm	ON	2
RTU3\Basin_3W_Grp1_Lo_Flow	Basin 3 West Valve Group 1 Low Flow Alarm	ON	2
RTU3\Basin_3W_Grp2_Hi_DO	Basin 3 West Valve Group 2 High DO Alarm	ON	2
RTU3\Basin_3W_Grp2_Hi_Flow	Basin 3 West Valve Group 2 High Flow Alarm	ON	2
RTU3\Basin_3W_Grp2_Lo_DO	Basin 3 West Valve Group 2 Low DO Alarm	ON	2
RTU3\Basin_3W_Grp2_Lo_Flow	Basin 3 West Valve Group 2 Low Flow Alarm	ON	2

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Tag Name	Description	Direction	Severity
RTU3\Basin_3W_Grp3_Hi_DO	Basin 3 West Valve Group 3 High DO Alarm	ON	2
RTU3\Basin_3W_Grp3_Hi_Flow	Basin 3 West Valve Group 3 High Flow Alarm	ON	2
RTU3\Basin_3W_Grp3_Lo_DO	Basin 3 West Valve Group 3 Low DO Alarm	ON	2
RTU3\Basin_3W_Grp3_Lo_Flow	Basin 3 West Valve Group 3 Low Flow Alarm	ON	2
RTU3\Basin_3W_Grp4_Hi_DO	Basin 3 West Valve Group 4 High DO Alarm	ON	2
RTU3\Basin_3W_Grp4_Hi_Flow	Basin 3 West Valve Group 4 High Flow Alarm	ON	2
RTU3\Basin_3W_Grp4_Lo_DO	Basin 3 West Valve Group 4 Low DO Alarm	ON	2
RTU3\Basin_3W_Grp4_Lo_Flow	Basin 3 West Valve Group 4 Low Flow Alarm	ON	2
RTU3\Basin_Flex_Train_5_Aborted_Alarm	Train 5 Flex Aborted Alarm	ON	2
RTU3\Basin_Flex_Train_5_Alarm	Flex Failure	ON	2
RTU3\Basin_Flex_Train_6_Aborted_Alarm	Train 6 Flex Aborted Alarm	ON	2
RTU3\Basin_Flex_Train_6_Alarm	Flex Failure	ON	2
RTU3\Oxic_Zone_Aeration_Low_Flow_1	Oxic Zone Aeration Low Flow Alarm Group 1	ON	2
RTU3\Oxic_Zone_Aeration_Low_Flow_2	Oxic Zone Aeration Low Flow Alarm Group 2	ON	2
RTU3\Oxic_Zone_Aeration_Low_Flow_3	Oxic Zone Aeration Low Flow Alarm Group 3	ON	2
RTU3\Oxic_Zone_Aeration_Low_Flow_4	Oxic Zone Aeration Low Flow Alarm Group 4	ON	2
RTU3\Oxic_Zone_Aeration_Low_Flow_5	Oxic Zone Aeration Low Flow Alarm Group 5	ON	2
RTU3\Oxic_Zone_Aeration_Low_Flow_6	Oxic Zone Aeration Low Flow Alarm Group 6	ON	2
RTU3\Oxic_Zone_Aeration_Low_Flow_7	Oxic Zone Aeration Low Flow Alarm Group 7	ON	2
RTU3\Oxic_Zone_Aeration_Low_Flow_8	Oxic Zone Aeration Low Flow Alarm Group 8	ON	2
RTU3\Oxic_Zone_High_DO_1	Oxic Zone High DO Alarm Group 1	ON	2
RTU3\Oxic_Zone_High_DO_2	Oxic Zone High DO Alarm Group 2	ON	2
RTU3\Oxic_Zone_High_DO_3	Oxic Zone High DO Alarm Group 3	ON	2
RTU3\Oxic_Zone_High_DO_4	Oxic Zone High DO Alarm Group 4	ON	2
RTU3\Oxic_Zone_High_DO_5	Oxic Zone High DO Alarm Group 5	ON	2
RTU3\Oxic_Zone_High_DO_6	Oxic Zone High DO Alarm Group 6	ON	2
RTU3\Oxic_Zone_High_DO_7	Oxic Zone High DO Alarm Group 7	ON	2
RTU3\Oxic_Zone_High_DO_8	Oxic Zone High DO Alarm Group 8	ON	2
RTU3\V_3130A_Alarm_Fail	Valve Failure	ON	2
RTU3\V_3130B_Alarm_Fail	Valve Failure	ON	2
RTU3\V_3135A_Failure	Valve Failure	ON	2
RTU3\V_3135B_Failure	Valve Failure	ON	2
RTU3\V_3410_5_Alarm_Fail	Valve Failure	ON	2
RTU3\V_3410_6_Alarm_Fail	Valve Failure	ON	2
RTU3\V_3420_5_Alarm_Fail	Valve Failure	ON	2
RTU3\V_3420_6_Alarm_Fail	Valve Failure	ON	2
RTU3\V_3430_5_Alarm_Fail	Valve Failure	ON	2
RTU3\V_3430_6_Alarm_Fail	Valve Failure	ON	2
RTU3\V_3440_5_Alarm_Fail	Valve Failure	ON	2
RTU3\V_3440_6_Alarm_Fail	Valve Failure	ON	2
RTU3\V_3450_5_Alarm_Fail	Valve Failure	ON	2
RTU3\V_3450_6_Alarm_Fail	Valve Failure	ON	2
RTU3\V_3460_5_Alarm_Fail	Valve Failure	ON	2
RTU3\V_3460_6_Alarm_Fail	Valve Failure	ON	2
RTU3\V_3470_5_Alarm_Fail	Valve Failure	ON	2
RTU3\V_3470_6_Alarm_Fail	Valve Failure	ON	2
RTU3\V_3480_5_Alarm_Fail	Valve Failure	ON	2
RTU3\V_3480_6_Alarm_Fail	Valve Failure	ON	2
RTU3\V_3710_5_Alarm_Fail	Valve Failure	ON	2
RTU3\V_3710_6_Alarm_Fail	Valve Failure	ON	2
RTU3\V_3720_5_Alarm_Fail	Valve Failure	ON	2
RTU3\V_3720_6_Alarm_Fail	Valve Failure	ON	2
RTU3A\BASIN_1_NO_FM_SELECTED	BASIN 1 NO FLOW METER SELECTED	ON	2
RTU3A\BASIN_2_NO_FM_SELECTED	BASIN 2 NO FLOW METER SELECTED	ON	2
RTU3A\BASIN_3_NO_FM_SELECTED	BASIN 3 NO FLOW METER SELECTED	ON	2
RTU4\UP_PRI_ONE	UPLAND PRIORITY ONE ALARM	ON	2
RTU5\MX_6010_Alarm_Fail	Pump Fail	ON	2
RTU5\MX_6010_Alarm_FTStart	Mixer Fail to Start	ON	2
RTU5\MX_6010_Alarm_FTStop	Mixer Fail to Stop	ON	2
RTU5\RP4_PRESS_MODE	RP4 PRESS MODE	ON	2
RTU5\RP4_PRESS_MODE_CALL	RP4 CALL FOR PRESS MODE	ON	2
RTU6\Clar1_LEL_Warn	Clarifier 1 LEL Warning	ON	2
RTU6\Clar2_LEL_Warn	Clarifier 2 LEL Warning	ON	2
RTU6\LIT_4101_HMI_High_Level_Alarm	Secondary Scum Pit High Level Alarm	ON	2
RTU6\MX_2010_COS	MX_2010 Fail to Start/Stop	ON	2
RTU6\P_3550_Alarm_Fail	Pump Fail	ON	2
RTU6\P_3550_Alarm_FTStart	Pump Fail to Start	ON	2
RTU6\P_3550_Alarm_FTStop	Pump Fail to Stop	ON	2
RTU6\P_3560_Alarm_Fail	Pump Fail	ON	2

IEUA RP-4 SUMMARY OF ALARMS

Tag Name	Description	Direction	Severity
RTU6\P_3560_Alarm_FTStart	Pump Fail to Start	ON	2
RTU6\P_3560_Alarm_FTStop	Pump Fail to Stop	ON	2
RTU6\P_4210_COS	P_4210 Fail to Start/Stop	ON	2
RTU6\P_4220_COS	P_4220 Fail to Start/Stop	ON	2
RTU6\P_4230_COS	P_4230 Fail to Start/Stop	ON	2
RTU6\P_7110_Alarm_Fail	Pump Fail	ON	2
RTU6\P_7110_Alarm_FTStart	Pump Fail to Start	ON	2
RTU6\P_7110_Alarm_FTStop	Pump Fail to Stop	ON	2
RTU6\P_7110_Alarm_Hi_Press	High Discharge Pressure	ON	2
RTU6\P_7120_Alarm_Fail	Pump Fail	ON	2
RTU6\P_7120_Alarm_FTStart	Pump Fail to Start	ON	2
RTU6\P_7120_Alarm_FTStop	Pump Fail to Stop	ON	2
RTU6\P_7120_Alarm_Hi_Press	High Discharge Pressure	ON	2
RTU6\P_7210_Alarm_Fail	Blender Fail	ON	2
RTU6\P_7210_Alarm_FTStart	Blender Fail to Start	ON	2
RTU6\P_7210_Alarm_FTStop	Blender Fail to Stop	ON	2
RTU6\P_7220_Alarm_Fail	Blender Fail	ON	2
RTU6\P_7220_Alarm_FTStart	Blender Fail to Start	ON	2
RTU6\P_7220_Alarm_FTStop	Blender Fail to Stop	ON	2
RTU6\SLC_2110_COS	Change of State Alarm	ON	2
RTU6\SLC_2120_Alarm_Fail	Sludge Collector Fail	ON	2
RTU6\SLC_2120_Alarm_FTStart	Sludge Collector Fail to Start	ON	2
RTU6\SLC_2120_Alarm_FTStop	Sludge Collector Fail to Stop	ON	2
RTU6\SLC_2120_Alarm_Over_Torq	High Torque	ON	2
RTU6\SLC_2120_COS	Change of State Alarm	ON	2
RTU6\SLC_4110_Alarm_Fail	Sludge Collector Fail	ON	2
RTU6\SLC_4110_Alarm_FTStart	Sludge Collector Fail to Start	ON	2
RTU6\SLC_4110_Alarm_FTStop	Sludge Collector Fail to Stop	ON	2
RTU6\SLC_4110_Alarm_Over_Torq	High Torque	ON	2
RTU6\SLC_4120_COS	Change of State Alarm	ON	2
RTU6\SLC_4130_COS	Change of State Alarm	ON	2
FILT\1_IN_BACKWASH	Unit #1 In Back Wash To Scada	ON	3
FILT\1_IN_FLUSH	Unit #1 In Flush To Scada	ON	3
FILT\2_IN_BACKWASH	Unit #2 In Back Wash To Scada	ON	3
FILT\2_IN_FLUSH	Unit #2 In Flush To Scada	ON	3
FILT\3_IN_BACKWASH	Unit #3 In Back Wash To Scada	ON	3
FILT\3_IN_FLUSH	Unit #3 In Flush To Scada	ON	3
FILT\4_IN_BACKWASH	Unit #4 In Back Wash To Scada	ON	3
FILT\4_IN_FLUSH	Unit #4 In Flush To Scada	ON	3
FILT\5_IN_BACKWASH	UNIT #5 IN BACKWASH TO SCADA	ON	3
FILT\5_IN_FLUSH	UNIT #5 IN FLUSH	ON	3
FILT\6_IN_BACKWASH	UNIT #6 IN BACKWASH TO SCADA	ON	3
FILT\6_IN_FLUSH	UNIT #6 IN FLUSH	ON	3
FILT\7_IN_BACKWASH	UNIT #7 IN BACKWASH TO SCADA	ON	3
FILT\7_IN_FLUSH	UNIT #7 IN FLUSH	ON	3
FILT\8_IN_BACKWASH	UNIT #8 IN BACKWASH TO SCADA	ON	3
FILT\8_IN_FLUSH	UNIT # 8 IN FLUSH	ON	3
RTU2\EFF_GT_NOT_AUTO	HOA NOT IN AUTO	ON	3
Win911_Alarm_HB		ON	8

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Inland Empire Utilities Agency
Regional Plant No. 5
Title 22 Engineering Report

December 2010

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Inland Empire Utilities Agency
Regional Plant No. 5
Title 22 Engineering Report

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Section 1
Introduction

The purpose of this engineering report is to evaluate the treatment and reliability features of Regional Plant No. 5 (RP-5), which is owned and operated by Inland Empire Utilities Agency (IEUA). This report demonstrates RP-5's compliance with water recycling criteria and the design and reliability requirements set forth in Title 22 of the California Code of Regulations. This section describes the background of the facility and the objective of this document.

1.1 Background

Sewage from IEUA service area is treated in four regional water reclamation plants: (1) Regional Plant No. 1 (RP-1), (2) Regional Plant No. 4 (RP-4), (3) Carbon Canyon Water Reclamation Facility (CCWRF), and (4) RP-5. Regional Plant No. 2 (RP-2) handles biosolids from CCWRF and RP-5. IEUA owns and operates RP-5, located in San Bernardino County west of Interstate 15 and between State Route 60 and State Route 91. The plant site is located immediately east of IEUA's administrative headquarters on Kimball Avenue in the City of Chino.

RP-5 began operation in March 2004 to replace the liquid treatment process at RP-2. RP-5 treats domestic and commercial/industrial wastewater from the Cities of Chino and Chino Hills and portions of Ontario, Montclair, and Upland. In addition, RP-1 and CCWRF have the capability to divert influent peak flows to RP-5.

RP-5 is designed to treat an annual average flow of 15 million gallons per day (mgd) from RP-5's service area plus 1.3 mgd of liquid return flows from the RP-2 Lift Station.

Tertiary treated effluent from RP-5 is discharged to Chino Creek, which is tributary to Reach 3 of the Santa Ana River. Effluent is also used in IEUA's recycled water distribution system for landscape irrigation and other approved recycled water uses.

1.2 Objective

The objective of this report is to demonstrate RP-5 compliance with California Code of Regulations Title 22, Division 4, Chapter 3, entitled Water Recycling Criteria (California, 2001). Section 60323, Article 7 of these Criteria requires submittal of an engineering report to the Regional Water Quality Control Board (RWQCB) and California Department of Public Health (CDPH).

RP-5 operates under a consolidated permit with three other IEUA plants, including RP-1, RP-4 and CCWRF, issued by the Regional Water Quality Control

Board, Santa Ana Region (RWQCB) as National Pollutant Discharge Elimination System (NPDES) Permit No. CA8000409 and Order No. R8-2009-0021 (RWQCB, 2009). A copy of the permit is included in Appendix A.

Section 2
Regulatory Requirements

Wastewater treatment, disposal, and reuse are regulated by local, State, and Federal requirements primarily to protect public health, safety, and general welfare. In California, water recycling has received support from the U.S. Environmental Protection Agency (EPA), State Water Resources Control Board (SWRCB), and CDPH as a means of effluent reuse and disposal. This section describes the types of reuse and regulatory requirements that pertain to RP-5.

2.1 Types of Reuse

Tertiary treated effluent from RP-5 Discharge Point No. 007 (DP 007) ties into IEUA's recycled water distribution system at the Pine Avenue recycled water line, which is located in Pressure Zone 800 at the south end of IEUA's service area. The IEUA recycled water system supplies water for beneficial uses including landscape irrigation, agricultural irrigation, and industrial use. Effluent from RP-5 is also used for in-plant uses such as spray and washdown, pump seals, and irrigation. IEUA also operates recycled water groundwater recharge facilities; however, only effluent from RP-1 and RP-4 is approved for use as groundwater recharge. Due to the location of RP-5's recycled water effluent connection point, no RP-5 effluent is used for groundwater recharge.

A portion of RP-5's final effluent that is not reused is dechlorinated and discharged to the adjacent Chino Creek, by Discharge Point No. 3 (DP 003), which is tributary to Reach 3 of the Santa Ana River.

Refer to Section 8 for additional information on recycled water users.

2.2 Water Recycling Criteria

Water recycling criteria are specified in the California Code of Regulations, Title 22, Division 4, Chapter 3, Sections 60301 through 60355. Water reclamation requirements and guidelines are established by CDPH. Enforcement of these criteria is the role of the SWRCB and its nine Regional Water Quality Control Boards. RP-5 is under the jurisdiction of Regional Board No. 8, the Santa Ana River Basin RWQCB.

Commonly referred to as Title 22 Criteria, the treatment and effluent quality requirements are dependent upon the proposed type of water reuse. In addition to these requirements, Title 22 specifies reliability criteria to ensure protection of public health.

Effluent from RP-5 must comply with the highest categories of reuse for spray irrigation and non-restricted recreational and landscape impoundments. Under Title 22, wastewater is required to be oxidized, coagulated (as needed for

turbidity reduction – see Section 3), filtered, and disinfected, or treated by a sequence of unit processes assuring an equivalent degree of treatment and reliability. Title 22 specifies that recycled water for the highest level of reuse shall be disinfected tertiary effluent. The NPDES permit requires the flow from RP-5 to meet that requirement, except when the receiving water provides a dilution flow of 20:1 or greater. In that case the effluent can be a disinfected oxidized wastewater with a median number of coliforms not exceeding a most probable number (MPN) of 23 per 100 milliliters (mL). However, since RP-5 recycled water will be pumped directly to users or will be pumped to Chino Creek, RP-5 will have to comply with the requirements for disinfected tertiary effluent at all times, even though some of the water may eventually be discharged to Chino Creek during periods when dilutions of 20:1 are available.

With regard to filtration, the Title 22 Water Recycling Criteria specify a maximum filtration rate and effluent turbidity requirements. For continuous backwashing, upflow tertiary filters like those at RP-5, the maximum filtration rate is limited to 5 gallons per minute per square foot (gpm/sq ft) of surface area. Under Title 22, the turbidity of the filtered wastewater may not exceed any of the following:

(1) An average of 2 Nephelometric Turbidity Units (NTU) within a 24-hour period;

(2) 5 NTU more than 5 percent of the time within a 24-hour period; and

(3) 10 NTU at any time.

RWQCB Order No. R8-2009-0021 (RWQCB, 2009) specifies that RP-5 must meet the turbidity requirements specified in Title 22, as summarized above.

Permissible coliform bacteria levels are used as an indicator of effluent quality. Requirements for water reuse for spray irrigation and non-restricted recreational and landscape impoundments are:

(1) The median number of total coliform bacteria must not exceed 2.2 MPN per 100 mL sample of effluent for the previous 7 days for which bacteriological analyses have been completed;

(2) The median number of total coliform bacteria must not be more than 23 MPN per 100 mL sample of effluent in more than one sample within any 30-day period; and

(3) No sample may exceed an MPN of 240 total coliform bacteria per 100 mL.

If a chlorination disinfection process is used, such as that being implemented at RP-5, Title 22 specifies that a contact time (CT) value of at least 450 milligram-minutes per liter (mg-min/L) at all times with a modal contact time of at least 90 minutes (based on peak dry weather design flow) be provided.

In addition to treatment and effluent quality, Title 22 sets forth general reliability requirements. The facilities must be designed for flexibility so that a high degree of treatment can be achieved under varying conditions. Components of a flexible design include multiple or standby treatment units or pieces of equipment. In addition, alarms are required to alert plant operators of power supply failure or failure of any treatment plant unit processes. In the event of a power supply failure, Title 22 requires the plant to provide either a standby power source or automatically actuated short-term or long-term storage or disposal provisions.

In order to assure that wastewater reclamation facilities comply with the regulations, Title 22 requires that an engineering report describing the proposed reclamation system and the means for the system complying with listed requirements be prepared and submitted to the RWQCB and CDPH for approval. The engineering report must be amended or resubmitted in the event that there are significant modifications to an existing project.

2.3 Creek Discharge Requirements

Effluent that is not used for irrigation or reuse is discharged to Chino Creek, which is designated as Discharge Point No. 003 (DP 003). The IEUA consolidated NPDES permit (RWQCB, 2009) requires that discharges to the creek be disinfected tertiary effluent suitable for non-restricted recreational impoundments as required under Title 22, except when the creek provides at least a 20:1 dilution ratio.

When at least 20:1 dilution of the wastewater effluent can be provided by the natural flow of the creek at the point of discharge, the discharge may be disinfected secondary effluent. The discharge shall be considered adequately disinfected if the weekly average number of coliform bacteria does not exceed a median of 23 MPN per 100 mL as determined from the daily coliform bacteria values for the last seven days.

2.4 User Rules

The use of recycled water from the regional water distribution system is regulated by IEUA's Ordinance No. 69 (IEUA, 2000). This ordinance requires all users to apply for and receive a Recycled Water User Permit to be eligible to receive recycled water service from IEUA. All users must pay recycled water rates and comply with all appropriate on-site controls. A copy of IEUA Ordinance No. 69 is included in Appendix B.

Other ordinances provide for the regulation and use of recycled water for the cities of Ontario, Chino and Chino Hills. The City of Ontario has Ordinance No. 2689 (Ontario, 1999); the City of Chino has ordinance No. 98-12 (Chino, 1998); and the City of Chino Hills has Ordinance No. 101 (Chino Hills, 1998). Copies of these City ordinances are also included in Appendix B. These ordinances establish the requirements to obtain Recycled Water User Permits and for each

user to submit a report to the City, which must be approved by CDPH and the County Environmental Health Department. The report is required to include the following information:

a. The average number of persons estimated to be served at each use site area on a daily basis.

b. The specific boundaries of the proposed use site area including a map showing the location of each facility, drinking water fountain, and impoundment to be used.

c. The person(s) responsible for operation of the recycled water system at each use area.

d. The specific use to be made of the recycled water at each use area.

e. The methods to be used to assure that the installation and operation of the recycled water system will not result in cross connections between the recycled water and potable water piping systems. This shall include a description of the pressure, dye or other test methods to be used to test the system.

f. Plans and specifications which include the following:

   (1) Proposed piping system to be used.
   (2) Pipe locations of both the recycled and potable systems.
   (3) Type and location of the outlets and plumbing fixtures that will be accessible to the public.
   (4) The methods and devices to be used to prevent backflow of recycled water into the potable water system.
   (5) Plan notes relating to specific installation and use requirements.

Section 3
Wastewater Flow and Quality

This section describes wastewater flow and quality characteristics, as well as treated effluent quality limitations for RP-5.

3.1 Wastewater Flow Characteristics

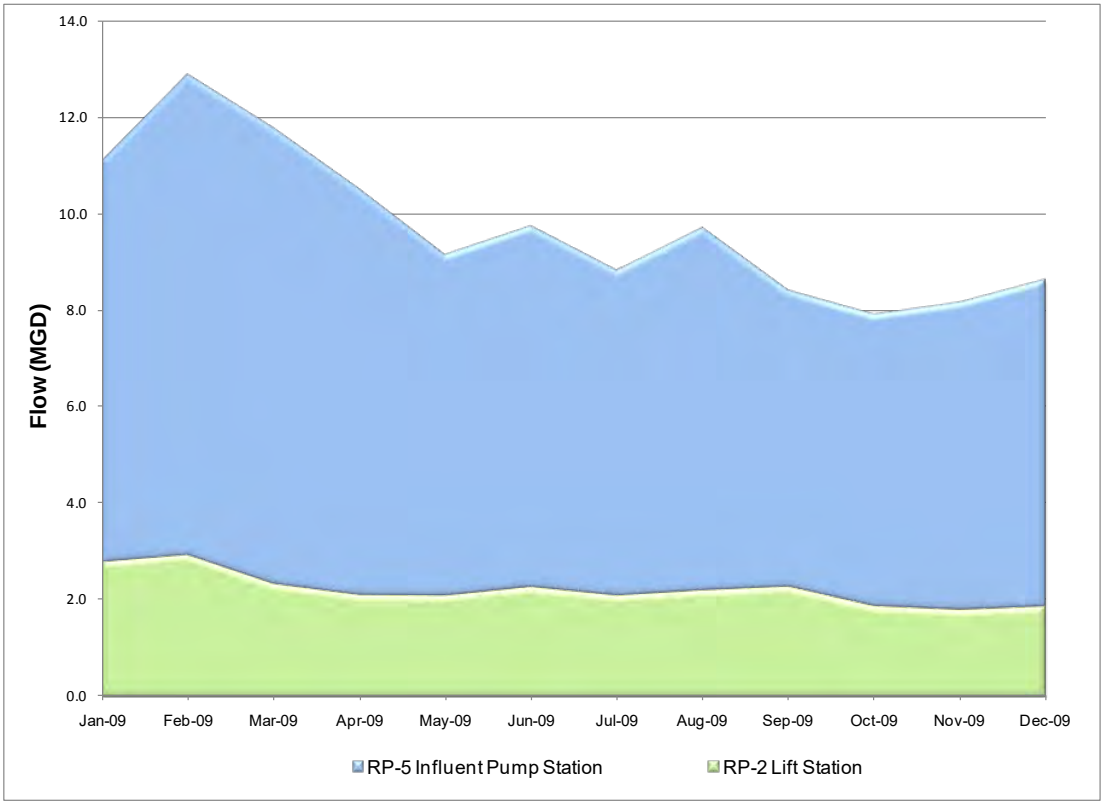
Influent and effluent flows are monitored continuously at RP-5. Table 3-1 summarizes flow data from January 2009 through December 2009. Figure 3-1 illustrates the breakdown of the two influent flow streams at RP-5 during 2009: RP-5 Influent Pump Station and RP-2 Lift Station. The total raw influent flow shown in the table below is the sum of RP-5 influent flow as measured at the RP-5 Influent Pump Station and RP-2 return flow as measured at the RP-2 Lift Station. The RP-2 Lift Station conveys liquid return flow from the RP-2 solids processes to RP-5, discharging downstream of the RP-5 Influent Pump Station. (For more information on locations of these flow streams, please see Section 4.)

Table 3-1
Average Influent and Effluent Flows[1]

Flow Stream	Minimum Monthly (mgd) [3, 4]	Average Month (mgd)	Maximum Month (mgd) [5, 6]
Raw Influent Flow (RP-5 Influent Pump Station only)	6.0	7.5	10.0
Raw Influent Flow (RP-2 Lift Station only)	1.8	2.2	2.9
Total Raw Influent Flow (Total flow to RP-5 Treatment Facility)[2]	7.9	9.7	12.9
Effluent Flow	7.5	9.1	11.4

1. Reference: IEUA, 2010a, monthly average flow data for 2009. Values may not be additive because they occur during different months as listed below.
2. Total Raw Influent Flow to RP-5 includes RP-5 Influent Pump Station Flows and RP-2 Lift Station Flows. (Note that RP-2 Lift Station return flows enter the RP-5 facility downstream of the RP-5 Influent Pump Station.)
3. Minimum monthly average raw influent flows occurred as follows:
   - RP-5 Influent Pump Station only — October 2009
   - RP-2 Lift Station only — November 2009
   - Total (RP-5 Influent Pump Station + RP-2 Lift Station) — October 2009
4. Minimum monthly average effluent flow occurred in September 2009.
5. Maximum monthly average raw influent flows occurred as follows:
   - RP-5 Influent Pump Station only — February 2009
   - RP-2 Lift Station only — February 2009
   - Total (RP-5 Influent Pump Station + RP-2 Lift Station) — February 2009
6. Maximum monthly average effluent flow occurred in February 2009.

Figure 3-1
Average Daily Influent Flow
Regional Plant No. 5



3.2 Influent Quality Characteristics

The chemical composition of raw wastewater influent to RP-5 based on 2009 data is summarized in Table 3-2.

Table 3-2
Typical Influent Wastewater Characteristics[1,2]

Constituent	Units	Minimum	Average	Maximum
Specific Conductance	µmhos/cm	986	1,089	1,271
pH	unit	7.1	7.5	7.7
Total Organic Carbon (TOC)	mg/L	100	117	141
Total Suspended Solids (TSS)	mg/L	124	221	313
Total Dissolved Solids (TDS)	mg/L	485	514	560
Biochemical Oxygen Demand (BOD_5)	mg/L	186	214	253
Ammonia – Nitrogen (NH_3-N)	mg/L	32.6	37.5	42.7
Total Inorganic Nitrogen (TIN)	mg/L	30.6	33.9	40.7
Boron	mg/L	0.2	0.2	0.3

Table 3-2
Typical Influent Wastewater Characteristics[1,2]

Constituent	Units	Minimum	Average	Maximum
Chloride	mg/L	102	121	175
Cyanide	µg/L	<2	<2	<2
Fluoride	mg/L	0.2	0.3	1.7
Sodium	mg/L	79	89	115
Sulfate	mg/L	35	39	46
Total Hardness	mg/L	151	203	244
Arsenic	µg/L	<10	<10	<10
TR Cadmium	µg/L	<10	<10	<10
TR Copper	µg/L	48	59	77
TR Chromium	µg/L	<10	<10	<10
TR Lead	µg/L	<20	<20	<20
TR Mercury	µg/L	<0.5	<1	<1
TR Nickel	µg/L	<10	<10	<10
TR Selenium	µg/L	<20	<21	<28
TR Silver	µg/L	<10	<10	<10
TR Zinc	µg/L	94	122	167

1. Source: IEUA, 2010a. RP-5 influent monitoring data are calculated by flow-weighting data from RP-5 Influent Pump Station and data from RP-2 Lift station.
2. Minimum value for each parameter is the minimum of all monthly averages for 2009. Maximum value for each parameter is the maximum of all monthly averages for 2009. Average value for each parameter is the average of the monthly averages for 2009.

3.3 Source Control

IEUA maintains a comprehensive industrial pretreatment and source control program to control waste discharges from point sources into the wastewater collection system. The focus of this source control program is to prevent adverse effects on the treatment facilities and the environment. IEUA owns and operates a non-reclaimable wastewater (NRW) collection and conveyance system that provides disposal for industrial wastewater and brines. The NRW discharges either into the Orange County Sanitation District's wastewater treatment facilities or to the Sanitation Districts of Los Angeles County wastewater treatment facilities for treatment and disposal. The industrial pretreatment program and the NRW system provide source control and salinity management for the IEUA water recycling facilities.

3.4 Effluent Quality Limits

Effluent discharge limits established for RP-5 in RWQCB Order No. R8-2009-0021, NPDES Permit No. CA8000409 (RWQCB, 2009), became effective on July 20, 2009. The RWQCB issues discharge limits based on the beneficial uses and water quality objectives established in the "Santa Ana River Basin Water Quality Control Plan" (RWQCB, 2008), commonly referred to as the "Basin Plan", which

was updated to include the Basin Plan Amendment (RWQCB, 2004), and recommendations from other regulatory agencies, such as CDPH. RP-5 is a tertiary treatment plant that produces recycled water for reuse in the IEUA service area. RP-5 discharges a portion of its effluent to Chino Creek through Discharge Point No. 003 (DP 003), which discharges to Reach 3 of the Santa Ana River. Solids from RP-5 are conveyed to RP-2 for removal and treatment. Specific effluent quality requirements for RP-5 are discussed below.

3.4.1 Biochemical Oxygen Demand and Suspended Solids Limits

Table 3-3 lists biochemical oxygen demand (BOD) and total suspended solids (TSS) limits from the RP-5 discharge permit. These values are achievable with tertiary treatment and are intended to ensure that only adequately oxidized wastewater is discharged.

Table 3-3
Effluent BOD and TSS Limitations[1]

Constituent	Average Weekly Concentration (mg/L)	Average Monthly Concentration (mg/L)
For Discharges Without 20:1 Dilution:		
BOD	30	20
TSS	30	20
For Discharges With 20:1 Dilution:		
BOD	45	30
TSS	45	30

1. Source: RWQCB, 2009.

3.4.2 Ammonia-Nitrogen and Chlorine Residual Limits

Table 3-4 lists the ammonia-nitrogen and total chlorine residual concentration limits for protection of receiving waters.

Table 3-4
Effluent Ammonia-Nitrogen and Chlorine Residual Limitations[1]

Constituent	Instantaneous Maximum (mg/L)	Average Monthly (mg/L)
Ammonia-Nitrogen	---	4.5
Total Chlorine Residual (For Discharges Without 20:1 Dilution)	0.1 [2]	---

Table 3-4
Effluent Ammonia-Nitrogen and Chlorine Residual Limitations[1]

Constituent	Instantaneous Maximum (mg/L)	Average Monthly (mg/L)
Total Chlorine Residual (For Discharges With 20:1 Dilution)	2.1 [3]	---

1. Source: RWQCB, 2009.
2. Compliance with the total instantaneous chlorine residual limit of 0.1 mg/L is based on 99% compliance as defined by the following conditions:
    a. The total time during which the total chlorine residual values are above 0.1 mg/L shall not exceed 7 hours and 26 minutes in any calendar month.
    b. No individual excursion from the 0.1 mg/L value shall exceed 5 minutes in duration; and
    c. No individual excursion shall exceed 5.0 mg/L.
3. Compliance with the total instantaneous chlorine residual limit of 2.1 mg/L is based on 99% compliance as defined by the following conditions:
    a. The total time during which the total chlorine residual values are above 2.1 mg/L shall not exceed 7 hours and 26 minutes in any calendar month;
    b. No individual excursion from the 2.1 mg/L value shall exceed 5 minutes in duration; and
    c. No individual excursion shall exceed 10.5 mg/L.

3.4.3 Total Dissolved Solids and Total Inorganic Nitrogen Limits

Restrictions are imposed for effluent salinity and Total Inorganic Nitrogen (TIN). Total Dissolved Solids (TDS) and TIN limits are summarized in Table 3-5 on the following page.

Compliance with effluent TDS permit specifications is based on the lower of either of the two following conditions:

(1) The 12-month flow weighted running average TDS concentration shall not exceed 550 mg/L. This limitation may be met on an agency-wide basis using flow weighted averages of the discharges from all IEUA treatment plants; or

(2) The 12-month flow weighted running average TDS concentration shall not exceed the 12-month flow weighted running average TDS concentration in the water supply by more than 250 mg/L.

The first of these conditions reflects the RWQCB's intention to regulate all IEUA wastewater treatment facilities in the Chino North "Maximum Benefit" Groundwater Management Zone as a group. In the second condition, the permit recognizes that effluent TDS is based on the TDS of the water supply sources utilized in the IEUA service area. By doing so, the RWQCB will not initiate enforcement action for TDS limit violations if the violation is due to the TDS of the water supply sources utilized in the IEUA service area and that all reasonable steps have been taken to ensure that the best TDS quality supplies are obtained

and utilized in the service area. Furthermore, the RWQCB will not initiate enforcement action for violations of the TDS limits if the cause is solely due to chemical additions in the treatment processes needed to meet the waste discharge requirements, provided that IEUA has taken steps to optimize chemical additions to minimize TDS increases.

TIN is the sum of nitrate, nitrite, and ammonia, measured as nitrogen. The TIN limits in the RP-5 permit are based on the RWQCB's revised wasteload allocation for TIN in Publicly Owned Treatment Works discharges to the Santa Ana River and its tributaries and to groundwater in the Upper Santa Ana River Basin. The RP-5 permit allows IEUA to offset nitrogen discharges in excess of the TIN limits provided that an equivalent amount of nitrogen is removed at one of IEUA's other wastewater treatment plants. In other words, the permit specifies that if the TIN limit is exceeded at RP-5, compliance shall be achieved by removal of an equivalent amount of TIN under this nitrogen offset program. To comply with this requirement, IEUA needs to remove an equivalent amount of TIN from its other facilities including RP-1, RP-4 and/or CCWRF. The intent of the offset program is that the total TIN in the effluent discharges from RP-1/RP-4, RP-5, and CCWRF not be exceeded in a regional nitrogen management approach.

Table 3-5
Effluent TDS and TIN Limitations[1]

Constituent	12-Month Running Average (mg/L)
TDS	550 [2]
TIN	8 [3]

1. Source: RWQCB, 2009.
2. The 12-month flow weighted running average TDS concentration shall not exceed the 12-month flow weighted running average TDS in the water supply by more than 250 mg/L. Compliance is based on the lower of the two limits, either 550 mg/L or 250 mg/L above the average water supply.
3. The 12-month flow weighted running average TIN concentration may be met on an agency-wide basis using the flow weighted averages of discharges from all IEUA's treatment facilities.

3.4.4 Trace Constituent Effluent Limitations

The RP-5 NPDES permit specifies maximum concentrations for trace constituents in the effluent as summarized in Table 3-6.

Table 3-6
Effluent Trace Constituent Limitations[1]

Constituent	Maximum Daily Concentration (μg/L)	Average Monthly Concentration (μg/L)
Cyanide, Free	7.3	4.6
Bromodichloromethane	92	46

1. Source: RWQCB, 2009.

The permit states that cyanide and bromodichloromethane are the only priority pollutants determined to have reasonable potential to exceed water quality objectives. (Refer to Attachment F of the permit (RWQCB, 2009) for the calculation process for determining the effluent limitations)

3.4.5 Other Effluent Limitations

Treatment requirements specified in the NPDES permit are dependent upon the flow in the receiving waters and the amount of effluent dilution that will be provided. (Monitoring location R-003U, which is located within 100 feet upstream of the discharge point to the creek, DP-003, is used to determine the dilution ratio in Chino Creek.)

3.4.5.1 Discharges Without 20:1 Dilution

If the flow in Chino Creek is less than that required for a 20:1 (ratio of receiving water flow to wastewater flow) dilution at the point of discharge, the discharge must be tertiary effluent that has been adequately oxidized, coagulated, filtered, and disinfected.

The discharge is considered adequately filtered if the turbidity does not exceed:

(1) An average of 2 NTU within a 24-hour period;
(2) 5 NTU more than 5 percent of the time during any 24-hour period; and
(3) 10 NTU at any time.

The discharge is considered adequately disinfected if:

(1) The median number of coliform organisms does not exceed 2.2 MPN per 100 mL over the last seven days;
(2) The number of coliform organisms does not exceed an MPN of 23 per 100 mL in more than one sample within any 30-day period, and
(3) The number of coliform organisms does not exceed an MPN of 240 per 100 mL in any sample.

3.4.5.2 Discharges With 20:1 Dilution

If the flow in Chino Creek is more than that required for a 20:1 dilution at the point of discharge, the discharge must be at least secondary effluent that has

been adequately oxidized and disinfected. The discharge is considered adequately disinfected if the median number of coliform organisms does not exceed 23 MPN per 100 mL as determined from the daily coliform bacteria values for the last seven days.

3.4.5.3 Oil and Grease, pH, and Toxicity Limitations

The NPDES permit includes other general effluent limitations that restrict oil and grease, pH and toxicity for all discharges. Visible oil and grease in the effluent is not permissible, and the effluent pH must be within 6.5 and 8.5 standard units. Compliance determinations for pH require compliance with the following conditions:

(1) The total time during which the pH values are outside the required range of 6.5 to 8.5 units shall not exceed 7 hours and 26 minutes in any calendar month; and
(2) No individual excursion from the range of 6.5 to 8.5 pH units shall exceed 60 minutes.

Effluent toxicity is required to be monitored monthly. Monitoring of toxicity shall be accelerated as specified in the NPDES permit when the result of any single chronic toxicity test of the effluent exceeds 1.0 chronic toxicity units (TUc). An Initial Investigation Toxicity Reduction Evaluation (IITRE) shall be developed and followed when the result of the chronic toxicity tests exceeds a two month median value of 1.0 TUc for survival or reproduction endpoint, or 1.7 TUc for survival endpoint for any single test.

3.4.5.4 Water Reclamation and Reuse Requirements

The use of recycled water for landscape irrigation or other similar uses shall comply with the limitations set forth in the NPDES permit. In order to comply with Title 22 requirements for spray irrigation and non-restricted recreational landscape impoundments, recycled water must be tertiary effluent that has been adequately disinfected, oxidized, coagulated (as needed for turbidity reduction), and filtered. The same BOD, TSS, turbidity and disinfection requirements apply for recycled water production as for surface water discharges with less than 20:1 dilution.

The same TDS limitations also apply for recycled water production as for surface water discharges with less than 20:1 dilution. However, if those “maximum benefit” agency-wide TDS limitations of 550 mg/L, are not met, more restrictive antidegradation limitations are included in the NPDES permit for recycled water overlying the Chino 1 and Chino 2 Groundwater Management Zones. In that case, the antidegradation limits for TDS would be 280 mg/L for the Chino 1 Groundwater Management Zone and 250 mg/L for the Chino 2 Groundwater Management Zone, based on 12-month average concentrations.

3.5 Effluent Quality Characteristics

IEUA submits monitoring reports to the RWQCB in accordance with the NPDES permit. Table 3-7 summarizes recent recycled water quality data for some of the major regulated parameters. Complete monitoring and reporting records are available from IEUA or the RWQCB.

Table 3-7
Typical RP-5 Effluent Quality[1]

Constituent	Units	Minimum	Average	Maximum
BOD_5	mg/L	<2	<2	<2
Specific Conductance	µmhos/cm	848	974	1046
pH	unit	6.9	7.1	7.3
Turbidity	NTU	0.7	0.9	1.4
TOC	mg/L	3.3	3.6	3.9
TSS	mg/L	<1	<1	2
TDS	mg/L	435	500	529
Carbonate Alkalinity	mg/L as $CaCO_3$	0	0	0
Bicarbonate Alkalinity	mg/L as $CaCO_3$	129	150	162
Nitrate as Nitrogen (NO_3-N)	mg/L	4.2	5.6	9.8
Ammonia as Nitrogen (NH_3-N)	mg/L		<0.1	<0.2
TIN	mg/L	4.3	5.6	9.9
Boron	mg/L	0.2	0.3	0.3
Calcium	mg/L	51	54	59
Chloride	mg/L	118	129	150
Magnesium	mg/L	10	11	13
Sodium	mg/L	89	98	109
Free Cyanide	µg/L	<2	<2	<2
Bromodichloromethane	µg/L	14	23	31
Sulfate	mg/L	44	53	60
Total Hardness	mg/L as $CaCO_3$	174	183	201
Iron	µg/L	43	62	103
Manganese	µg/L	10	15	26
Arsenic	µg/L	<2	<2	<2
Barium	µg/L	11	13	17
TR Chromium	µg/L	0.5	1.4	4.3
TR Copper	µg/L	4	6	8
TR Cadmium	µg/L	<0.25	<0.25	<0.25
TR Lead	µg/L	<0.5	<0.5	<0.5
TR Mercury	µg/L	<0.05	<0.05	<0.05
TR Nickel	µg/L	2	3	4
TR Selenium	µg/L	<2	<2	<2
TR Silver	µg/L	<0.25	<0.25	<0.25
TR Zinc	µg/L	24	25	28

1. Reference: IEUA, 2010a. Data and averages from 2009.

Section 4
Plant Facilities

IEUA's RP-5 provides preliminary, primary, secondary, and tertiary treatment of wastewater that conforms to the highest level of California water recycling criteria. This section describes the facilities in detail and presents the basis for compliance with the treatment, recycled water quality, and reliability requirements set forth in Title 22.

4.1 General Description of Facilities

IEUA's RP-5 is a water recycling facility with the ability to treat a total annual average influent flow of 16.3 mgd, which includes approximately 15 mgd from the RP-5 Influent Pump Station plus 1.3 mgd of influent return flows from the RP-2 Lift Station.

The RP-5 facility consists of the following unit processes:

- Influent Pump Station
- Headworks
- Primary Clarifiers
- Aeration Basins
- Secondary Clarifiers
- Tertiary Filters
- Chlorination/Dechlorination
- Emergency Storage Pond
- Emergency Holding Pond
- Appurtenant structures and systems for the unit processes listed above

The RP-5 Influent Pump Station receives raw sewage from the service area as described in Section 1 and raw sewage/primary effluent that has been bypassed from CCWRF and RP-1. The RP-2 Lift Station contributes an additional 1.3 mgd to the RP-5 influent consisting of approximately 0.5 mgd from Butterfield Ranch Community, 0.08 mgd from Prado Park, and 0.72 mgd liquid recycle sidestreams from RP-2's solids processing facilities, (RWQCB, 2009 & IEUA 2008). RP-2 processes solids from both RP-5 and CCWRF. Flows from the RP-2 Lift Station enter RP-5 at the head of the barscreens where it is blended with flow from the RP-5 Influent Pump Station.

Figure 4-1 shows a flow schematic for RP-5, and Figure 4-2 shows a general site plan of the plant.

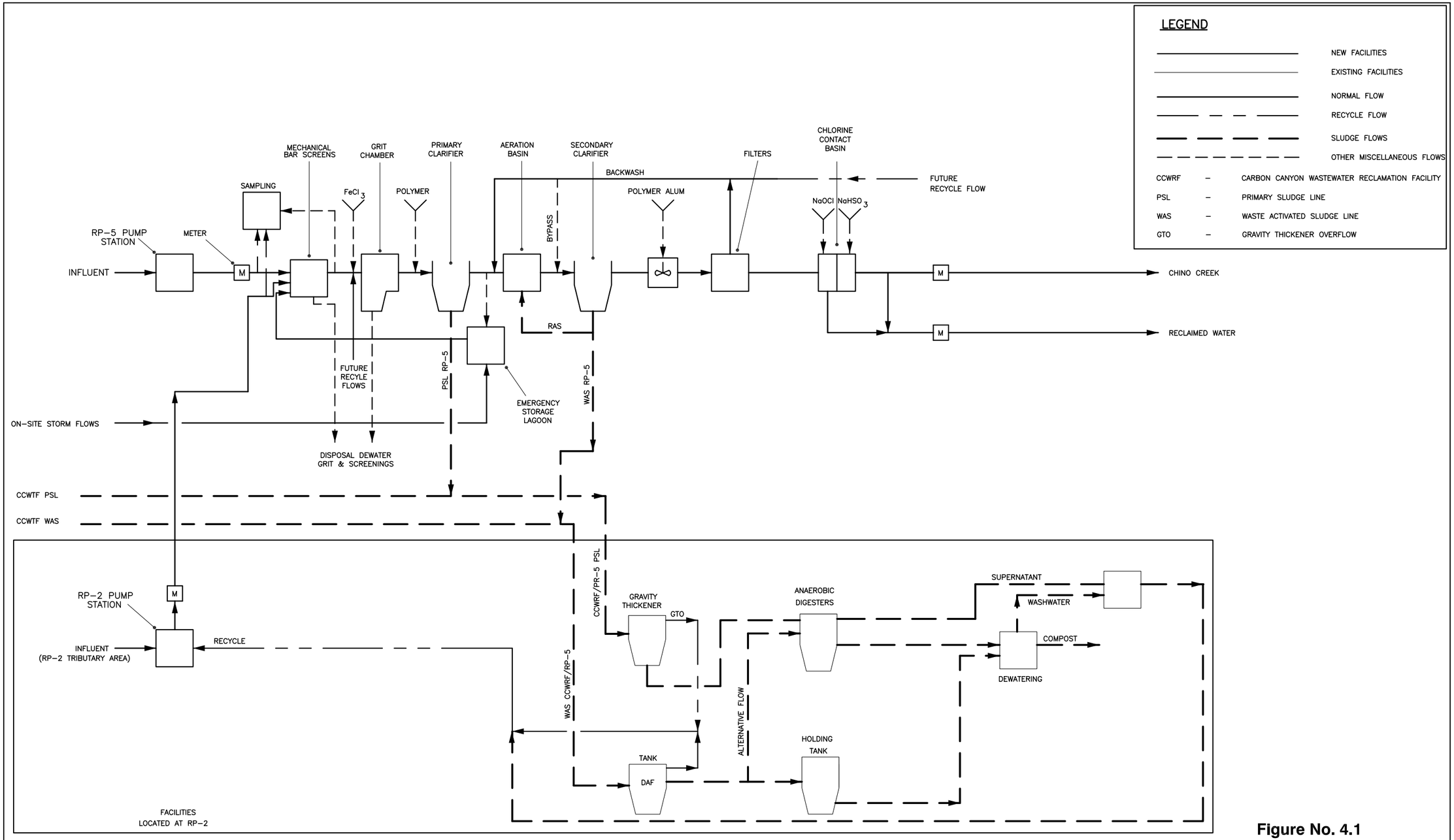


Figure No. 4.1
PLANT FLOW SCHEMATIC
INLAND EMPIRE UTILITIES AGENCY

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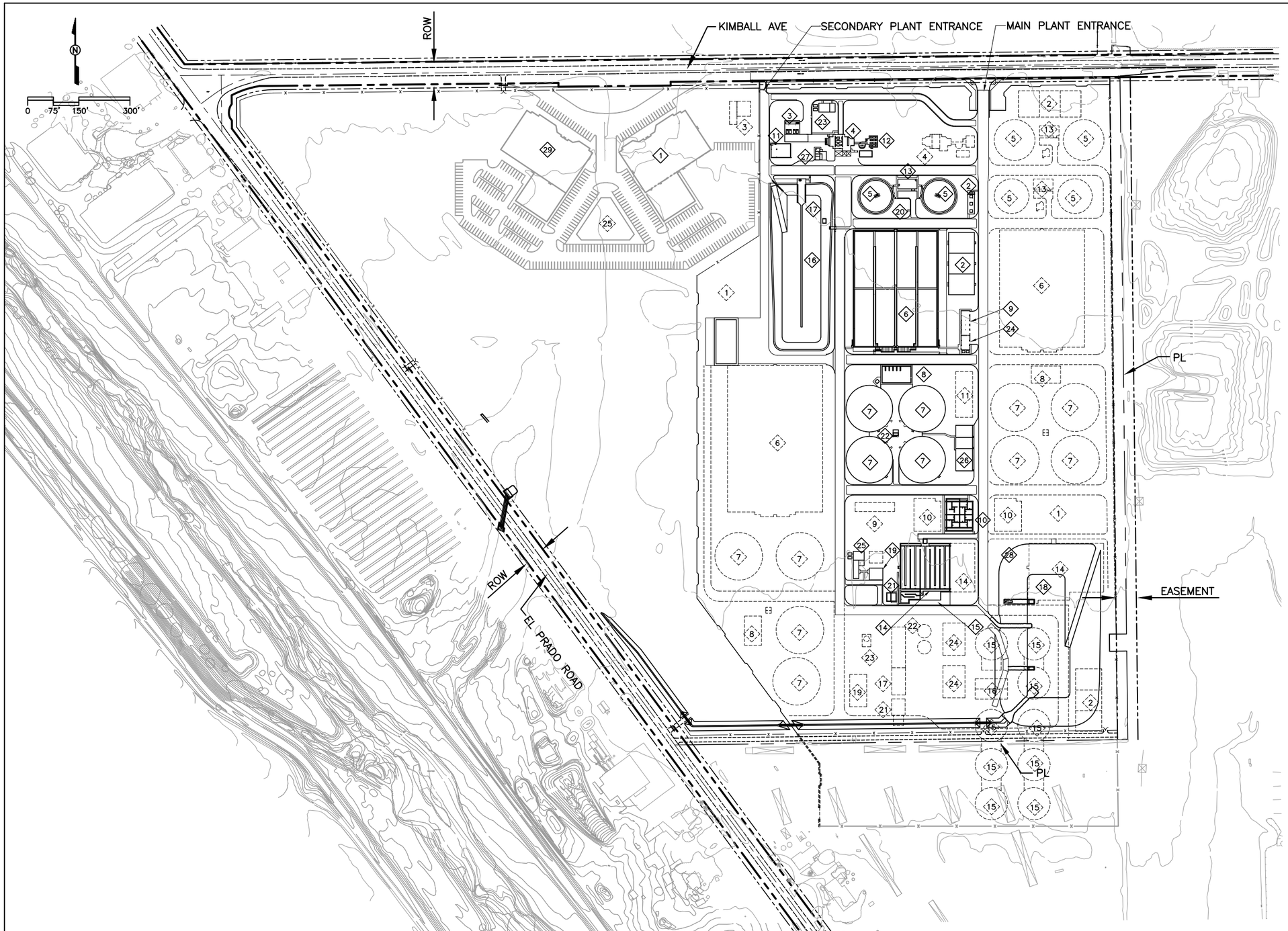

	NEW	AREA
1	OPERATIONS BUILDING	
2	PHASE I SCRUBBER (BIO FILTER)	19
3	INFLUENT PUMP STATION	10
4	HEADWORKS	11
5	PRIMARY CLARIFIER	12
6	AERATION BASIN	20
7	SECONDARY CLARIFIER	22
8	RAS/WAS PUMP STATION	23
9	BLOWER BUILDING	21
10	TERTIARY FILTER WITH FLASH MIXER	30
11	PRIMARY CHEMICAL FACILITY	53
12	PRIMARY CLARIFIER SPLITTER BOX	11
13	PRIMARY CLARIFIER PUMP STATION	13
14	CHLORINE CONTACT BASIN	31
15	W3 PUMP STATION	55
16	EMERGENCY STORAGE LAGOON	01
17	EMERGENCY STORAGE LAGOON PUMP STATION	01
18	EMERGENCY OVERFLOW POND	
19	STANDBY GENERATOR	
20	EMERGENCY STORAGE BASIN SPLITTER BOX	01
21	OUTFALL STRUCTURE	–
22	SECONDARY SCUM PUMP STATION	01
23	POWER CENTER 1	
24	POWER CENTER 2	21
25	POWER CENTER 3	
26	TERTIARY CHEMICAL FACILITY	54
27	SEPTAGE RECEIVING STATION	–
28	STORM WATER PUMP STATION	
29	ADMINISTRATION BUILDING	

FUTURE

1. MAINTENANCE BUILDING
2. SCRUBBER (SOIL FILTER)
3. INFLUENT PUMP STATION
4. HEADWORKS
5. PRIMARY CLARIFIER
6. AERATION BASIN
7. SECONDARY CLARIFIER
8. RAS/WAS PUMP STATION
9. BLOWER BUILDING
10. TERTIARY FILTER
11. TERTIARY CHEMICAL FACILITY
12. PRIMARY CLARIFIER SPLITTER BOX
13. PRIMARY CLARIFIER PUMP STATION
14. CHLORINE CONTACT BASIN
15. DIGESTER
16. DIGESTER CONTROL BUILDING
17. SLUDGE THICKENING/DEWATERING
19. CO–GENERATION BUILDING
21. TRUCK LOADING (RELOCATE IN FUTURE)
22. LOW PRESSURE GAS HOLDER
23. FLARE
24. ACID PHASE DIGESTER
25. CENTRAL LABORATORY

Figure No. 4.2
SITE PLAN
INLAND EMPIRE UTILITIES AGENGY

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The following sections describe the basis of design for each of the treatment processes in detail and demonstrate how Title 22 compliance is achieved for a total annual average flow of 16.3 mgd for each process. Capacities of each unit process are determined for operation as defined under the following conditions:

- Peak Capacity – total peak flow capacity with all units in service.
- Annual Average Capacity Without Redundancy – annual average capacity with all units in service.
- Title 22 Reliable Annual Average Capacity – annual average capacity conforming to the reliability requirements set forth in Title 22. Reliability may be provided by redundant, standby, or alternative equipment or processes. Typically, the Title 22 Reliable Annual Average Capacity for each treatment process is determined with the largest unit out of service. In other cases, alternative means of reliability is provided by storage or another treatment process. The specific means of establishing reliability is described for each treatment process.

4.2 Design Flowrates

The total annual average daily rated capacity of RP-5 is 16.3 mgd, which includes approximately 15 mgd from the RP-5 Influent Pump Station plus 1.3 mgd of influent return flows from the RP-2 Lift Station.

Table 4-1 summarizes the flowrates and peaking factors for RP-5 that are used as the basis of this report.

Table 4-1
Summary of RP-5 Flowrates and Peaking Factors for Title 22 Compliance[1]

Parameter	Flowrate (mgd)[2]	Peaking Factor[3]
Average Annual Day Flow (AADF)	16.3	1.00
Maximum Month Flow (MMF)	18.9	1.16
Peak Dry Weather Flow (PDWF)	28.2	1.73
Peak Wet Weather Flow (PWWF)	32.6	2.00
Typical Effluent Diurnal Flow	22.3 – 26.1	1.37 – 1.6

1. Reference: IEUA, 2008.
2. Refer to Appendix C for calculations.
3. Peaking factor = $\frac{\text{MMF, PDWF, PWWF, or Typical Diurnal Flow (mgd)}}{\text{AADF(mgd)}}$

4.3 Design Wastewater Characteristics

The typical chemical composition of the raw influent wastewater to RP-5 is summarized in Table 4-2. These values are based on 2009 data.

Table 4-2
Design Raw Wastewater Characteristics

Parameter	Units	Value
Annual Average Raw Influent Quality:[1]		
BOD-5 day	mg/L	214
TSS	mg/L	221
NH_3-N	mg/L	37.5
TKN	mg/L	43.3
pH	--	7.5
TDS	mg/L	514
Annual Average Raw Influent Loadings:[2]		
BOD-5 day	lbs/day	29,092
TSS	lbs/day	30,043

1. Reference: IEUA, 2010a.
2. Calculated values. Refer to Appendix C.

More detailed data on the influent wastewater characteristics may be found in Section 3.

4.4 Influent Pumping

The RP-5 Influent Pump Station conveys plant influent flow to the headworks. Once lifted to the headworks, flow proceeds through the entire plant by gravity.

Table 4-3 presents design criteria for the influent pumping.

Table 4-3
Influent Pumping Design Criteria[1]

Parameter	Units	Value
Type	--	Wet-pit submersible, non-clog, centrifugal, VFD controlled
No. of pumps	units	3 (2 duty, 1 standby)
Capacity, each	gpm (mgd) @ ft	8,333 (12.0[2]) @ 48.5

1. Reference: Carollo, 2004, unless otherwise noted.
2. Pump efficiencies have decreased over time from the initial design capacity of 13.58 mgd each to 12 mgd each (IEUA, 2007a).

Table 4-4 presents the capacity of the influent pumping. Note that there are no specific Title 22 requirements for influent pumping redundancy since downstream treatment capacity is not affected by influent pumping capacity. However, there is a manhole in the influent sewer line that overflows to the RP-2 Lift Station. This lift station pumps back to the headworks at RP-5, which prevents the sewer line from becoming surcharged and provides additional pumping capacity.

Table 4-4
Influent Pumping Capacity[1]

Process	Peak Capacity (mgd)	Annual Average Capacity With All Units in Service (mgd)	Title 22 Reliable Annual Average Capacity (mgd)
Influent Pumping	36	18	24[2]

1. Refer to Appendix C for calculations.
2. Based on two pumps in service at 12 mgd each (one pump out of service).

4.5 Preliminary Treatment

The headworks consists of bar screens with screenings washers and compactors and grit basins with grit washers. Two mechanical climber-type bar screens are installed along with a screw conveyor and screenings washer/compactor. One manual bar screen is also installed as a standby unit. One induced vortex grit basin is installed along with two grit slurry pumps and two grit classifiers and washers.

Table 4-5 presents design criteria for the headworks facility.

Table 4-5
Headworks Design Criteria[1]

Parameter	Units	Value
Mechanical Bar Screens:		
Type	--	Climber
Number	units	2
Opening size	inches	½
Peak flow capacity, each	mgd	30
Manual Bar Screens:		
Number	units	1
Opening size	inches	2
Peak flow capacity	mgd	30
Washer/Compactor:		
Number	units	1
Capacity	ft^3/hr	32
Grit Basins:		
Number	units	1
Diameter	ft	18
Side water depth	ft	7
Capacity	mgd	30
Grit Pumps:		
Number	units	2 (1 duty, 1 standby)
Capacity, each	gpm @ ft	250 @ 53
Efficiency, each	%	26

Table 4-5
Headworks Design Criteria[1]

Parameter	Units	Value
Capacity (average/peak)	gpm	250/350
Maximum inlet pressure loss	psi	8
Grit Classifiers:		
Number	units	2 (1 duty, 1 standby)
Maximum flow entering classifier	gpm	16
Capacity	ft^3/hr	13

1. Reference: Carollo, 2004.

Each of the three bar screens (two mechanical and one manual) is capable of handling 30 mgd. With one screen out of service, the remaining two can handle a peak flow of 60 mgd, which is equivalent to an annual average capacity of 30 mgd based on a peaking factor of 2.0 (refer to table 4-1 for a summary of peaking factors).

The grit basin is rated to 30 mgd peak flow. It should be noted that grit removal is not essential to the plant's overall treatment ability. Primary clarification is available as an alternative process to the grit basin; thus grit removal complies with Title 22 criteria because the downstream primary treatment process will provide grit removal when the grit basin is out of service. This reliance on downstream treatment effectively allows the grit removal system to be able to handle the full plant's rated capacity of 16.3 mgd.

The capacity of each preliminary treatment unit process is summarized in Table 4-6.

Table 4-6
Preliminary Treatment Capacity[1]

Process	Peak Capacity (mgd)	Annual Average Capacity With All Units in Service (mgd)	Title 22 Reliable Annual Average Capacity (mgd)
Bar screens	90	45	30
Grit basin	30	16.3	16.3[2]

1. Refer to Appendix C for calculations.
2. Reliability provided by downstream process. See discussion above regarding reliable capacity of the grit removal process.

In summary, the preliminary treatment facilities comply with Title 22 requirements by providing standby units and back-up treatment capacity. The preliminary treatment processes can effectively handle an annual average flow of 16.3 mgd.

4.6 Primary Treatment

Primary treatment facilities at RP-5 consist of two 100-foot diameter, circular, primary clarifiers. The clarifiers are center feed, peripheral drawoff with sludge hoppers and scum removal. The two clarifiers have a common sludge and scum pump station. Sludge and scum is currently pumped to RP-2 for processing. The primary clarifiers are designed to allow advanced primary treatment by adding ferric chloride and polymer upstream and downstream of the grit chambers, respectively. Table 4-7 presents design criteria for the primary clarifiers.

Table 4-7
Primary Treatment Design Criteria

Parameter	Units	Value
Primary Clarifiers*[1]*:		
Number	units	2
Diameter	ft	100
Surface Area, each	sq ft	7,854
Side Water Depth	ft	12
Surface overflow rate at PWWF, all units in service[2]	gpd/sq ft	2,075
Surface overflow rate at PWWF, 1 unit out of service[2]	gpd/sq ft	4,151
Surface overflow rate at AADF, all units in service[2]	gpd/sq ft	1,038
Surface overflow rate at AADF, one unit out of service[2]	gpd/sq ft	2,075
Primary Sludge Pumps[1]		
Number	units	3 (2 duty, 1 standby)
Type	--	Progressive cavity, variable speed
Capacity, each	gpm @ psi	230 @ 62
Primary Scum Pumps[1]		
Number	units	2
Type	--	Progressive cavity
Capacity, each	gpm @ psi	100 @ 62
Ferric Chloride Storage and Feed System		
Number of storage tanks	units	1
Total storage volume	gal	9600
Number of pumps	units	2
Pump type	--	Diaphragm
Pump capacity, each	gph @ psi	53 @ 150
Ferric chloride dosage	mg/L	5 to 8

Table 4-7
Primary Treatment Design Criteria

Parameter	Units	Value
Total ferric chloride use	lbs/day	695
Polymer Storage and Feed System		
Number of storage tanks	units	2 Totes (as needed)
Total storage volume	gal	275 (per tote)
Number of pumps	units	2
Pump type	--	Diaphragm
Pump capacity, each	gph @ psi	4 @ 100
Polymer dosage	mg/L	0.15

1. Reference: Carollo, 2004, unless otherwise noted.
2. Refer to Appendix C for calculated values.

With one unit out of service, the remaining clarifier has to operate at twice its design overflow rate. The system as a whole (including all downstream processes in service) is able to treat the peak wet weather conditions to Title 22 standards with advanced primary treatment. Advanced primary treatment facilities, including ferric chloride and polymer injection, are brought online during peak flow scenarios to increase the removal capacity of the clarifier.

Table 4-8 shows the capacity of the primary clarifiers.

Table 4-8
Primary Treatment Capacity

Process	Peak Capacity (mgd)	Annual Average Capacity With All Units in Service (mgd)	Title 22 Reliable Annual Average Capacity (mgd)
Primary Clarifiers	32.6[1]	16.3	16.3[2]

1. For more information on calculated values, see Appendix C.
2. Refer to the discussion above regarding Title 22 Reliable Annual Average Capacity.

4.7 Emergency and Short-Term Storage

RP-5 has a 6.8 million gallon (MG) emergency storage pond and a 17 MG emergency holding pond.

4.7.1 Emergency Storage Pond

Downstream of the primary clarifiers, there is a primary effluent box with an adjustable weir gate that can be used to divert flow to the 6.8 MG Emergency Storage Pond. The weir gate is manually set such that primary effluent in excess of a selected flowrate goes over the weir gate into the lagoon. The effluent is then pumped back to the headworks when the influent rate is low enough to allow all flow to continue to downstream processes.

The weir gate is normally set at an elevation that allows only a peak flow of 23.4 mgd to pass through to secondary treatment and beyond. The value of 23.4 mgd is based on the capacity of the chlorine contact basin (refer to Section 4.9.2).

In terms of a total annual average flow of 16.3 mgd, this flow represents a peaking factor of approximately 1.34 multiplied by 16.3 mgd, with an allowance of 1.5 mgd for internal backwash and plant water recycled flows (16.3 mgd x 1.34 p.f. + 1.5 mgd = 23.4 mgd). Or in terms of plant rated capacity, an overall peaking factor of 1.44 for flow equalization for the downstream secondary and tertiary treatment processes (23.4 mgd / 16.3 mgd = 1.44 p.f.).

Any combination of influent and recycle flows that exceed 23.4 mgd is considered an emergency situation and will be shaved from what are considered normal flows. However, it should be noted that the wet weather Emergency Storage Pond is only needed during wet weather storm events or on unusually high flow days (e.g. some holidays). This limits the peaking factor for the downstream secondary and tertiary treatment processes.

4.7.2 Emergency Holding Pond

The unlined 17 MG Emergency Holding Pond (located downstream of the dechlorination basin at the end of the plant) can be used to store final plant effluent if it does not meet the permit requirements. The basin does not have a permanent pumping facility, but it has the capability to return flow to the headworks through a 16-inch line with the use of temporary pumps. This same line can be used to divert flow (by gravity) from the influent pump station wetwell to the Emergency Holding Pond in an emergency situation.

4.8 Secondary Treatment

Secondary treatment is provided by an activated sludge biological treatment process. The required level of nitrogen removal (for the agency-wide 8 mg/L TIN limit) is achieved in a two-stage biological nutrient removal (BNR) configuration that combines an anoxic zone with a typical activated sludge process. In the aerobic zone, ammonia (NH_3) is converted to nitrate (NO_3) by nitrifying microorganisms. The anoxic zone is mixed but not aerated. Under non-aerated conditions, microorganisms in the mixed liquor will utilize NO_3 as their oxygen source, thereby destroying NO_3 and releasing nitrogen as nitrogen gas. Table 4-9 presents design criteria for the secondary treatment facilities.

Table 4-9
Secondary Treatment Design Criteria[1]

Parameter	Units	Value
Aeration Basins:		
Number	units	2
Volume, each	MG	5.16

Table 4-9
Secondary Treatment Design Criteria[1]

Parameter	Units	Value
Depth	ft	19
Anoxic volume	%	17 - 58
Solids Retention Time (SRT)		
At Max Month Flow, all units in service	days	29.9
At Max Month Flow, 1 unit out of service	days	25.9
Design MLSS Concentration		
At Max Month Flow, all units in service	mg/L	3,770
At Max Month Flow, 1 unit out of service	mg/L	3,830
Hydraulic Retention Time (HRT)		
At Max Month Flow, all units in service	hrs	13.4
At Max Month Flow, 1 unit out of service	hrs	11.7
Lbs MLSS/mgd		
At Max Month Flow, all units in service	lbs MLSS/mgd	17,511
At Max Month Flow, 1 unit out of service	lbs MLSS/mgd	15,563
Nominal HRT (with 200% MLR)		
At Max Month Flow, all units in service	hrs	2.8
At Max Month Flow, 1 unit out of service	hrs	2.1
Mixed Liquor Return Pumps		
Number	per basin	1
Type	--	Propeller, variable speed
Capacity, each	gpm	6,300
Recirculation ratio	Qr/Qi (avg)	1 - 3
Secondary Clarifiers:		
Number	units	4
Diameter	ft	130
Surface area, each	sq ft	13,273
Side water depth	ft	17
Flow to secondary clarifiers based on maximum month flow conditions[2]	mgd	18.9

Table 4-9
Secondary Treatment Design Criteria[1]

Parameter	Units	Value
Surface Overflow Rate		
At Max Month Flow, all units in service[2]	gpd/sq ft	356
At Max Month Flow, 1 unit out of service[2]	gpd/sq ft	475
At Max Primary Effluent Weir Setting Flow, 23.4 mgd, all units in service[2]	gpd/sq ft	441
At Max Primary Effluent Weir Setting, 23.4 mgd, 1 unit out of service[2]	gpd/sq ft	588
Peak Capacity at Overflow 600 gpd/sq ft, all units in service[2]	mgd	31.9
Peak Capacity at Overflow 600 gpd/sq ft, 1 unit out of service[2]	mgd	23.9
Secondary Treatment Process peaking factor (flow equalized)[2]	--	1.44
Annual Average Capacity at Overflow rate 600 gpd/sq ft, all units in service[2]	mgd	22.2
Annual Average Capacity at Overflow rate 600 gpd/sq ft, 1 unit out of service[2]	mgd	16.6
Design maximum SVI	mL/g	150
Return Activated Sludge Pumps		
Number	units	5
Type	--	Screw Centrifugal, Variable Speed
Capacity, each	gpm	2,500
Return ratio	percent of ADF	70 to 170
Return sludge concentration	mg/L	3,000 – 9,000
Waste Activated Sludge Pumps (WAS)		
Number	units	2
Type	--	Positive Displacement, Variable Speed
Capacity, each	gpm	100
Secondary Scum Pumps		
Number	units	2
Type	--	Submersible
Capacity, each	gpm	600

1. Reference: Carollo, 2004, unless otherwise noted.
2. Refer to Appendix C for calculations.

At the parameters listed above, the aeration basins are capable of treating the maximum month condition of 18.9 mgd with one compartment out of service. The system as a whole can handle the max month condition with one secondary clarifier out of service and all aeration basins in service.

The system can function with either one aeration basin compartment or one secondary clarifier out of service, per Title 22 standards. A blower failure alarm is linked to the supervisory control and data acquisition (SCADA) system to indicate the failure of the biological treatment process.

Table 4-10 summarizes the capacity of the secondary treatment facilities. For secondary treatment aeration system, the flow that is used in determining capacity is the maximum month influent flow as discussed above. Secondary clarifier capacities are based on reasonable overflows.

Table 4-10
Secondary Treatment Capacity[1]

Process	Peak Capacity (mgd)	Annual Average Capacity Using Redundancy (mgd)	Title 22 Reliable Annual Average Capacity (mgd)
Aeration Basins	23.4[2]	17.1[3]	16.3
Secondary Clarifiers	31.9	22.2	16.6

1. Refer to Appendix C for calculations.
2. Peak capacity with all aeration basins in service is based on the primary effluent weir setting.
3. Reference: Carollo, 2004.

4.9 Tertiary Treatment

The Title 22 Water Recycling Criteria (California, 2001) require that "filtered wastewater" be an oxidized wastewater that has passed through a mono, dual or mixed media gravity, upflow or pressure filtration system at a rate that does not exceed 5 gpm/sq ft of surface area. The turbidity of the filtered wastewater must not exceed (a) an average of 2 NTU within a 24-hour period, (b) 5 NTU more than 5 percent of the time within a 24-hour period, and (c) 10 NTU at any time. Under Title 22 requirements, the maximum filtration rate is calculated with the largest filter out of service.

The filtered effluent is disinfected with sodium hypochlorite using chlorine contact tanks to provide the 90-minute modal contact time as required by Title 22 regulations. The Title 22 quality effluent is then available for reuse or is dechlorinated using sodium bisulfite prior to discharge to Chino Creek.

4.9.1 Filtration

The continuous backwash, upflow tertiary filters provide physical treatment to remove suspended solids and reduce the turbidity of the secondary effluent. There are 12 tertiary filters along with a rapid mix basin, four flocculation basins

and a filter recycled pump station at RP-5. The tertiary filters are located south of the secondary clarifiers. The rapid mix and flocculation basin contains one rapid mixer and four flocculators. Each tertiary filter contains six 50-square-foot modules, giving a total of 300 square feet per filter. Flow that enters the tertiary filters comes from the secondary clarifiers. The Filter Recycle Pump Station contains three submersible pumps that pump filter backwash water to the aeration basins. Table 4-11 presents design criteria for the filters.

Table 4-11
Filtration Design Criteria[1]

Parameter	Units	Value
Filters:		
Number of filters	units	12
Surface area per filter	sq ft	300
Design peak surface loading rate	gpm/sq ft	5.0
Length	ft	21 feet 3 inches
Width	ft	14 feet 2 inches
Filter bed depth	ft	40
Backwash flow	%	5
Maximum capacity, all units in service (at 5 gpm/sq ft)[2]	mgd	25.9
Maximum capacity, one unit out of service (at 5 gpm/sq ft)[2]	mgd	23.8
Filtration System peaking factor (flow equalized)[2]	--	1.44
Annual average capacity, all units in service (at 5 gpm/sq ft)[2]	mgd	18.0
Annual average capacity, one unit out of service (at 5 gpm/sq ft)[2]	mgd	16.5
Media		
Type	--	High grade silica sand (minimum 95% silica)
Effective size	mm	0.9
Uniformity coefficient	--	≤1.5
Rapid Mixer		
Horsepower	hp	10
Speed	rpm	100
Velocity gradient, G	1/seconds	300
Flocculators		
Number	units	4
Horsepower, each (listed from upstream to downstream flocculators)	hp	3.0, 2.0, 1.5, 1.0

Table 4-11
Filtration Design Criteria[1]

Parameter	Units	Value
Maximum speed, each (listed from upstream to downstream flocculators)	rpm	45, 37, 30, 25
Minimum speed	rpm	½ of maximum speed
Speed control	--	Variable frequency drive
Velocity gradient (listed from upstream to downstream flocculators)	1/seconds	40-80, 30-60, 22-44, 17-34
Filter Recycle Pumps		
Number	units	3
Capacity, each	gpm @ ft	420 @ 28
Horsepower, each	hp	7.5
Alum System		
Design average flow	mgd	15
Design peak flow	mgd	30
Design average dosage	mg/L	1
Design peak dosage	mg/L	5
Peak alum feed rate required	gph	10
Number of alum pumps	units	2 (1 duty, 1 standby)
Alum pump capacity, each	gph	12
Storage at average flow and dosage	days	14

1. Reference: Carollo, 2004, unless otherwise noted.
2. For more information on calculated values, see Appendix C.

Based on a filter loading rate of 5 gpm/sq ft, the filters have a maximum capacity of 25.9 mgd with all units in service and 23.8 mgd with one unit out of service. As discussed above in section 4.7.1, the secondary and tertiary treatment processes have a peaking factor of 1.44 due to the available short-term storage used for primary effluent flow equalization. Therefore, the annual average capacity of the filters with all units in service is 18.0 mgd (25.9 mgd / 1.44 p.f. = 18.0 mgd) and the annual average capacity with one unit out of service is 16.5 mgd (23.8 mgd / 1.44 p.f. = 16.5 mgd).

The weir gate at the primary effluent equalization basin (Emergency Storage Pond) is normally set at an elevation that allows only a peak flow of 23.4 mgd to pass through to the secondary and tertiary treatment processes. Therefore, the filtration system would never receive more than 23.4 mgd of flow.

Failure of the alum and polymer pumps or the rapid mixer annunciates an alarm in the SCADA system to indicate the failure of the coagulation process. The air compressor that feeds the filter air lift pump also has a failure alarm, and the

effluent turbidity meter annunciates an alarm as well if a high effluent turbidity is detected. These alarms notify the operator of failure in the filtration process.

4.9.2 Chlorination

Disinfection of the effluent is provided by a sodium hypochlorite system and two chlorine contact basins. Table 4-12 presents design criteria for the chlorination facilities.

Table 4-12
Chlorination and Dechlorination Design Criteria[1]

Parameter	Units	Value
Chlorine Contact Basins:		
Number	units	2
Number of channels per basin	--	5
Length	ft	125
Width, per channel	ft	12.5
Side water depth[2]	ft	15.5
Volume per basin[3]	gal	900,000
Total volume[3]	gal	1,800,000
Required modal contact time	min	90
Ratio of modal to theoretical contact time	--	0.815
Peak capacity[3]	mgd	23.5
Annual average capacity[3]	mgd	16.3
Sodium Hypochlorite System		
Design average flow	mgd	15
Design peak flow	mgd	30
Design average dosage	mg/L	15
Design peak dosage	mg/L	20
Peak hypochlorite feed rate required	gph	200
Number of hypochlorite pumps	units	4 (3 duty, 1 standby)
Hypochlorite pump capacity, each	gph	77
Storage at average flow and dosage	days	14
Dechlorination System:		
Average sodium bisulfite dose	mg/L	5.76
Average sodium bisulfite feed rate	lbs/day	476
Average sodium bisulfite use	gpd	282
Maximum sodium bisulfite dose	mg/L	11.5
Maximum sodium bisulfite feed rate	lbs/day	892
Maximum sodium bisulfite use	gpd	536
Sodium Bisulfite Feed Pumps		
Number of tanks	units	2
Volume per tank	gallons	5200

Table 4-12
Chlorination and Dechlorination Design Criteria[1]

Parameter	Units	Value
Total storage	gallons	10400
Sodium Bisulfite Feed Pumps		
Number of pumps	units	4
Capacity per pump	gph	53 gph @ 150psi

1. Reference: Carollo, 2004, unless otherwise noted.
2. Assuming effluent weir elevation of 568.94.
3. For more information on calculated values, see Appendix C.

The maximum flow allowable through the chlorine contact basin system is 23.5 mgd. This flow represents the actual flow capacity of the basin, based on a modal contact time of 90 minutes and the results of the dye test (SFE Global, 2004). Refer to Appendix D for a copy of the CCB Contact Time Testing Final Report prepared by SFE Global NW.

To prevent flow to the chlorine contact basin from exceeding its 23.5 mgd capacity, the weirs of the upstream primary effluent box are set to conservatively allow no more than 23.4 mgd to pass through. Any flows in excess of 23.4 mgd overflow from the primary effluent box to the 6.8 MG Emergency Storage Pond, as described in Subsection 4.7. As discussed above, the overall peaking factor of 1.44 is used for flow equalization for the secondary and tertiary treatment processes (23.4 mgd / 16.3 mgd = 1.44 p.f.). For the chlorination system, the annual average flow capacity is 16.3 mgd (23.4 mgd / 1.44 p.f. = 16.3 mgd).

Because of the availability of the 17 MG Emergency Holding Pond for reliability, coupled with the fact that the chlorine contact basins contain no mechanical equipment, the entire basin is used in determining Title 22 capacity without a redundant unit.

For the sodium hypochlorite chlorination system, the feed pumps are designed to handle a peaking factor of 2.0 at peak dosage with one unit out of service.

The hypochlorite metering pumps and mixer are programmed to annunciate an alarm in the SCADA system if they fail. The chlorine residual analyzer also triggers an alarm if it detects a low chlorine residual. These alarms notify the operator of a failure in the disinfection process.

Table 4-13 summarizes the capacity of the tertiary treatment system.

Table 4-13
Tertiary Treatment Capacity[1]

Process	Peak Capacity (mgd)	Annual Average Capacity Using Redundancy (mgd)	Title 22 Reliable Annual Average Capacity (mgd)
Filters	25.9	18.0	16.5
Chlorine Contact Basins	23.5[2]	16.3	16.3

1. For more information on calculated values, see Appendix C.
2. Refer to the discussion above for more information on the maximum flow allowable through the chlorine contact basins.

4.10 Recycled Water Pump Station

The RP-5 Recycled Water Pump Station is interconnected to the Carbon Canyon Wastewater Reclamation Facility Recycled Water Pump Station and the Regional Plant No.1 Zone 930 Recycled Water Pump Station; any water conveyed by these stations can be discharged to Prado Lake Dechlorination Station. Design criteria for the RP-5 Recycled Water Pump Station are summarized in Table 4-10.

Table 4-14
Recycled Water Pump Station Design Criteria

DESCRIPTIONS	RP-5	
	PUMPS P-1 & P-2	PUMPS P-3, P-4 & P-5
Quantity	2	3
Duty	Continuous	Continuous
Drive	Variable Speed	Constant Speed
Project site elevation, ft., msl	575	575
Minimum available NPSH, ft	15	15
Minimum capacity at design head	1925 gpm	1925 gpm
Design head, TDH	262 feet	262 feet
Max. pump shutoff head*	392 feet	392 feet
Min. pump laboratory efficiency @ design head	82 %	82 %
Maximum outside diameter of bowls	14 inches	14 inches
Number of bowls	4 stages	4 stages
Diameter of discharge	12 inches	12 inches
Discharge flange rating ANSI, psi	150	150
Minimum column shaft diameter, in	Per manufacturer recommendation	Per manufacturer recommendation
Minimum column diameter, in	Per manufacturer recommendation	Per manufacturer recommendation

Table 4-14
Recycled Water Pump Station Design Criteria

DESCRIPTIONS	RP-5	
	PUMPS P-1 & P-2	PUMPS P-3, P-4 & P-5
Max. Dimension from bottom base plate to bottom of pump bowl assembly	237 inches	237 inches
Max. required horse power**	150 HP	150 HP
Max. operating speed	1800 rpm	1800 rpm
Power supply	460V/3Ø /60Hz	460V/3Ø /60Hz

4.11 Solids Handling

Solids removed in the primary and secondary treatment processes at RP-5 are piped to the regional solids handling facility at RP-2 for sludge treatment. The solids treatment system at RP-2 includes the following:

a) Gravity thickeners, dissolved air flotation thickeners, anaerobic digestion, aerobic digestion,
b) Belt press and centrifuge dewatering;
c) Dewatered biosolids are hauled away to approved disposal sites.

The dewatered biosolids are hauled to and composted at the Inland Empire Region Composting Facility (IERCF) located in the City of Rancho Cucamonga. The final product meets Exceptional Quality Class A biosolids requirements which is bagged and sold as soil amendment.

Side flows from RP-2, including belt press filtrate, centrifuge centrate, gravity thickener overflow, dissolved air flotation overflow and drainage flow from biosolids handling, are pumped back up to RP-5 for treatment at an average daily flowrate of up to 1.3 mgd.

The methane gas derived from the RP-2 digesters is used to power engine-generator units that produce the electricity used as the energy source to operate the treatment plant.

4.12 Power Supply

The primary sources of power to RP-5 are the newly constructed solar cells and Southern California Edison. The 12-kV power connection is located at Power Center No. 3 at the southwest corner of the plant. The power is distributed to the rest of the plant through Power Center No. 3, as well as Power Center Nos. 1 and 2, located next to the headworks facility and aeration basins, respectively.

All Title 22 critical processes are provided with an automatically actuated standby power system. Standby power is provide by a diesel engine 2,000 kW generator located next to Power Center No. 3. The standby equipment is provided with alarms and automatic equipment switchover in the case of a power failure, in accordance with the reliability requirements of Title 22.

A new cogeneration facility is also used as an alternate source of power. The facility is an internal combustion engine generator that produces power for RP-5 facilities and the IEUA headquarters' buildings. The cogeneration facility engines run on digester gas as a primary fuel and air-diluted natural gas as a backup fuel. Digester gas is conveyed from RP-2 solids handling.

4.13 Monitoring and Alarms

Title 22 requires that alarm devices be provided for: (1) loss of power from the normal supply, (2) failure of the biological treatment process, (3) failure of the disinfection process, (4) failure of the coagulation process, and (5) failure of the filtration process. Operation of these systems is constantly monitored and alarms are provided. RP-5 has a state-of-the-art SCADA system that monitors all vital functions of the plant and assists operations staff. The control system records data on process operation and for permit compliance and provides information on the status of equipment and plant operation. The RP-5 control system also provides a communication link to other IEUA treatment facilities and to standby operators when the plant is not staffed.

The RP-5 alarm devices monitor the following functions:

- Loss of normal power
- Failure of the influent pump station
- Failure of the biological treatment process
- Failure of the filtration process
- Failure of the disinfection process

Plant alarms are automatically powered by the emergency (standby) generator if the primary power supply is interrupted. RP-5 is manned about 8 hours per day, 7 days per week. During the remaining 16 hours each day when the plant is unmanned, RP-5 operation is monitored remotely via the SCADA system by the assigned standby operator. Alarms that occur during any unmanned periods are annunciated through the SCADA system. A cell phone paging system is used to notify the standby operator of any alarms, if the plant operation is not being actively monitored. Standby operators have laptop computers for remote SCADA system access to enable them to address alarm conditions and remotely monitor and control plant operations. A summary of key alarms is presented in Table 4-15. A detailed list of the RP-5 alarms is included in Appendix E.

Table 4-15
Summary of Principle Alarms

System Component	Parameter/Equipment	Alarm Conditions
Power	Primary electrical service	Failure
	Standby generator	On
Influent Pumping	Pumps	Failure
	Water level	High and low
	Pumps	High flow
Biological	Dissolved oxygen level	Low
	Blowers	On and failure
	Mixers	Failure
Mixed Liquor Return	Pumps	Failure
Filtration	Filter influent turbidity	High - automatically activates alum pump
	Valves	Failure
	Flow	High
	Effluent turbidity	High
Chlorination	Chlorine Residual	Low, High
	CT	Low
Dechlorination	Chemical feed pumps	On, off, and failure
	Chlorine residual	High
Effluent	pH	Low, High

Power supply reliability is discussed in the preceding section. RP-5 has four electrical power sources: (1) Southern California Edison, (2) Solar power, (3) an emergency generator, and (4) a cogeneration facility. The diesel powered emergency generator is activated automatically during a power failure to maintain full plant operation and alarms. The cogeneration facility operates on digester gas as a primary fuel source and air-diluted natural gas as a backup fuel.

Alarms for biological treatment breakdown exist on all electrical/mechanical equipment serving the treatment processes. Alarms signal low oxygen levels in the aeration (oxic) basins, or the failure of any blower. Failure of the RAS pumps or high torque on the clarifier scraper arms are also signaled by alarms. These alarms provide assurance that a biological system failure is not equipment related, and ensure the reliability of the anoxic/oxic treatment process.

As described earlier, flow to the filtration and chlorination processes is restricted by the weir setting and limited to 23.4 mgd. If too high (above a setpoint), the excess primary effluent flow is diverted to the Emergency Storage Pond. This ensures that the secondary treatment process operates well and that the filtration rate and modal contact time requirements are met for production of high quality

recycled water. In addition, if the water level is high in any of the tertiary filters, an alarm is activated to alert the operators.

In general, poor effluent quality can also signal alarms. For example, high effluent turbidity alerts the operators to a problem at the filters. Filter effluent turbidity is monitored, and if it becomes too high, the polymer feed system can be actuated to provide coagulation in compliance with Title 22.

Multiple alarms and backup equipment ensure the reliability and safety of the disinfection system. Multiple bulk storage tanks and metering pumps provide duplicate equipment for the sodium hypochlorite system. The standby metering pump is started automatically if the duty pump fails.

Chlorine residual of the recycled water is closely monitored and can activate an alarm if it is too high or too low. Chlorine residual is also monitored for discharges to Chino Creek. The effluent gate to the creek is automatically closed by the SCADA system and an alarm is actuated if the chlorine residual is too high, indicating a failure of the dechlorination system.

As shown in Table 4-16, RP-5 utilizes on-line instruments to monitor continuous compliance with Title 22 requirements.

Table 4-16 lists instruments used in the operation and control of the filtration and disinfection systems along with the associated alarm conditions and contingency actions.

Table 4-16
Continuous Monitoring for Title 22 Compliance

Description	Measures	Control/Monitoring Action
Secondary Effluent Turbidity	Filter Influent Turbidity	If influent turbidity increases above the setpoint, the alum pump automatically starts.
Filtered Effluent turbidity	Compliance with Title 22 requirements for Turbidity	If effluent turbidity increases above a warning setpoint an alarm is annunciated and operators respond. If effluent turbidity continues to increase the effluent is diverted to the Emergency Holding Pond.
Residual Chlorine analyzers	Compliance with Title 22 requirements for CT. Residual chlorine is used with effluent flow and CT is calculated.	Alarm annunciated if effluent is not in compliance with CT. Effluent is diverted by the operator to the Emergency Holding Pond until chlorine residual re-established.
Chlorinated Effluent Flow meters	Compliance with Title 22 requirements for CT. Residual chlorine is used with effluent flow and CT is calculated.	Alarm annunciated if effluent is not in compliance with CT. Effluent is diverted by the operator to the Emergency Holding Pond until flowmeter is re-established.

Table 4-17
Alarms and Contingency Actions for Filtration and Disinfection Processes

Description	Alarm Condition	Consequence	Contingency Action
Secondary Effluent Turbidity	Turbidity High	Filter influent exceeds 5 NTU design specification.	Alarm annunciated. Alum pump automatically starts.
Alum Metering Pump	Metering Pump Failure	No alum addition, possible increase in effluent soluble phosphorus, and high turbidity.	Alarm annunciated. Operator switches to standby pump.
Alum Metering Pump	Pressure Switch High	Low or No alum addition, possible increase in effluent soluble phosphorus and high turbidity.	Alarm annunciated. Operator switches to standby pump. Blockage removed.
Alum storage tank level	Storage tank level low	Low or No alum addition, possible increase in effluent soluble phosphorus and high turbidity.	Alarm annunciated. Tank refilled. Effluent diverted to Emergency Holding Pond
Coagulant Rapid Mixer Local Control Panel	YA = Mixer Failure	Alum is not well mixed into secondary effluent, therefore higher soluble P and turbidity.	Alarm annunciated. Maintenance called out. Effluent diverted to Emergency Holding Pond
Flocculator	YA = Flocculator Failure	Alum floc is not well formed.	Alarm annunciated. Maintenance called out. If three out of the four flocculators are in operation floc should form. Effluent diverted to Emergency Holding Pond
Filter 1 Level Filter 2 Level Filter 3 Level Filter 4 Level	High Level in Filtration	Overflow of filter or backflow.	Alarm annunciated. Operator performs additional backwash or isolates filter.

Table 4-17
Alarms and Contingency Actions for Filtration and Disinfection Processes

Description	Alarm Condition	Consequence	Contingency Action
Filter backwash tank level	Low level in Backwash tank	Filter backwash will stop for all filters.	Alarm annunciated. Maintenance called out. Will not deteriorate effluent quality unless remaining in fault.
Filtered Effluent turbidity	Turbidity high	Will exceed Title 22 specification for turbidity if continues to increase.	Alarm annunciated. Effluent diverted to Emergency Holding Pond
MX NaOCl (Chlorine) Injection Mixer	YA = Mixer Failure	Chlorine injector mixer failure will reduce efficiency of chlorine contact tank.	Alarm annunciated. Effluent diverted to Emergency Holding Pond
Residual Chlorine analyzers	Residual chlorine low	Effluent fails to meet Title 22 requirements for CT.	Alarm annunciated. Effluent diverted to Emergency Holding Pond until chlorine residual is re-established.
Chlorinated Effluent Flow meters	Flow meter fails	Effluent fails to meet Title 22 requirements for CT when in flow proportional control.	Alarm annunciated. Effluent diverted to Emergency Holding Pond until flowmeter is re-established.
Sodium Hypochlorite dosing pump control	Pump Fails	No NaOCl addition. Fail to meet CT specification.	Alarm annunciated. Operator switches to standby pump.

Table 4-17
Alarms and Contingency Actions for Filtration and Disinfection Processes

Description	Alarm Condition	Consequence	Contingency Action
Sodium Hypochlorite dosing pump control	High discharge pressure	No NaOCl addition. Fail to meet CT specification.	Alarm annunciated. Operator switches to standby pump. Clears blockage in NaOCl system. If blockage in common pipe then effluent diverted to Emergency Holding Pond
Sodium Bisulfite dosing pump control	Pump Fails	No NAHS addition. Fail to dechlorinate effluent	Alarm annunciated. Operator switches to standby pump.
Sodium Bisulfite dosing pump control	High discharge pressure	No NAHS addition. Fail to dechlorinate effluent.	Alarm annunciated. Operator switches to standby pump. Clears blockage in NAHS system. If blockage in common pipe then effluent diverted to Emergency Holding Pond

4.14 Emergency Storage and Effluent Disposal

As discussed in Section 4.7, RP-5 has two emergency storage basins: a 6.8 MG storage pond that can be used to store excess primary effluent, and a 17 MG holding pond that can be used to store either final effluent or raw wastewater during an emergency overflow situation or conditions that would exceed Title 22 filtration and disinfection criteria.

Effluent that is not used in the reclamation system is dechlorinated and discharged to Chino Creek.

4.15 Unit Process Reliability Features

The reliability features of the different unit processes are described in the individual sections of this report. Table 4-18 summarizes these features.

Table 4-18
RP-5 Unit Processes Reliability Features

Unit Process	Reliability Feature
Preliminary Treatment	Standby mechanical bar screen Standby manual bar screen Standby grit pump Standby grit classifier
Primary Treatment	Standby primary clarifier Advanced primary treatment facilities (ferric chloride and polymer)
Emergency and Short Term Storage	6.8 MG Emergency Storage Pond to shave peak flows to secondary and tertiary treatment processes. Primary effluent flows are restricted by a weir. 17 MG Emergency Holding Pond, to store final plant effluent in emergency situations
Secondary Treatment	Standby unit of aeration basin Standby secondary clarifier Standby blower Standby RAS pump Standby WAS pump Standby scum pump
Filtration	Emergency short-term storage Standby air compressor Standby filter backwash pump Standby alum pump and polymer feeder
Chlorination	Standby sodium hypochlorite pump
Power Supply	Automatically actuated standby power for all Title 22 critical processes

Section 5
Monitoring Program

This section demonstrates how the RP-5 monitoring program complies with Title 22 Water Recycling Criteria.

5.1 Sampling and Analysis

Water quality monitoring is required under Title 22 Water Recycling Criteria and IEUA's consolidated NPDES permit, RWQCB Order No. R8-2009-0021. Monitoring locations are specified in the permit, which is included in Appendix A. The reclamation monitoring in the NPDES permit requires that effluent samples be taken at least daily for total suspended solids, biochemical oxygen demand and coliform bacteria. Continuous turbidity and pH monitoring and recording is required.

Specific guidelines and parameters are established in Attachment E "Monitoring and Reporting Program" of Order No. R8-2009-0021 for sampling and analysis of the influent and effluent streams. Depending on the constituent, sampling is required to be a continuous, 24-hour composite, or grab specimen taken on regularly scheduled intervals (daily, weekly, monthly, quarterly, semi-annually or annually).

5.2 Monitoring Program

The performance of each of the treatment processes is closely monitored at RP-5. Influent, effluent and reclamation flows are measured continuously at monitoring locations M-INF 3A, M-INF 3B, M-INF 3C, M-003 and REC-003. RP-5 effluent turbidity, pH and conductivity are monitored continuously at monitoring location M-003 prior to discharge to Chino Creek. Chlorine residual is also continuously monitored at M-003 to be sure that the dechlorination facilities are functioning properly. In addition, the chlorination system CT and modal contact time are continuously calculated and recorded.

Other constituents that are monitored and the frequency of the sampling and analyses are listed in Tables 5-1 through 5-7. In conformance with its permit, IEUA prepares monthly and annual water quality reports summarizing all monitoring data and relating any operational incidents.

Table 5-1
Influent Monitoring Program Summary at M-INF 3B, 3C, 3D[1]

Constituent	Unit	Type of Sample	Minimum Frequency of Sampling & Analysis
Flow	mgd	Recorder/totalizer	Continuous
pH	pH units	Recorder	Continuous
Specific conductance	µmhos/cm	Recorder	Continuous
TOC	mg/L	Composite	Weekly
BOD_5[2]	mg/L	Composite	Weekly
TSS	mg/L	Composite	Weekly
TDS	mg/L	Composite	Weekly
Ammonia-Nitrogen	mg/L	Grab	Weekly
Total Nitrogen	mg/L	Composite	Weekly
TIN	mg/L	Composite	Weekly
Cyanide (Free)[3]	µg/L	Grab	Monthly
Total Hardness	mg/L	Composite	Quarterly
Boron	mg/L	Composite	Quarterly
Chloride	mg/L	Composite	Quarterly
Fluoride	mg/L	Composite	Quarterly
Sodium	mg/L	Composite	Quarterly
Sulfate	mg/L	Composite	Quarterly
Arsenic	µg/L	Composite	Quarterly
Cadmium	µg/L	Composite	Quarterly
Total Chromium or Chromium VI	µg/L	Composite	Quarterly
Total Recoverable Copper	µg/L	Composite	Quarterly
Total Recoverable Lead	µg/L	Composite	Quarterly
Total Recoverable Mercury	µg/L	Composite	Quarterly
Total Recoverable Nickel	µg/L	Composite	Quarterly
Selenium	µg/L	Composite	Quarterly
Total Recoverable Silver	µg/L	Composite	Quarterly
Total Recoverable Zinc	µg/L	Composite	Quarterly
Bis (2-ethylhexyl) phthalate	µg/L	Grab	Quarterly
2,3,7,8 – TCDD (Dioxin)[4]	µg/L	Composite	Semi-annually
Volatile organic portion of EPA Priority Pollutants[5]	µg/L	Grab	Annually
Remaining EPA Priority Pollutants[5]	µg/L	Composite	Annually

1. Source: RWQCB, 2009. Influent compliance is for Monitoring Point M-INF.
2. BOD_5 is calculated based on a BOD_5/TOC correlation approved by the Region Water Board.
3. Free cyanide is measured as aquatic free cyanide (ASTM Method D7237) without sodium hydroxide (NaOH) preservation.
4. Applies at M-INF 3b & 3D only.
5. See waste discharge permit (Order No. R8-2009-0021) (RWQCB, 2009) for complete list or description.

Table 5-2
Tertiary Effluent Monitoring Program Summary at M-003[1]
(Without 20:1 Dilution in the Receiving Water)

Constituent	Unit	Type of Sample	Minimum Frequency of Sampling & Analysis
Flow	mgd	Recorder/totalizer	Continuous
Specific conductance	µmhos/cm	Recorder	Continuous
pH	pH units	Recorder	Continuous
Turbidity[2]	NTU	Recorder	Continuous
Total Chlorine Residual	mg/L	Recorder	Continuous
Coliform Organisms[3]	MPN per 100 ml	Grab	Daily
CT	mg-minutes/L	Recorder	Continuous[4]
TOC	mg/L	Composite	Daily
BOD_5[5]	mg/L	Composite	Daily
TSS	mg/L	Composite	Daily
Ammonia-Nitrogen	mg/L	Grab	Weekly
Temperature	°C	Grab	Weekly
TDS	mg/L	Composite	Monthly
TIN	mg/L	Composite	Monthly
Total Nitrogen	mg/L	Composite	Monthly
Cyanide (Free)[6]	µg/L	Grab	Monthly
Total Recoverable Copper	µg/L	Composite	Monthly
Toxicity[7]	TUc	Composite	Monthly
Total Hardness	mg/L	Composite	Monthly
Bicarbonate	mg/L	Composite	Monthly
Boron	mg/L	Composite	Monthly
Calcium	mg/L	Composite	Monthly
Carbonate	mg/L	Composite	Monthly
Chloride	mg/L	Composite	Monthly
Fluoride	mg/L	Composite	Monthly
Magnesium	mg/L	Composite	Monthly
Sodium	mg/L	Composite	Monthly
Sulfate	mg/L	Composite	Monthly
Total Recoverable Cadmium	µg/L	Composite	Monthly
Chromium (VI) or Total Chromium[8]	µg/L	Composite	Monthly
Total Recoverable Lead	µg/L	Composite	Monthly
Total Recoverable Mercury	µg/L	Composite	Monthly
Total Recoverable Selenium	µg/L	Composite	Monthly
Total Recoverable Silver	µg/L	Composite	Monthly
Total Recoverable Zinc	µg/L	Composite	Monthly
Bis (2-ethylhexyl) phthalate	µg/L	Grab	Monthly

Table 5-2
Tertiary Effluent Monitoring Program Summary at M-003[1]
(Without 20:1 Dilution in the Receiving Water)

Constituent	Unit	Type of Sample	Minimum Frequency of Sampling & Analysis
Bromodichloromethane	µg/L	Grab	Monthly
Aluminum	mg/L	Composite	Quarterly
Antimony	mg/L	Composite	Quarterly
Arsenic	µg/L	Composite	Quarterly[9]
Barium	µg/L	Composite	Quarterly[9]
Cobalt	µg/L	Composite	Quarterly[9]
Total Recoverable Nickel	µg/L	Composite	Quarterly[9]
2,3,7,8 – TCDD (Dioxin)	µg/L	Composite	Quarterly[10]
Volatile organic portion of Remaining EPA Priority Pollutants	µg/L	Grab	Annually[11]
Remaining EPA Priority Pollutants	µg/L	Composite	Annually[11]

1. Source: RWQCB, 2009. Effluent compliance is for tertiary treated effluent at Discharge Point DP 003 and Monitoring Location M-003.
2. Turbidity analysis shall be continuous, performed by a continuous recording turbidimeter. Compliance with the daily average operating filter turbidity shall be determined by averaging results of the daily average turbidity determinations shall be reported monthly. Turbidity measurements shall be taken immediately after filtration.
3. Samples for total coliform bacterial shall be collected daily. Samples shall be taken from the disinfected effluent.
4. The CT and modal contact time shall be continuously calculated and recorded. The minimum daily value shall be reported monthly. Modal contact time and CT shall be calculated based on the minimum one-hour average value in a 24-hr period.
5. BOD_5 is calculated based on a BOD_5/TOC correlation approved by the Region Water Board.
6. Free cyanide is measured as aquatic free cyanide (ASTM Method D7237) without sodium hydroxide (NaOH) preservation.
7. Refer to Order No. R8-2009-0021 for additional information regarding toxicity monitoring requirements.
8. If total Chromium test result is greater than 11 µg/L, the following sample shall be tested for Chromium IV, until directed otherwise.
9. Monitoring frequency for those priority pollutants that are detected during the required quarterly monitoring at a concentration greater than the concentration specified for that pollutant in Attachment I of the Permit shall be accelerated to monthly. To return to the monitoring frequency specified, approval must be requested from the RWQCB's Executive Officer or designee. For those priority pollutants without specified criteria values, accelerated monitoring is not required.
10. The discharger is required to conduct quarterly monitoring for Dioxin for one year. After one year, if quarterly monitoring results show non-detect values at acceptable reporting levels, the Discharger may reduce the frequency of monitoring for Dioxin from quarterly to semi-annual monitoring upon approval by the Regional Water Board Executive Officer or designee.
11. The monitoring frequency for those priority pollutants that are detected during the required semi-annual monitoring at a concentration greater than the concentration specified for that pollutant in Attachment I of the Permit shall be accelerated to quarterly for one year. To return to the monitoring frequency specified, approval must be requested from the RWQCB's Executive Officer or designee.

Table 5-3
Secondary Effluent Monitoring Program Summary at M-003
(With 20:1 Dilution in the Receiving Water)[1]

Constituent	Unit	Type of Sample	Minimum Frequency of Sampling & Analysis
Flow	mgd	Recorder/totalizer	Continuous
pH	pH units	Recorder/totalizer	Continuous
Total Chlorine Residual	mg/L	Recorder	Continuous
BOD_5	mg/L	Grab	Daily (when discharging)
Total Dissolved Solids	mg/L	Grab	When discharging
Coliform Organisms	MPN per 100 ml	Grab	Daily (when discharging)
Suspended Solids	mg/L	Grab	Daily (when discharging)
Total Hardness	mg/L	Grab	When discharging
EPA Priority Pollutants	µg/L	Grab	Annually[2]

1. Source: RWQCB, 2009. Effluent compliance is for secondary treated effluent for DP 003 and Monitoring Location M-003 when the receiving water has a 20:1 dilution.
2. Sample is collected from the first discharge, once a year.

Table 5-4
Reclamation Monitoring Program Summary at REC-003[1]

Constituent	Unit	Type of Sample	Minimum Frequency of Sampling & Analysis
Flow	mgd	Recorder/totalizer	Continuous
pH	pH units	Recorder/totalizer	Continuous
Turbidity[2]	mg/L	Recorder	Continuous
CT	mg-minutes/L	Recorder	Continuous[3]
Coliform Organisms	MPN per 100 ml	Grab	Daily
BOD_5	mg/L	Composite	Daily
TSS	mg/L	Composite	Daily
TDS	mg/L	Composite	Monthly

1. Source: RWQCB, 2009. Effluent compliance is for tertiary treated effluent for DP 007 and Monitoring Location REC-003.
2. Turbidity Samples shall be collected at Monitoring Point M-003.
3. The CT and modal contact time shall be continuously calculated and recorded. The minimum daily values shall be reported monthly.

Table 5-5
Receiving Water Monitoring Program Summary
(At Monitoring Location R-003U)[1]

Constituent	Unit	Type of Sample	Minimum Frequency of Sampling & Analysis
Flow	mgd	Estimate	Weekly
Dissolved Oxygen	mg/L	Grab	Weekly
Temperature	°C	Grab	Weekly
pH	pH unit	Grab	Weekly
Total Dissolved Solids	mg/L	Grab	Monthly
Total Inorganic Nitrogen	mg/L	Grab	Monthly
Total Hardness	mg/L	Grab	Quarterly
TSS	mg/L	Grab	Quarterly
EPA Priority Pollutants[2]	µg/L	Grab	Annually

1. Source: RWQCB, 2009. Monitoring location R-003U is located within 100 feet upstream of discharge point DP 003 in Chino Creek.
2. For the annual monitoring of the heavy metals EPA Priority Pollutants, the total recoverable and total dissolved metal concentrations shall be determined.

Table 5-6
Receiving Water Monitoring Program Summary
(At Monitoring Location R-003D)[1]

Constituent	Unit	Type of Sample	Minimum Frequency of Sampling & Analysis
Dissolved Oxygen	mg/L	Grab	Weekly
Temperature	°C	Grab	Weekly
pH	pH unit	Grab	Weekly
Color change, foam, deposition of material, odor	--	Observe	Weekly
Total Hardness	mg/L	Grab	Quarterly
TSS	mg/L	Grab	Quarterly
EPA Priority Pollutants[2]	µg/L	Grab	Annually

1. Source: RWQCB, 2009. Monitoring location R-003U is located within 500 feet downstream of discharge point DP 003 in Chino Creek.
2. For the annual monitoring of the heavy metals EPA Priority Pollutants, the total recoverable and total dissolved metal concentrations shall be determined.

Table 5-7
Biosolids Monitoring Program Summary[1]

Constituent	Unit	Type of Sample	Minimum Frequency of Sampling & Analysis
Priority Pollutants	mg/kg	Grab	Semi-annually
Moisture Content (% solid)	mg/kg	Grab	Quarterly

1. Source: RWQCB, 2009.

Section 6
Contingency Plan

IEUA's contingency plan to maintain continuous, high-level treatment at RP-5 and prevent discharge of inadequately treated effluent is described in this section.

6.1 Contingency Plan

The basis for the RP-5 contingency plan relies on the use of multiple treatment units and standby equipment and storage. As described for each process in Section 4 of this report, RP-5 has the capacity to treat flows averaging at least 16.3 mgd and peaks of at least 32.6 mgd.

Treatment reliability is provided by one of the following:

- standby treatment units and equipment,
- reliance on downstream processes,
- standby engine generator for emergency power, and
- on-site, short-term emergency storage.

For pumping stations and other similar mechanical facilities, standby units are available in the event that duty units are out of service. For major processes, such as the biological secondary treatment or filtration processes, standby units and conservative design criteria offer reliability, or if these are insufficient, on-site emergency storage can be used

Overall planning to prevent the discharge of inadequately treated effluent in the event of process outages or upsets is an integral part of plant reliability. Whenever a problem or potential problem that would adversely affect effluent quality is noted, some action must be taken to prevent improper discharge.

As discussed in Section 4.12 on Monitoring and Alarms, if any critical unit process fails or approaches the limit of its Title 22 capacity, an alarm is annunciated and the operator takes appropriate action. If the plant is unmanned, the on-call operator can log-on remotely to the SCADA system to review the alarm condition and determine the appropriate course of action.

Once the operations staff has been alerted to a potential problem, the first actions under a contingency plan are to assess the nature of the problem and its potential severity, and to determine if corrections can readily be made. The IEUA Manager of Operations would make the decision of which course of action to take. If it is determined that process adjustments or repairs cannot be made quickly enough, the following general procedures would be followed.

In the unlikely event of a major failure of the preliminary or primary treatment systems, the first alternative would be to divert a portion of the influent wastewater to another of IEUA's upstream treatment facilities. A second alternative would be to increase the removal efficiency of the remaining units in service. This can be accomplished by increasing the dosage of ferric chloride and polymer to the primary clarifiers, or by calling an additional blower into service due to increased air requirements. The plant could operate without significant impacts to the process under average conditions for a short time. It should be noted that the plant can be operated in the short term without the screening and grit removal processes.

For all other major process failures or events that would result in inadequately treated effluent for disposal or reuse, the primary response is to divert flow to on-site storage. Primary effluent would be diverted to the 6.8 million gallon Emergency Storage Pond, and tertiary effluent would be diverted to the 17 million gallon Emergency Holding Pond. Diversion to the Emergency Holding Pond is automatic; the gate to the outfall is automatically closed, and the future recycle pumps will be programmed to turn off. All pumps are programmed to shut down on a high effluent turbidity signal so no inadequately treated wastewater would be delivered to recycled water users.

On-site emergency storage basins have a combined volume of 23.8 million gallons or approximately 35 hours of storage at an average flow of 16.3 mgd. Significantly more storage time would be available if a portion of the influent flow were temporarily treated at one of IEUA's upstream plants.

Any inadequately treated effluent stored on-site would be returned to the influent pump station wetwell after the plant is restored to working capacity and influent flows are sufficiently low. The Emergency Storage Pond has a permanent pumping facility for this purpose, and the Emergency Holding Pond has provisions for portable pumps to return flow to the head of the plant.

In the event of a power failure, the plant is designed to automatically switch over to the standby diesel engine-generator. An alarm will annunciate in the SCADA system to inform operators that power has failed.

All of the major process units have been provided with backup reliability and multiple units in the event that any one unit is out of service. Additionally, IEUA's preventative maintenance program (described in Section 7) helps to ensure that all mechanical equipment is kept in reliable working order.

Section 7
Operation and Maintenance Plan

Operation and maintenance of RP-5 are described in this section. IEUA's plans for staffing the facility and performing preventive maintenance are discussed.

7.1 Staffing

RP-5 is fully staffed with operation and maintenance personnel. Operators are physically working at the plant 8 hours per day and are on-call 24 hours per day, 7 days per week. Key operators are provided with laptops and pagers for alarms and monitoring when the plant is unmanned. Certified operators at the plant are listed in Table 7-1. In addition to these personnel, the plant has a Manager of Operations for RP-5, who is a Grade V wastewater operator. IEUA has an Executive Manager of Operations, who is also a Grade V operator and is in charge of wastewater administration for the entire agency.

Table 7-1
Operations Staff

Operator Grade[1]	Position	Number of Persons[2]
V	Operations Supervisor	1
III	Operations Assistant	1
V	Senior Operator	3
V	Operator	2
IV	Operator	1
III	Operator	3
II	Operator	2
I	Operator	1

1. State Wastewater Certification
2. Source: Carollo, 2004.

Mechanical, electrical, and instrumentation maintenance personnel are also on duty as required. Table 7-2 lists the maintenance staff available to RP-5.

Table 7-2
Plant Maintenance Staff

Certification[1]	Position	Number of Persons[2]
III	Plant Maintenance Superintendent	1
I	Senior Plant Maintenance Technician	1
I	Technician II	4
I	Senior Mechanic	1

Table 7-2
Plant Maintenance Staff

Certification[1]	Position	Number of Persons[2]
	Mechanic II	4
II	Senior Instrumentation Technician	1
II	Instrumentation Technician II	3
I	Senior Electrician	1
I	Electrician II	3

1. California Water Environment Association Certification
2. Source: Carollo, 2004.

7.2 Preventive Maintenance Program

Under IEUA's preventive maintenance program, inspections, lubrications, and operational rotation and repair of all mechanical, electrical, and support equipment are regularly scheduled. In addition to retaining manufacturers' maintenance manuals, files are kept for all major equipment. Routine or regularly scheduled maintenance activities are carried out with the aid of detailed checklists to ensure that important checks and servicing are not overlooked and that complete records are kept for all major equipment components. An organized system, based on work orders with priority determined on a "need" basis, coordinates the operation and maintenance personnel at the plant. The maintenance department normally keeps lists of replacement parts necessary for specific equipment, and in many cases, stocks the replacement parts at the plant site.

7.3 Employee Training Program

The existing IEUA training program will remain in effect at RP-5. This program covers the procedures, rules and regulations that apply when working with recycled water, and basic cross-connection and backflow principles and procedures.

Section 8
Recycled Water Use

This section of the report describes the recycled water users, demands, distribution system, and on-site user facilities.

8.1 Users and Demands

The current IEUA recycled water distribution system is supplied by the following reclamation plants: RP-1, RP-4, RP-5 and CCWRF.

The distribution system supplies recycled water to five agencies: IEUA, San Bernardino County, City of Ontario, City of Chino, and City of Chino Hills. The recycled water is used primarily for landscape irrigation. Other uses include agricultural irrigation, industrial use, and groundwater recharge. Since RP-5 ties into the distribution system well downstream of the groundwater recharge connection, no RP-5 effluent is used directly for groundwater recharge.

The recycled water user rules and regulations are described in IEUA's Ordinance Nos. 69 and 75. Copies of these ordinances can be found in Appendix B.

Current recycled water users and their individual demands, type of use, and distribution system pressure zone (PZ) are listed below in Table 8-1. RP-5 supplies recycled water to the distribution system in the 800 pressure zone.

Table 8-1
Recycled Water Users

Recycled Water User Name	Type of Use	PZ	Total[2]
C W FARMS I	Agricultural Irrigation	800	316.93
C W FARMS II	Agricultural Irrigation	800	45.67
C W FARMS III	Agricultural Irrigation	800	257.76
C W FARMS IV	Agricultural Irrigation	800	691.71
CAL POLY POMONA	Agricultural Irrigation	800	334.01
CHINO DEVELOPMENT CORPORATION	Landscape Irrigation	800	38.16
CHINO HILLS FORD	Landscape Irrigation	800	5.28
CLEVELAND FARM #1	Agricultural Irrigation	800	223.80
Cal Aero Academy (K-8 SCHOOL)	Landscape Irrigation	800	10.74
LA BRUCHERIE FARMS	Agricultural Irrigation	800	133.44
NYENHUIS DAIRY	Agricultural Irrigation	800	431.38
PRESERVE MAINTENANCE CORP	Landscape Irrigation	800	7.04
PRESERVE MAINTENANCE CORP	Landscape Irrigation	800	6.08

Table 8-1
Recycled Water Users

Recycled Water User Name	Type of Use	PZ	Total[2]
PRESERVE MASTER MAINTENANCE	Landscape Irrigation	800	14.20
RICHARDSON, DON	Agricultural Irrigation	800	35.16
SUPERIOR SOD	Landscape Irrigation	800	192.04
SUPERIOR SOD	Landscape Irrigation	800	104.44
THE PRESERVE MASTER COMMUNITY	Landscape Irrigation	800	5.19
VIAVERDE NURSERY	Landscape Irrigation	800	7.24
VIRAMONTES EXPRESS	Landscape Irrigation	800	7.73
WATSON LAND COMPANY	Landscape Irrigation	800	6.39
WATSON LAND COMPANY	Landscape Irrigation	800	5.75
ALL COAST FOREST PRODUCTS	Landscape Irrigation	930	5.10
CAL POLY POMONA	Agricultural Irrigation	930	125.57
CITY OF CHINO	Landscape Irrigation	930	80.93
CITY OF CHINO	Landscape Irrigation	930	10.81
CITY OF CHINO AYALA PARK	Landscape Irrigation	930	26.07
CITY OF CHINO AYALA PARK	Landscape Irrigation	930	26.82
CLEVELAND FARM #2	Agricultural Irrigation	930	81.45
CLEVELAND FARM #2	Agricultural Irrigation	930	843.80
CLEVELAND FARM #2	Agricultural Irrigation	930	120.38
COLLEGE PARK COMMUNITY ASSOC	Landscape Irrigation	930	8.42
MAJESTIC MANAGEMENT	Landscape Irrigation	930	5.17
California Cogeneration	Industrial	930	46.84
SAN BDNO COUNTY FAIRGROUNDS	Landscape Irrigation	930	7.92
SUN CAL INLAND EMPIRE DIV	Landscape Irrigation	930	7.99
Big League Dreams	Landscape Irrigation	930	25.13
BRE Properties	Landscape Irrigation	930	8.16
C.U.S.D.	Landscape Irrigation	930	5.45
Caltrans	Landscape Irrigation	930	7.47
Chino Hills Business Park	Landscape Irrigation	930	6.20
Chino Hills High School	Landscape Irrigation	930	7.81
Chino Hills High School	Landscape Irrigation	930	6.74
Choung, Cu	Landscape Irrigation	930	26.17
Chino Hills City	Landscape Irrigation	930	8.23
Chino Hills City	Landscape Irrigation	930	8.32
Chino Hills City	Landscape Irrigation	930	8.50
Chino Hills City	Landscape Irrigation	930	10.30
Chino Hills City	Landscape Irrigation	930	10.28

Table 8-1
Recycled Water Users

Recycled Water User Name	Type of Use	PZ	Total[2]
Chino Hills City	Landscape Irrigation	930	9.79
Chino Hills City	Landscape Irrigation	930	12.75
Chino Hills City	Landscape Irrigation	930	7.44
Chino Hills City	Landscape Irrigation	930	5.14
Chino Hills City	Landscape Irrigation	930	9.77
Chino Hills City	Landscape Irrigation	930	8.31
Chino Hills City	Landscape Irrigation	930	7.00
Fieldstone Comm	Landscape Irrigation	930	6.66
Los Serranos Golf	Landscape Irrigation	930	97.97
Los Serranos Golf	Landscape Irrigation	930	42.93
Pine Corporate Ctr Assoc	Landscape Irrigation	930	5.86
Pinehurst Hills Comm Assoc	Landscape Irrigation	930	5.01
Ridgegate Neighborhood Assoc	Landscape Irrigation	930	6.80
Ridgegate Neighborhood Assoc	Landscape Irrigation	930	5.19
Ridgegate Neighborhood Assoc	Landscape Irrigation	930	7.13
Sycamore Heights Comm Assoc	Landscape Irrigation	930	5.06
Sycamore Heights Comm Assoc	Landscape Irrigation	930	5.16
Sycamore Heights Comm Assoc	Landscape Irrigation	930	9.21
Chino Creek Park	Landscape Irrigation	800	5.92
Greenlee Nursery	Landscape Irrigation	800	5.19
Chino Creek Park	Evaporation/Percolation	800	67.60
Ely	Recharge Basin	1158	126
RP-3	Recharge Basin	1158	655
Bootsma Farm (ORW-20)	Agricultural Irrigation	930	49.74
Cleveland Farms	Agricultural Irrigation	930	69.94
Cleveland Farms	Agricultural Irrigation	930	465.05
Cleveland Farms	Agricultural Irrigation	930	174.01
Cleveland Farms	Agricultural Irrigation	930	82.58
Cleveland Farms	Agricultural Irrigation	930	8.73
Legend Dairies (Petersma)	Agricultural Irrigation	930	110.29
David Li	Agricultural Irrigation	930	125.63
Murai Farms (Luke Li)	Agricultural Irrigation	930	141.57
Murai Farms (Luke Li)	Agricultural Irrigation	930	150.45
Ron LaBrucherie	Agricultural Irrigation	930	306.99
Sam Lewis Farm	Agricultural Irrigation	930	486.84
Yoog II Farm Inc.	Agricultural Irrigation	930	87.30

Table 8-1
Recycled Water Users

Recycled Water User Name	Type of Use	PZ	Total[2]
CalTrans	Landscape Irrigation	1050	15.48
CalTrans	Landscape Irrigation	1050	40.34
Cleveland Farms	Agricultural Irrigation	1050	193.31
CCC-S	Landscape Irrigation	1158	6.29
Fruit Growers	Industrial	1158	14.59
Kaiser Hospital	Landscape Irrigation	1158	10.51
Toyota	Landscape Irrigation	1158	12.58
Toyota	Landscape Irrigation	1158	13.37
Toyota	Landscape Irrigation	1158	13.96
Toyota	Landscape Irrigation	1158	9.41
Toyota	Landscape Irrigation	1158	8.77
Toyota	Landscape Irrigation	1158	10.18
Toyota	Landscape Irrigation	1158	7.69
Westwind Park	Landscape Irrigation	1158	39.53
Whispering Lakes Golf Course	Landscape Irrigation	1158	364.85
Bellevue Memorial Park	Landscape Irrigation	1158	53.51
City of Ontario (Soccer Complex)	Landscape Irrigation	1158	35.96
El Prado Golf Course	Landscape Irrigation	800	73.68
El Prado Regional Park	Landscape Irrigation	800	478.41
El Prado Golf Course (Meter Read)	Landscape Irrigation	800	54.75
El Prado Regional Park (Meter Read)	Landscape Irrigation	800	271.59

1. IEUA, 2010b. Demands shown are for the month of July 2009 through October 2009.
2. Current recycled water users may have multiple meters per site

8.2 Distribution System

The distribution system consists of the following major pipelines: CCWRF Recycle Water System, RP-4 Outfall, RP-1 Outfall Extension, West Edison, Ramona Feeder, and Solids Process Recycle. These pipelines form part of the Regional Recycled Water Distribution System, which is illustrated in Appendix F.

8.3 Recycled Water User Facilities

IEUA Ordinance No. 69 (IEUA, 2000), adopted by the IEUA Board of Directors in May, 2000, establishes rules, requirements, and responsibilities, under which, recycled water service is provided to customers. IEUA Ordinance No. 75 (IEUA, 2002) specifies requirements and incentives for recycled water use within the service area. Applicants for recycled water service agree to comply with the terms of their Recycled Water Use Permit, as well as applicable Federal, State and Local statutes, to protect public health. The on-site operational controls

must be appropriate for the beneficial use approved in the Recycled Water Use Permit for the safe and reliable delivery of recycled water. Specific identification, signage, and cross-connection prevention requirements include the following measures:

- All recycled water valves, outlets, quick couplers, and sprinkler heads shall be of a type, or secured in a manner that only permits operation by personnel authorized by the customer.
- All recycled water valves and outlets shall be appropriately tagged to warn the public and employees that the water is not intended nor allowed for drinking.
- All piping, valves and outlets shall be color-coded (purple) or otherwise marked to differentiate recycled water from non-recycled water facilities.
- Hose bibs shall not be used in the recycled water system; quick couplers or comparable connection devices shall be used instead.
- Adequate means of notification shall be provided to inform the public, employees and others that recycled water is being used. Such notification shall include the posting of conspicuous recycled water information signage with proper wording in both English and Spanish of sufficient size to be clearly read, which shall be posted at adequate intervals around the use area. Signage shall be in conformance with CDPH Title 22 regulations.
- Cross-connection prevention measures, such as backflow preventers or reduced pressure principle devices, shall be installed and maintained to comply with requirements of CDPH and local potable water purveyors.

The current users are served by the City of Ontario, or in the case of the Reliant Energy Power Station, directly by IEUA. The City of Ontario has a Recycled Water Use Ordinance (City of Ontario, 1999) that requires recycled water users to complete a Title 22 engineering report and obtain a user permit from the City. IEUA has a contract with Reliant Energy that requires them to comply with IEUA's Ordinance No. 69 and have an approved Title 22 engineering report.

IEUA encourages the maximum use of recycled water for beneficial purposes. As part of this effort, IEUA maintains guidance to educate and support local member agencies and recycled water customers in the proper design, installation, operation, and maintenance of their on-site recycled water systems.

IEUA maintains an employee training program that covers procedures used when working with recycled water, rules and regulations associated with recycled water use, hazards of working with recycled water, and basic cross-connection prevention and backflow principles and procedures.

Section 9
Conclusions and Recommendations

This chapter summarizes the findings of the evaluation of RP-5 for compliance with Title 22 Water Recycling Criteria. Conclusions and recommendations are presented.

9.1 Conclusions

This Title 22 Engineering Report demonstrates how IEUA's RP-5 provides reliable treatment capacity in compliance with Title 22 Water Recycling Criteria for an annual average flow of 16.3 mgd, peak dry weather capacity of 28.2 mgd, and peak wet weather capacity of 32.6 mgd for all facilities. Table 9-1 on the following page summarizes the rated capacity of each treatment process. Described in detail in Section 4, capacity is based on the following criteria:

- Design criteria and actual operating parameters;
- Provisions for redundant, standby, or alternative equipment or treatment processes; and
- On-site emergency storage.

Table 9-1
RP-5 Process Capacity Summary

Process	Peak Capacity[1] (mgd)	Annual Average Capacity With All Units in Service (mgd)	Title 22 Reliable Annual Average Capacity[2] (mgd)
Influent Pumping:			
Influent Pumping[3]	36	18	24
Preliminary Treatment:			
Bar screens	90	45	30
Grit basin	30	16.3	16.3
Primary Treatment:			
Primary Clarifiers	32.6	16.3	16.3
Secondary Treatment:			
Aeration Basins	23.4	17.1	16.3
Clarifiers	31.9	22.2	16.6
Tertiary Treatment:			
Filtration[4]	25.9	18.0	16.5
Chlorine Contact Basin[5]	23.5	16.3	16.3

1. Peak Capacity = total peak flow capacity with all units in service.
2. Title 22 Reliable Annual Capacity = annual average flow capacity conforming to the reliability requirements set forth in Title 22. Reliability may be provided by redundant, standby, or alternative equipment or processes. The specific means of establishing reliability is described in Section 4 for each treatment process.
3. The Influent Pump Station receives influent flow from the RP-5 service area. Flows from the RP-2 Lift Station enter RP-5 downstream of the Influent Pump Station.
4. Filtration Title 22 Annual Average Capacity is based on having one filter out of service.
5. Peak capacity is 23.5 mgd to provide the minimum 450 mg-min/L CT and 90 minute modal contact time required by Title 22 for peak dry weather flows based on modal contact time test (SFE Global, 2004).

9.2 Recommendations

RP-5 currently complies with Title 22 Water Recycling Criteria at an annual average capacity of 16.3 mgd. This is consistent with the RP-5 permit, RWQCB Order No. R8-2009-0021.

References

INLAND EMPIRE UTILITIES AGENCY

REGIONAL PLANT NO. 5

References

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RWQCB, 2009. Order No. R8-2009-0021, National Pollution Discharge Elimination System (NPDES) Permit No. CA8000409, "Waste Discharge and Producer/user Reclamation Requirements for Inland Empire Utilities Agency Regional Water Recycling Facilities Surface Water Discharges and Recycled Water Use", July 20, 2009.

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Appendix A

ORDER NO. R8-2009-0021
NPDES NO. CA8000409

WASTE DISCHARGE AND PRODUCER /USER RECLAMATION REQUIREMENTS
FOR
INLAND EMPIRE UTILITIES AGENCY
REGIONAL WATER RECYCLING FACILITIES
SURFACE WATER DISCHARGES AND RECYCLED WATER USE

California Regional Water Quality Control Board
Santa Ana Region

July 20, 2009

ITEM: ***7**

SUBJECT: Issuance of Waste Discharge and Producer/User Reclamation Requirements for the Inland Empire Utilities Agency's Regional Water Recycling Facilities, Surface Water Discharges and Recycled Water Use, Order No. R8-2009-0021, NPDES No. CA8000409, San Bernardino County

DISCUSSION:

See attached Fact Sheet

RECOMMENDATIONS:

Adopt Order No. R8-2009-0021, NPDES No. CA8000409 as presented.

COMMENT SOLICITATION:

Comments were solicited from the discharger and the following agencies:

U.S. Environmental Protection Agency, Permits Issuance Section (WTR-5) – Doug Eberhardt
U.S. Army District, Los Angeles, Corps of Engineers - Regulatory Branch
U.S. Fish and Wildlife Service, Carlsbad – Christine Medak
State Water Resources Control Board, Office of the Chief Counsel – David Rice
State Department of Fish and Game, Los Alamitos - Ms. Latonio
California Department of Public Health, San Bernardino – Sean McCarthy
California Department of Public Health, Carpenteria - Jeff Stone
State Department of Water Resources, Glendale – Charles Keene
Santa Ana Watershed Project Authority – Celeste Cantu
Santa Ana River Dischargers Association – Ed Filadelfia
Orange County Water District - Nira Yamachika
San Bernardino County Transportation/Flood Control District – Naresh Varma
San Bernardino County Environmental Health Services – Daniel Avera
City of Chino, Public Works Department – Jose Alire
City of Chino Hills - Public Works Department
City of Fontana – Chuck Hays, chays@fontana.org
City of Montclair - Nicole Greene
City of Ontario – Mohamed El-Amamy
City of Upland – Maria Linzay
Cucamonga Valley Water District -
Inland Empire Waterkeeper – Autumn DeWoody
Orange County Coastkeeper - Garry Brown
Lawyers for Clean Water C/c San Francisco Baykeeper
Natural Resources Defense Council – David Beckman
Inland Empire Utilities Agency - Patrick Sheilds

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

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ORDER NO. R8-2009- 0021
NPDES NO. CA8000409

WASTE DISCHARGE AND PRODUCER/USER RECLAMATION REQUIREMENTS FOR INLAND EMPIRE UTILITIES AGENCY REGIONAL WATER RECYCLING FACILITIES SURFACE WATER DISCHARGES AND RECYCLED WATER USE

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 1. Discharger Information

Discharger/ Operator	Inland Empire Utilities Agency			
Name of Facility	Regional Water Recycling Plant No. 1 (RP-1)	Regional Water Recycling Plant No. 4 (RP-4)	Regional Water Recycling Plant No. 5 (RP-5)	Carbon Canyon Water Reclamation Facility (CCWRF)
Facility Address	2450 East Philadelphia Street	12811 Sixth Street	6068 Kimball Ave, Building "C".	14950 Telephone Avenue
	Ontario, CA 91761	Rancho Cucamonga, CA 91729	Chino, CA 91708	Chino, CA 91710
	San Bernardino County			
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a major discharge.				

The discharge by Inland Empire Utilities Agency (IEUA) from the discharge points identified below is subject to waste discharge requirements as set forth in this Order:

Table 2. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Tertiary treated effluent from RP-1	N33°56'39"	W117°38'34"	Prado Park Lake, overflow from the lake to an unnamed creek, then to Reach 1A of Chino Creek, a tributary to Reach 3 of Santa Ana River in Prado Basin
002	Tertiary treated effluent from RP-1&RP-4	N34°01'31"	W117°33'56"	Reach 1 of Cucamonga Creek, then to Mill Creek, then to Reach 1A of Chino Creek, a tributary to Reach 3 of Santa Ana River in Prado Basin
003	Tertiary treated effluent from RP-5	N33°57'44"	W117°40'41"	Reach 1B of Chino Creek, a tributary to Reach 3 of Santa Ana River
004	Tertiary treated effluent from CCWRF	N33°58'56	W117°41'48"	Reach 2 of Chino Creek, a tributary to Reach 3 of Santa Ana River
005	Recycled water from RP-1	N34°01'29"	W117°35'57"	Use area overlying Chino North "Max Benefit" GMZ (or Chino 1, 2, and 3 "Antidegradation" GMZs – see Fact Sheet)
006	Recycled water from RP-4	N34°04'59"	W117°31'35"	
007	Recycled water from RP-5	N33°57'51"	W117°40'24"	
008	Recycled water from CCWRF	N33°58'47"	W117°41'37"	
S-001	Stormwater from RP-1	N34°01'36"	W117°35'59"	Stormwater runoff to Reach 1 of Cucamonga Creek
S-002	Stormwater from RP-1	N34°01'28"	W117°35'58"	Stormwater runoff to Reach 1 of Cucamonga Creek

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	July 20, 2009
This Order shall become effective on:	July 20, 2009
This Order shall expire on:	July 1, 2014
The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:	January 2, 2014

I, Gerard J. Thibeault, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Santa Ana Region, on July 20, 2009.

Gerard J. Thibeault, Executive Officer

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I. FACILITY INFORMATION

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 4. Facility Information

Discharger/Operator	Inland Empire Utilities Agency			
Name of Facility (RWRF)	RP-1	RP-4	RP-5	CCWRF
Address	2450 East Philadelphia Street	12811 Sixth Street	6068 Kimball Avenue Building "C"	14950 Telephone Avenue
	Ontario, CA 91761	Rancho Cucamonga, CA 91729	Chino, CA 91708	Chino, CA 91710
	San Bernardino County			
Facility Contact, Title and Phone	Patrick O. Sheilds, Executive Manager of Operations, (909) 993-1806			
Authorized Person to Sign and Submit Reports	Patrick O. Sheilds, Executive Manager of Operations, (909) 993-1806			
Address	6075 Kimball Avenue, Chino, CA 91708			
Mailing/Billing Address	P.O. Box 9020, Chino Hills, CA 91709			
Type of Facility	POTW			
Facilities Permitted Flow	84.4 million gallons per day (mgd)			
Facility Design Flow	44 mgd	14 mgd	15 mgd (and 1.3 mgd RP-2 sludge treatment system wastewater flows)	11.4 mgd

II. FINDINGS

The California Regional Water Quality Control Board, Santa Ana Region (hereinafter Regional Water Board), finds:

A. Background. The Inland Empire Utilities Agency (hereinafter Discharger, or IEUA) owns and operates a regional wastewater collection system and four regional water recycling facilities (hereinafter, Facilities), including Regional Water Recycling Plants Nos. 1, 4, and 5 and the Carbon Canyon Water Reclamation Facility (CCWRF). The Discharger is currently discharging from these Facilities pursuant to the following waste discharge and producer/user water reclamation requirements:

1. Order No. R8-2006-0010, National Pollutant Discharge Elimination System (NPDES) Permit No. CA0105279, as amended by Orders No. R8-2007-0045 and No. R8-2007-0078, for treated wastewater discharges from Regional Water Recycling Plant No. 1 (RP-1) and Regional Water Recycling Plant No. 4 (RP-4);

2. Order No. R8-2008-0028, NPDES No. CA8000402 for treated wastewater discharges from Regional Water Recycling Plant No. 5 (RP-5); and

3. Order No. R8-2004-0020, NPDES No. CA8000073, as amended by Orders No. R8-2006-0038 and No. R8-2007-0078, for treated wastewater discharges from Carbon Canyon Water Reclamation Facility (CCWRF).

The Discharger submitted a Report of Waste Discharge (ROWD), dated January 27, 2009, and applied for a NPDES permit to consolidate the three waste discharge and producer/user water reclamation requirements identified above into one permit to regulate a total discharge of up to 84.4 million gallons per day (mgd) of tertiary treated wastewater from RP-1, RP-4, RP-5, and CCWRF.

For the purposes of this Order, references to the “discharger” or “permittee” in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

B. Facility Description. IEUA owns and operates a regional wastewater collection system and four water recycling plants. Wastewater can be diverted to different plants via available routing options built into the regional system (see Figure 1 of Attachment C for further detail). After treatment, effluent/recycled water can be discharged to nearby outfall(s) or it can be recycled for industrial uses, irrigation and groundwater recharge. The wastewater treatment systems consist of primary, secondary, and tertiary treatment. Treated wastewater is discharged from various discharge points either to Prado Park Lake, Reach 1 of Cucamonga Creek, or Chino Creek. The lake and the creeks are tributaries to Reach 3 of the Santa Ana River within the Prado Basin Management Zone. Recycled water is used in areas overlying the Chino North “Maximum Benefit” Groundwater Management Zone (GMZ) (or Chino 1, 2, and 3 “Antidegradation” GMZs). Groundwater recharge of recycled water is regulated under separate waste discharge requirements. Attachment B provides maps of the area

around these Facilities. Attachment C provides flow schematics at each Facility, the IEUA System-Wide influent flow interrelationship diagram, and a schematic of the IEUA System-Wide Water Recycling Distribution System.

C. Legal Authorities. This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this Facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, Division 7 of the Water Code (commencing with section 13260).

D. Background and Rationale for Requirements. The Regional Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through E and G through K are also incorporated into this Order.

E. California Environmental Quality Act (CEQA). Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code section 21000 et seq. (*County of Los Angeles v. California State Water Resources Control Board* (2006) 143 Cal.App.4th 985, mod. (Nov. 6, 2006, B184034) 50 Cal.Rptr.3d 619, 632-636). This action also involves the re-issuance of waste discharge requirements for an existing facility that discharges treated wastewater to land and as such, is exempt from the provisions of California Environmental Quality Act (commencing with Section 21100) in that the activity is exempt pursuant to Title 14 of the California Code of Regulations Section 15301.

F. Technology-based Effluent Limitations. Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations[1], require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at Part 133 and/or Best Professional Judgment (BPJ) in accordance with Part 125, section 125.3. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).

[1] *All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.*

G. Water Quality-Based Effluent Limitations. Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. This Order contains requirements, expressed as a technology equivalence requirement, more stringent than secondary treatment requirements. These requirements are necessary to meet applicable water quality standards.

The rationale for these requirements, which consist of tertiary or equivalent treatment requirements and other provisions, is discussed in the Fact Sheet.

Section 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

H. Water Quality Control Plans. The Regional Water Board adopted a revised Water Quality Control Plan for the Santa Ana Region (hereinafter Basin Plan) that became effective on January 24, 1995. The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters in the Santa Ana Region addressed through the plan. More recently, the Basin Plan was amended significantly to incorporate revised boundaries for groundwater subbasins, now termed "management zones", new nitrate-nitrogen and TDS objectives for the new management zones, and new nitrogen and TDS management strategies applicable to both surface and ground waters.

This Basin Plan Amendment was adopted by the Regional Water Board on January 22, 2004. The State Water Resources Control Board (State Water Board) and Office of Administrative Law (OAL) approved the Amendment on September 30, 2004 and December 23, 2004, respectively. EPA approved the surface water standards components of the N/TDS Amendment on June 20, 2007.

In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which established State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Based on the criteria specified in the State Water Board Resolution, the Basin Plan specifies that Reaches 1A, 1B, and 2 of Chino Creek, Reach 1 of Cucamonga Creek and Reach 5 of the Santa Ana River, beginning at the intersection of Orange Avenue in the City of Redlands, and downstream reaches are excepted from the municipal and domestic supply beneficial use.

As discussed in detail in the Fact Sheet (Attachment F), beneficial uses applicable to the Prado Basin Management Zone, Reach 1 of Cucamonga Creek, Reaches 1A, 1B, and 2 of Chino Creek, and Reach 3 of the Santa Ana River are as follows:

Table 5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
001	Prado Park Lake overflow from the lake to an unnamed creek, then to Reach 1A of Chino Creek	Present or Potential: Water contact recreation (REC-1), non-contact water recreation (REC-2), warm freshwater habitat, wildlife habitat (WILD), and rare, threatened and endangered species. Recreational use at Prado Park Lake is restricted to fishing and boating. Excepted from Municipal and Domestic Supply.
002	Reach 1 of Cucamonga Creek, then to Mill Creek, thence to Reach 1A of Chino Creek	Present or Potential: Groundwater Recharge, Water contact recreation (REC-1), non-contact water recreation (REC-2), Limited warm freshwater habitat, and wildlife habitat (WILD). Excepted from Municipal and Domestic Supply.
003	Reach 1B of Chino Creek	Present or Potential: Water contact recreation (REC-1), non-contact water recreation (REC-2), warm freshwater habitat, wildlife habitat (WILD), and rare, threatened and endangered species. Excepted from Municipal and Domestic Supply.
004	Reach 2 of Chino Creek	Present or Potential: Groundwater Recharge, Water contact recreation (REC-1), non-contact water recreation (REC-2), Cold freshwater habitat, and wildlife habitat (WILD). Excepted from Municipal and Domestic Supply.
001, 002, 003, 004, S-001, & S-002	Reach 3 of Santa Ana River within Prado Basin Area	Present or Potential: Agricultural supply, groundwater recharge, water contact recreation, non-contact water recreation, warm freshwater habitat, wildlife habitat, and rare, threatened or endangered species. Excepted from Municipal and Domestic Supply.
001, 002, 003, 004, 005, 006, 007, 008, S-001, & S-002	Chino North “Max Benefit” GMZ/Chino 1, 2 and 3 “antidegradation” GMZs	Present or Potential: Municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.
	Orange GMZ (affected GMZ downstream of discharge points)	Present or Potential: Municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.

Requirements of this Order implement the Basin Plan.

I. National Toxics Rule (NTR) and California Toxics Rule (CTR). USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.

J. Compliance Schedules and Interim Requirements – Not Applicable

K. State Implementation Policy. On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

L. Alaska Rule. On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes. (40 C.F.R. section 131.21; 65 Fed. Reg. 24641 (April 27, 2000).) Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000 may be used for CWA purposes, whether or not approved by USEPA.

M. Stringency of Requirements for Individual Pollutants. This Order contains both technology-based and water quality based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD_5 and Suspended Solids. Restrictions on the same pollutants are discussed in Section IV.B.2. of Attachment F. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, this Order contains effluent limitations more stringent than the minimum, federal technology-based requirements that are necessary to meet water quality standards. These limitations are not more stringent than required by the CWA.

Water quality-based effluent limitations have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to section 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations for priority pollutants are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. With the exception of certain surface water standards changes adopted as part of the Nitrogen/TDS Basin Plan Amendment (see Section H, above), all beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to section 131.21(c)(1). The surface water standards changes adopted as part of the Nitrogen/TDS Basin Plan Amendment were approved by USEPA on June 20, 2007.

N. Antidegradation Policy. Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. As discussed in the Fact Sheet, discharges in accordance with the terms and conditions of this Order will not result in a lowering of water quality. Therefore, the permitted discharges are consistent with the antidegradation provisions of section 131.12 and State Water Board Resolution No. 68-16.

O. Anti-Backsliding Requirements. Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit. With the exception of the average monthly limitation for free cyanide, all effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Orders and are consistent with the anti-backsliding requirements of the CWA and federal regulations.

P. Endangered Species Act. This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

Q. Monitoring and Reporting. Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment E.

R. Pretreatment: The Discharger has established an approved regional pretreatment program. The approved pretreatment program and its components, such as Ordinance No.97-OR5, local limits (adopted by the Discharger in 2000), and control mechanisms, among others, are hereby made an enforceable condition of this Order.

S. Biosolids Requirements. On February 19, 1993, the USEPA issued a final rule for the use and disposal of sewage sludge, 40 CFR, Part 503. This rule requires that producers of sewage sludge meet certain reporting, handling, and disposal requirements. The State of California has not been delegated the authority to implement this program, therefore, the U.S. Environmental Protection Agency is the implementing agency. However, this Order includes Regional Water Board biosolids requirements.

T. State General Waste Discharge Requirements for Sanitary Sewer Systems. The State Water Board issued General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003 on May 2, 2006, requiring public agencies that own sanitary sewer systems comprised of more than one mile of pipes or sewer lines, to enroll for coverage under the General Order. The General Order requires agencies to develop sanitary sewer management plans (SSMPs) and report all sanitary sewer overflows (SSOs).

This Order requires the Discharger and other governmental agencies[2] to obtain enrollment for regulation under the General Water Quality Order No. 2006-0003. The Discharger has already enrolled.

[2] *Member agencies and sewering agencies discharging wastewater into the Facility.*

U. Standard and Special Provisions. Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. The rationale for the special provisions contained in this Order is provided in the attached Fact Sheet.

V. Provisions and Requirements Implementing State Law. The provisions/requirements in subsections IV.B, IV.C, V.B, and VI.C. of this Order are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

W. Notification of Interested Parties. The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet of this Order.

X. Consideration of Public Comment. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet of this Order.

IT IS HEREBY ORDERED, that this Order supersedes Order No. R8-2006-0010 as amended by Orders No. R8-2007-0045 and No. R8-2007-0078; Order No. R8-2008-0028, and Order No. R8-2004-0020 as amended by Order Nos. R8-2006-0038, and R8-2007-0078, except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

III. DISCHARGE PROHIBITIONS

A. The direct discharge of secondary treated wastewater to Chino Creek and Reach 1 of Cucamonga Creek other than when the flow[3] in the creeks results in a dilution of 20:1 or more at the point of discharge is prohibited.

B. Discharge of wastewater at a location or in a manner different from those described in this Order is prohibited.

C. The bypass or overflow of untreated wastewater or wastes to surface waters or surface water drainage courses is prohibited, except as allowed in Standard Provision I.G. of Attachment D, Federal Standard Provisions.

D. The discharge of any substances in concentrations toxic to animal or plant life is prohibited.

E. The discharge of any radiological, chemical, or biological warfare agent or high level radiological waste is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations –Discharge Points (DP) 001, 002, 003, and 004

Unless otherwise specifically specified hereinafter, compliance with the following effluent limitations is measured at monitoring locations M-001, M-002, M-003 and M-004 as described in the attached MRP (Attachment E).

1. Final Effluent Limitations for discharges under conditions <u>without</u> 20:1 dilution in the receiving water – DPs 001, 002, 003 and 004

a. The Discharge shall maintain compliance with the following effluent limitations at:

(1) DPs 001, 002, 003 and 004 with compliance measured at Monitoring Locations M-001A & B, M-002A & B, M-003 and M-004, respectively, as described in the attached MRP:

Table 6. Effluent Limitations at DP 001 through DP 004

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	20	30	--	--	--
Total Suspended Solids	mg/L	20	30	--	--	--
Ammonia-Nitrogen	mg/L	4.5	--	--	--	--
Total Chlorine Residual[3]	mg/L					0.1

(2) DPs 001 and 002 with compliance measured at Monitoring Locations M-001B and M-002A, respectively, as described in the attached MRP:

[3] *See Section VII.M. – Compliance Determination.*

Table 7. Effluent Limitations Applicable at DP 001 and DP 002 only

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
Free Cyanide	µg/L	4.2	--	8.5
Bis(2-ethylhexyl) Phthalate	µg/L	5.9		11.9
Selenium	µg/L	4.1		8.2

(3) DP 003 with compliance measured at Monitoring Location M-003, as described in the attached MRP:

Table 8. Effluent Limitations Applicable at DP 003 only

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
Free Cyanide	µg/L	4.6	--	7.3
Bromodichloromethane	µg/L	46	--	92

(4) DP 004 with compliance measured at Monitoring Location M-004, as described in the attached MRP:

Table 9. Effluent Limitations Applicable at DP 004 only

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
Free Cyanide	µg/L	4.3	--	8.5
Bis(2-ethylhexyl) Phthalate	µg/L	5.9	--	11.9

b. **Percent Removal:** The average monthly percent removal of BOD 5-day 20°C and total suspended solids shall not be less than 85 percent. (See Compliance Determination Section VII.N.)

c. **TDS Limitations** - The lower of the two total dissolved solids (TDS) limits specified in (1) or (2), below, is the limit.

(1) The 12-month flow weighted running average TDS constituent concentration and mass emission rates shall not exceed 550 mg/L and 366,960 lbs/day[4], respectively. This limitation may be met on an agency-wide basis using flow weighted averages of the discharges from the Discharger's RP-1, RP-4, RP-5 and CCWRF, or

(2) The 12-month flow weighted running average TDS concentration shall not exceed the 12-month flow weighted running average TDS concentration in the water supply by more than 250 mg/L[5]. This limitation may be met on an agency-wide basis using flow weighted averages of the water supplied to the Discharger's RP-1, RP-4, RP-5 and CCWRF service areas.

d. The 12-month flow weighted running average Total Inorganic Nitrogen (TIN) concentration and mass emission rates shall not exceed 8 mg/L and 5,338 lbs/day[6], respectively. This limitation may be met on an agency-wide basis using flow weighted averages of the discharges from the Discharger's RP-1, RP-4, RP-5 and CCWRF.

e. The discharge shall at all times be adequately oxidized, filtered, and disinfected treated wastewater and shall meet the following limitations.

(1) The turbidity of the filtered wastewater shall not exceed any of the following:

(a) Average of 2 Nephelometric Turbidity Unit (NTU) within any 24-hour period;

(b) 5 NTU more than 5 percent of the time in any 24-hour period; and

(c) 10 NTU at any time.

(2) The disinfected effluent shall meet the following:

(a) When chlorine disinfection process is utilized following filtration, a CT (the product of total chlorine residual and modal contact time measured at the same point) value of not less than 450 milligram-minutes per liter at all times with a modal contact time of at least 90 minutes[7], based on peak dry weather design flow[8;] shall be provided[9].

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4 *Based on wasteload allocation volume of 80 mgd and concentration of 550 mg/L.*

5 *See Section VII.L. - Compliance Determination.*

6 *Based on wasteload allocation volume of 80 mgd and concentration of 8 mg/L.*

7 *The modal contact time requirement is applicable only to the use of recycled water and not to surface water discharges, provided the receiving water provides a 1:1 dilution. The receiving water considered here shall exclude upstream POTW effluent flow.*

8 *"Peak Dry Weather Flow" means the arithmetic mean of the maximum peak flow rates sustained over some period of time (for example three hours) during the maximum 24-hour dry weather period. Dry weather period is defined as period of little or no rainfall.*

(b) When a disinfection process combined with the filtration process is utilized, the combined process shall demonstrate[10] inactivation and/or removal of 99.999 percent of the plaque-forming units of F-specific bacteriophage MS-2[11], or polio virus in the wastewater. A virus that is at least as resistant to disinfection as polio virus may be used for purposes of the demonstration.

(c) The weekly average concentration of total coliform bacteria shall not exceed a Most Probable Number (MPN) of 2.2 total coliform bacteria per 100 milliliters (ml). (see Compliance Determination VII.J.1., below)

(d) The number of total coliform bacteria shall not exceed an MPN of 23 total coliform bacteria per 100 ml in more than one sample in any 30-day period.

(e) No total coliform bacteria sample shall exceed an MPN of 240 total coliform bacteria per 100 ml.

f. There shall be no visible oil and grease in the discharge.

g. The pH of the discharge shall be within 6.5 to 8.5 pH[12].

h. Wastewater discharged at DP 001 shall be limited to treated and disinfected effluent that meets the conditions in Section IV.A.1.

i. Wastewater discharged at DP 002 through DP 004 shall be limited to treated and disinfected effluent that meets the conditions in Section IV.A.1., except for discharges of treated wastewater that meets the conditions specified in Section IV.A.4., when the flow[13] in Reaches 1B or 2 of Chino Creek or Reach 1 of Cucamonga Creek results in a dilution of 20:1 or more at the point of discharge.

2. Interim Effluent Limitations – Not Applicable

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9 *Modal contact time and CT shall be calculated based on the minimum one-hour average value in a 24-hr period.*

10 *Meeting the discharge limits in A.1.e.(2).(c),(d), and (e) shall constitute the demonstration required by this sub-paragraph.*

11 *F-Specific bacteriophage MS-2 means a strain of a specific type of virus that infects coliform bacteria that is traceable to the American Type Culture Collection (ATCC) 15597B1) and is grown on lawns of E. coli (ATCC 15597).*

12 *See Section VII.K. Compliance Determination.*

13 *Exclusive of discharges to surface waters from upstream publicly owned treatment works.*

3. Toxicity Requirements/Discharge Specifications

a. There shall be no acute or chronic toxicity in the plant effluent nor shall the plant effluent cause any acute or chronic toxicity in the receiving water. All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in human, plant, animal, or indigenous aquatic life. This Order contains no numeric limitation for toxicity. However, the Discharger shall conduct chronic toxicity monitoring.

b. The Discharger shall implement the accelerated monitoring as specified in Attachment E when the result of any single chronic toxicity test of the effluent exceeds 1.0 TUc.

4. Effluent Limitations at DPs 002, 003, and 004, Under Conditions with 20:1 or More Dilution

The discharge of treated and disinfected effluent when the creek flow[14] at monitoring locations R-002U, R-003U, and/or R-004U results in a dilution of 20:1 (receiving water flow : wastewater flow) or more shall maintain compliance with the following effluent limitations at DPs 002, 003, and/or 004 with compliance measured at Monitoring Locations M002, M003 and M-004, respectively, as described in the attached MRP.

a. Numeric Effluent Limitations

Table 10. Effluent Limitations Under 20:1 Dilution

Parameter	Units	Effluent Limitations			
		Average Monthly	Average Weekly	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	30	45	- -	- -
Total Suspended Solids	mg/L	30	45	- -	- -
Total Residual Chlorine	mg/L	-	-	-	2.1

b. Treated wastewater shall at all times be adequately oxidized and disinfected wastewater and shall meet the following limitations:

(1) The weekly average number of coliform bacteria does not exceed a median of 23 per 100 milliliters as determined from the daily coliform bacteria values for the last seven (7) days. (see also Compliance Determination VII.J.2., below)

[14] *Exclusive of discharges to surface waters from upstream publicly owned treatment works.*

(2) The discharge shall be considered adequately oxidized if the 5-day @ 20°C Biochemical Oxygen Demand and Total Suspended Solids constituent concentrations of the discharge are less than or equal to the limitations shown in IV.A.4.a., above.

c. The monthly average biochemical oxygen demand and suspended solids concentrations of the discharge shall not be greater than fifteen percent (15%) of the monthly average influent concentration.

d. The pH of the discharge shall be within 6.5 to 8.5 pH[15].

B. Land Discharge Specifications – Not Applicable

C. Reclamation Specifications – DP 005 through DP 008

1. Upon the effective date of this Order, the use of recycled water for parks, landscape irrigation, and/or other similar uses shall maintain compliance with the following effluent limitations at DP 005 through DP 008 with compliance measured at monitoring locations REC-001 through REC-004, respectively, and where representative samples of recycled water can be obtained for laboratory testing and analysis as described in the attached Monitoring and Reporting Program (Attachment E). The Discharger shall submit for approval by the Executive Officer a list of other monitoring location(s) not specified herein where representative samples of recycled water could be obtained for laboratory testing and analysis.

   a. Physical/Biological Limitations:

Table 11. Recycled Water Effluent Limitations

Parameter	Units	Effluent Limitations	
		Average Monthly	Average Weekly
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	20	30
Total Suspended Solids	mg/L	20	30

   b. TDS Limitations: The following TDS limitations apply to recycled water uses, except groundwater recharge, that would affect underlying local Groundwater Management Zone(s). These limitations may be met on an agency-wide basis using flow-weighted averages of the discharges from the Discharger's RP-1, RP-4, RP-5 and CCWRF.

[15] *See Section VII.K. Compliance Determination*

(1) If maximum benefit is demonstrated (see Provisions VI.C.6.), the 12-month flow weighted running average total dissolved solids concentration shall not exceed 550 mg/L.

(2) If maximum benefit is not demonstrated (see Provisions VI.C.6.), the 12-month flow weighted running average total dissolved solids concentration shall not exceed the following:

Table 12. Recycled Water Effluent TDS Limitations

Groundwater Management Zone	TDS limit, mg/L
Chino 1	280
Chino 2	250
Chino 3	260

c. Recycled water described in Section 60307(a) of Division 4, Chapter 3, Title 22, California Code of Regulations and for irrigation of food crops, parks and playground, school yards, residential landscaping and other irrigation uses not specified in Section 60304(a) of Division 4, Chapter 3, Title 22, California Code of Regulations or not prohibited in other Sections of the California Code of Regulations shall at all times be adequately oxidized, filtered, and disinfected tertiary treated wastewater and shall meet the following limitations:

(1) The turbidity of the filter effluent when filtration is through natural undisturbed soils or a bed of filter media shall not exceed any of the following:

(a) Average of 2 Nephelometric Turbidity Units (NTU) within any 24-hour period;
(b) 5 NTU more than 5 percent of the time in any 24-hour period; and
(c) 10 NTU at any time.

(2) The disinfected effluent shall meet the following:

(a) The weekly average total coliform bacteria[16] shall not exceed a Most Probable Number (MPN) of 2.2 total coliform bacteria per 100 milliliters (ml).
(b) The number of total coliform organism shall not exceed an MPN of 23 total coliform bacteria per 100 ml in more than one sample in any 30-day period.
(c) No total coliform sample shall exceed an MPN of 240 total coliform bacteria per 100 ml.

[16] *See Compliance Determination Section VII.J.1.*

(d) A chlorine disinfection process following filtration that provides a CT (the product of total chlorine residual and modal contact time[17] measured at the same point) value of not less than 450 milligram-minutes per liter at all times with a modal contact time of at least 90 minutes, based on peak dry weather design flow.

d. Recycled water used for irrigation of food crops where the edible portion is produced above ground and not contacted by the recycled water shall at all times be adequately oxidized and disinfected so that average weekly total coliform bacteria in the disinfected effluent does not exceed a most probable number (MPN) of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed, and the number of total coliform bacteria does not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30-day period.

e. Recycled water used for the uses listed below shall be an oxidized and disinfected water so that the average weekly total coliform bacteria[18] in the disinfected effluent does not exceed a most probable number (MPN) of 23 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed, and the number of total coliform bacteria does not exceed an MPN of 240 per 100 milliliters in more than one sample in any 30 day period.

(1) Industrial boiler feed, nonstructural fire fighting, backfill consolidation around nonpotable piping, soil compaction, mixing concrete, dust control on roads and streets, cleaning roads, sidewalks and outdoor work areas and industrial process water that will not come into contact with workers.
(2) Irrigation of cemeteries, freeway landscaping, restricted access golf courses, ornamental nursery stock and sod farms where access by the general public is not restricted, pasture for animals producing milk for human consumption, and any nonedible vegetation where access is controlled so that irrigated area cannot be used as if it were part of a park, playground or school yard.

f. For recycled water uses specified in Sections 60304 and 60307 of Title 22 where filtration is provided pursuant Section 60301.320(a) and coagulation is not used as part of the treatment process, the Discharger shall comply with the following:

(1) The turbidity of the influent to the filters is continuously measured and the influent turbidity does not exceed 5 NTU for more than 15 minutes and never exceeds 10 NTU;
(2) The filtered wastewater turbidity shall not exceed 2 NTU within any 24-hour period; and;

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[17] *Modal contact time and CT shall be calculated daily based on the minimum one-hour average value in a 24-hour period.*

[18] *See Compliance Determination Section VII.J.2.*

(3) Should the filter influent turbidity exceed 5 NTU for more than 15 minutes, chemical addition shall be automatically activated if available, if not, the wastewater shall be diverted.

2. For new reuse sites, the use of recycled water shall only commence after the California Department of Public Health (CDPH) grants final approval for such use. The Discharger shall provide the Regional Water Board with a copy of the CDPH approval letter within 30 days of the approval notice.

3. The Discharger shall be responsible for assuring that recycled water is delivered and utilized in conformance with this Order, the recycling criteria contained in Title 22, Division 4, Chapter 3, Sections 60301 through 60355, California Code of Regulations. The Discharger shall conduct periodic inspections of the facilities of the recycled water users to monitor compliance by the users with this Order.

4. The Discharger shall establish and enforce Rules and Regulations for Recycled Water users, governing the design and construction of recycled water use facilities and the use of recycled water in accordance with the uniform statewide recycling criteria established pursuant to the California Water Code Section 13521.

   a. Use of recycled water by the Discharger shall be consistent with its Rules and Regulations for Recycled Water Use.

   b. Any revisions made to the Rules and Regulations shall be subject to the review of the Regional Water Board, the California Department of Public Health, and the County Environmental Health Department. The revised Rules and Regulations or a letter certifying that the Discharger's Rules and Regulations contain the updated provisions in this Order, shall be submitted to the Regional Water Board within 60 days of adoption of this Order by the Regional Water Board.

5. The Discharger shall, within 60 days of the adoption of this Order, review and update as necessary its program to conduct compliance inspections of recycled water reuse sites. Inspections shall determine the status of compliance with the Discharger's Rules and Regulations for Recycled Water Use.

6. The storage, delivery, or use of recycled water shall not individually or collectively, directly or indirectly, result in a pollution or nuisance, or adversely affect water quality, as defined in the California Water Code.

7. Prior to delivering recycled water to any new user, the Discharger shall submit to the California Department of Public Health and the County Environmental Health Department a report containing the following information for review and approval:

   a. The average number of persons estimated to be served at each use site area on a daily basis.

b. The specific boundaries of the proposed use site area including a map showing the location of each facility, drinking water fountain, and impoundment to be used.

c. The person or persons responsible for operation of the recycled water system at each use area.

d. The specific use to be made of the recycled water at each use area.

e. The methods to be used to assure that the installation and operation of the recycled system will not result in cross connections between the recycled water and potable water piping systems. This shall include a description of the pressure, dye or other test methods to be used to test the system.

f. Plans and specifications which include following:
(1) Proposed piping system to be used.
(2) Pipe locations of both the recycled and potable systems.
(3) Type and location of the outlets and plumbing fixtures that will be accessible to the public.
(4) The methods and devices to be used to prevent backflow of recycled water into the potable water system.
(5) Plan notes relating to specific installation and use requirements.

8. The Discharger shall require the user(s) to designate an on-site supervisor responsible for the operation of the recycled water distribution system within the recycled water use area. The supervisor shall be responsible for enforcing this Order, prevention of potential hazards, the installation, operation and maintenance of the distribution system, maintenance of the distribution and irrigation system plans in "as-built" form, and for the distribution of the recycled wastewater in accordance with this Order.

9. Recycled water shall at all times be maintained within the property lines of any user. There shall be no direct or indirect discharge of recycled water into drainage systems that could affect surface water quality standards.

D. Stormwater Discharge Specifications – S-001 and S-002

1. Storm water[19] discharges shall maintain compliance with the following effluent limitations at S-001 and S-002 with compliance measured at monitoring locations STORM-001 and STORM-002 and shall not:

a. Cause or contribute to a violation of any applicable water quality standards contained in the Basin Plan or in the State or Federal regulations.

b. Cause or threaten to cause pollution, contamination, or nuisance.

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19 *Storm water means storm water runoff and surface runoff and drainage.*

c. Contain a hazardous substance equal to or in excess of a reportable quantity listed in 40 CFR Part 117 and/or 40 CFR Part 302.

d. Adversely impact human health or the environment.

e. Result in noncompliance with the lawful requirements of municipalities, counties, drainage districts, and other local agencies on storm water discharges into storm drain systems or other courses under their jurisdiction.

2. Stormwater discharges from this Facility shall comply with the Stormwater Requirements in Attachment J and K.

3. The Discharger must update and implement the Storm Water Pollution Prevention Plan for the Facility in accordance with Attachment J of this Order.

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

1. Receiving water limitations are based upon water quality objectives contained in the Basin Plan. As such, they are a required part of this Order. The discharge shall not cause the following in Prado Park Lake, Reach 1 of Cucamonga Creek, Reaches 1A, 1B and 2 of Chino Creek or Reach 3 of the Santa Ana River and downstream reaches:

   a. Coloration of the receiving waters, which causes a nuisance or adversely affects beneficial uses.

   b. Deposition of oil, grease, wax or other materials in the receiving waters in concentrations which result in a visible film or in coating objects in the water, or which cause a nuisance or affect beneficial uses.

   c. An increase in the amounts of suspended or settleable solids in the receiving waters, which will cause a nuisance or adversely affect beneficial uses as a result of controllable water quality factors.

   d. Taste or odor-producing substances in the receiving waters at concentrations, which cause a nuisance or adversely affect beneficial uses.

   e. The presence of radioactive materials in the receiving waters in concentrations, which are deleterious to human, plant or animal life.

   f. The depletion of the dissolved oxygen concentration below 5.0 mg/L.

   g. The temperature of the receiving waters to be raised above 90°F (32°C) during the period of June through October, or above 78°F (26°C) during the rest of the year.

h. The concentration of pollutants in the water column, sediments, or biota to adversely affect the beneficial uses of the receiving water. The discharge shall not result in the degradation of inland surface water communities and populations, including vertebrate, invertebrate, and plant species.

2. The discharge of wastes shall not cause a violation of any applicable water quality standards for receiving waters adopted by the Regional Water Board or State Water Board, as required by the Clean Water Act and regulations adopted thereunder.

3. Pollutants not specifically mentioned and limited in this Order shall not be discharged at levels that will bioaccumulate in aquatic resources to levels, which are harmful to human health or animal life.

4. The discharge shall not contain constituent concentrations of mercury that will result in the bioaccumulation of methylmercury in fish flesh tissue greater than 0.3 milligram methylmercury/kilogram. (See also Section VI.C.1.e. and VI.C.2.a., below).

B. Groundwater Limitations

The use of recycled water shall not cause the underlying groundwater to be degraded, to exceed water quality objectives, unreasonably affect beneficial uses, or cause a condition of pollution or nuisance.

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.

2. The Discharger shall comply with the following provisions:

   a. Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from this Facility, may subject the Discharger to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Discharger to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.

b. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, discharge limitations (e.g., maximum daily effluent limitation), or receiving water limitation of this Order, the Discharger shall notify the Regional Water Board by telephone (951) 782-4130 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Regional Water Board waives confirmation. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures being taken to remedy the current noncompliance and, prevent recurrence including, where applicable, a schedule of implementation. Other noncompliance requires written notification as above at the time of the normal monitoring report.

c. Neither the treatment nor the discharge of pollutants shall create a pollution, contamination, or nuisance as defined by Section 13050 of the CWC.

d. The Discharger shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this Order, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the noncomplying discharge.

e. This Order may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:

(1) Violation of any terms or conditions of this Order;
(2) Obtaining this Order by misrepresentation or failure to disclose fully all relevant facts, or;
(3) In addition to any other grounds specified herein, this Order may be modified or revoked at any time if, on the basis of any data, the Regional Water Board determines that continued discharges may cause unreasonable degradation of the aquatic environment.

f. If an effluent standard or discharge prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307 (a) of the Clean Water Act for a toxic pollutant which is present in the discharge, and such standard or prohibition is more stringent than any limitation for that pollutant in this Order, this Order may be modified or revoked and reissued to conform to the effluent standard or discharge prohibition.

g. The Discharger shall file with the Regional Water Board a Report of Waste Discharge at least 180 days before making any material change in the character, location, or volume of the discharge. A material change includes, but is not limited to, the following:

(1) Adding a major industrial waste discharge to a discharge of essentially domestic sewage, or adding a new process or product by an industrial facility resulting in a change in the character of the waste.
(2) Significantly changing the disposal method or location, such as changing the disposal to another drainage area or water body.
(3) Significantly changing the method of treatment.
(4) Increasing the treatment plant design capacity beyond that specified in this Order.

h. The provisions of this Order are severable, and if any provision of this Order, or the application of any provision of this Order to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Order, shall not be affected thereby.

i. The Discharger shall maintain a copy of this Order at the site so that it is available to site operating personnel at all times. Key operating personnel shall be familiar with its content.

j. The Discharger shall optimize chemical additions needed in the treatment process to meet waste discharge requirements so as to minimize total dissolved solid increases in the treated wastewater.

k. Collected screenings, sludge, and other solids removed from liquid wastes shall be disposed of in a manner approved by the Regional Water Board's Executive Officer.

l. The Discharger has demonstrated a correlation between the biological oxygen demand (BOD_5) and total organic carbon (TOC) concentrations in the effluent to the satisfaction of the Executive Officer. Therefore, compliance with the BOD_5 limits and monitoring requirements contained in this Order may be determined based on analyses of the TOC of the effluent.

m. In the event of any change in control or ownership of land or waste discharge facility presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be forwarded to the Regional Water Board.

n. The treatment facilities shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.

B. Monitoring and Reporting Program (MRP) Requirements

The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E of this Order. This monitoring and reporting program may be modified by the Executive Officer at any time during the term of this Order, and may include an increase in the number of parameters to be monitored, the frequency of the monitoring or the number and size of samples to be collected. Any increase in the number of parameters to be monitored, the frequency of the monitoring or the number and size of samples to be collected may be reduced back to the levels specified in the original monitoring and reporting program at the discretion of the Executive Officer.

C. Special Provisions

1. Reopener Provisions

a. This Order will be reopened to address any changes in State or federal plans, policies or regulations that would affect the quality requirements for the discharges.

b. This Order may be reopened to include effluent limitations for pollutants determined to be present in the discharge in concentrations that pose a reasonable potential to cause or contribute to violations of water quality standards.

c. This Order may be reopened and modified in accordance with the requirements set forth at 40 CFR 122 and 124, to include the appropriate conditions or limits to address demonstrated effluent toxicity based on newly available information, or to implement any EPA-approved new State water quality standards applicable to effluent toxicity.

d. This Order may be reopened for modification, or revocation and reissuance, as a result of the detection of a reportable priority pollutant generated by special conditions included in this Order. These special conditions may be, but are not limited to, fish tissue sampling, whole effluent toxicity, monitoring requirements on internal waste stream(s), and monitoring for surrogate parameters. Additional requirements may be included in this Order as a result of the special condition monitoring data.

e. This Order may be reopened to include an appropriate bioaccumulation based effluent limit for mercury if test results (as required in Attachment E of this Order) show that the concentration levels of methylmercury in the fish tissue are at or above 0.3 milligrams per kilogram.

f. This Order may be reopened to incorporate appropriate biosolids requirements if the State Water Resources Control Board and the Regional Water Quality Control Board are given the authority to implement regulations contained in 40 CFR 503.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. By September 1, 2009, the Discharger shall notify the Executive Officer of its continuous involvement with the comprehensive mercury investigation program currently being conducted by a group of Santa Ana River system dischargers. If the Discharger discontinues its involvement with this comprehensive program, the Discharger shall, within 60 days of that date, submit for the approval of the Executive Officer its plan for the annual testing of mercury levels in fish flesh samples collected from the Santa Ana River, upstream of, at, and downstream of the point of the discharge point. Upon approval, the Discharger shall implement the plan.

b. Toxicity Reduction Requirements.

(1) The Discharger shall develop an Initial Investigation Toxicity Reduction Evaluation (IITRE) work plan that describes the steps the Discharger intends to follow if required by Toxicity Requirements b.(2), below. The work plan shall include at a minimum:

(a) A description of the investigation and evaluation techniques that will be used to identify potential causes/sources of the exceedance, effluent variability, and/or efficiency of the treatment system in removing toxic substances. This shall include a description of an accelerated chronic toxicity testing program.

(b) A description of the methods to be used for investigating and maximizing in-house treatment efficiency and good housekeeping practices.

(c) A description of the evaluation process to be used to determine if implementation of a more detailed TRE\TIE is necessary.

(2) The Discharger shall implement the IITRE work plan whenever the results of chronic toxicity tests of the effluent exceed:

(a) A two month median value of 1.0 TUc for survival or reproduction endpoint or,
(b) Any single test value of 1.7 TUc for survival endpoint.

(3) The Discharger shall develop a detailed Toxicity Reduction Evaluation and Toxicity Identification Evaluation (TRE/TIE) work plan that shall describe the steps the Discharger intends to follow if the implemented IITRE fails to identify the cause of, or to rectify, the toxicity.

(4) The Discharger shall use as guidance, at a minimum, EPA manuals EPA/600/2-88/070 (industrial), EPA/600/4-89-001A (municipal), EPA/600/6-91/005F (Phase I), EPA/600/R-92/080 (Phase II), and EPA-600/R-92/081 (Phase III) to identify the cause(s) of toxicity. If during the life of this Order the aforementioned EPA manuals are revised or updated, the revised/updated manuals may also be used as guidance. The detailed TRE/TIE work plan shall include:

(a) Further actions to investigate and identify the cause of toxicity;
(b) Actions the Discharger will take to mitigate the impact of the discharge and to prevent the recurrence of toxicity; and
(c) A schedule for these actions.

(5) The Discharger shall implement the TRE/TIE workplan if the IITRE fails to identify the cause of, or rectify, the toxicity, or if in the opinion of the Executive Officer the IITRE does not adequately address an identified toxicity problem.

(6) The Discharger shall assure that adequate resources are available to implement the required TRE/TIE.

3. Best Management Practices and Pollution Prevention

a. Pollutant Minimization Program

(1) The Discharger shall develop and conduct a Pollutant Minimization Program (PMP) as further described below when there is evidence (e.g., sample results reported as DNQ when the effluent limitation is less than the MDL, sample results from analytical methods more sensitive than those methods required by this Order, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling) that a priority pollutant is present in the effluent above an effluent limitation and either:

(a) A sample result is reported as DNQ and the effluent limitation is less than the RL; or
(b) A sample result is reported as ND and the effluent limitation is less than the MDL.

(2) The PMP shall include, but not be limited to, the following actions and submittals acceptable to the Regional Water Board:

(a) An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling;

(b) Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system;

(c) Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant(s) in the effluent at or below the effluent limitation;

(d) Implementation of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy; and

(e) An annual status report that shall be sent to the Regional Water Board including:

i. All PMP monitoring results for the previous year;
ii. A list of potential sources of the reportable priority pollutant(s);
iii. A summary of all actions undertaken pursuant to the control strategy; and
iv. A description of actions to be taken in the following year.

4. Construction, Operation and Maintenance Specifications

a. The Discharger's wastewater treatment plants shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to Title 23, Division 3, Chapter 14, California Code of Regulations.

b. The Discharger shall provide safeguards to assure that should there be reduction, loss, or failure of electric power, the Discharger will comply with the requirements of this Order.

c. The Discharger shall update as necessary, the "Operation and Maintenance Manual(s) (O&M Manual)" which it has developed for the treatment facilities to conform to latest plant changes and requirements. The O&M Manual(s) shall be readily available to operating personnel onsite. The O&M Manual(s) shall include the following:

(1) Description of the treatment plant table of organization showing the number of employees, duties and qualifications and plant attendance schedules (daily, weekends and holidays, part-time, etc). The description should include documentation that the personnel are knowledgeable and qualified to operate the treatment facility so as to achieve the required level of treatment at all times.
(2) Detailed description of safe and effective operation and maintenance of treatment processes, process control instrumentation and equipment.
(3) Description of laboratory and quality assurance procedures.
(4) Process and equipment inspection and maintenance schedules.
(5) Description of safeguards to assure that, should there be reduction, loss, or failure of electric power, the Discharger will be able to comply with requirements of this Order.
(6) Description of preventive (fail-safe) and contingency (response and cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. These plans shall identify the possible sources (such as loading and storage areas, power outage, waste treatment unit failure, process equipment failure, tank and piping failure) of accidental discharges, untreated or partially treated waste bypass, and polluted drainage.

5. Special Provisions for Municipal Facilities (POTWs Only)

a. Sewer Collection System Requirements: The Discharger's collection system is part of the system that is subject to this Order. As such, the Discharger must properly operate and maintain its collection system (40 C.F.R. § 122.41(e)). The Discharger must report any non-compliance (40 C.F.R. § 122.41(l)(6) and (7)) and mitigate any discharge from the collection system in violation of this Order (40 C.F.R. § 122.41(d)). See the Order at Standard Provision VI.A.2.b. and Attachment D, subsections I.D, V.E, V.H, and I.C.

Furthermore, the General Waste Discharge Requirements for Collection System Agencies (Order No. 2006-0003 DWQ) contains requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows. While the Discharger must comply with both Order No. 2006-0003 DWQ and this Order, the General Collection System WDR more clearly and specifically stipulates requirements for operation and maintenance and for reporting and mitigating sanitary sewer overflows. The Discharger and other governmental agencies that are discharging wastewater into the facility are required to obtain enrollment for regulation under Order No. 2006-0003-DWQ.

b. Sludge Disposal Requirements

(1) Collected screenings, sludge, and other solids removed from liquid wastes shall be disposed of in a manner that is consistent with State Water Board and Integrated Waste Management Board's joint regulations (Title 27) of the California Code of Regulations and approved by the Regional Water Board's Executive Officer.
(2) The use and disposal of biosolids shall comply with existing Federal and State laws and regulations, including permitting requirements and technical standards included in 40 CFR 503.
(3) Any proposed change in biosolids use or disposal practice from a previously approved practice should be reported to the Executive Officer and EPA Regional Administrator at least 90 days in advance of the change.
(4) The Discharger shall take all reasonable steps to minimize or prevent any discharge or biosolids use or disposal that has the potential of adversely affecting human health or the environment.

c. Pretreatment Program

(1) The Discharger shall update as necessary and implement an acceptable pretreatment program.

(2) The Discharger shall update as necessary the appropriate contractual agreements with all governmental agencies[20]. The contractual agreements shall give the Discharger the authority to implement and enforce the approved pretreatment program within the sewer service areas of the treatment Facility. The Discharger shall assure that any other steps necessary to provide this implementation and enforcement authority (e.g. adoption of ordinances, etc.) are taken by all governmental agencies. If a governmental agency has an EPA approved pretreatment program for any portion of the service area of the treatment facility, the Discharger's pretreatment program shall contain provisions ensuring that that governmental agency's program is implemented. In the event that any agency discharging to Discharger's facility fails to effectively implement its individual EPA approved pretreatment program, the Discharger shall implement and enforce its approved program within that agency's service area.

[20] *Member agencies and sewering agencies discharging wastewater into the Facility.*

(3) The Discharger shall ensure that the POTW[21] pretreatment program for all contributory agencies discharging to the Discharger's treatment facility are implemented and enforced. The Discharger shall be responsible and liable for the performance of all Control Authority pretreatment requirements contained in 40 CFR 403, including any subsequent regulatory revisions to Part 403. Where Part 403 or subsequent revisions place mandatory actions upon the Discharger as Control Authority but does not specify a timetable for completion of the actions, the Discharger shall submit for approval of the Regional Water Board's Executive Officer, a schedule for implementation of the required actions and shall implement the approved schedule. The schedule for implementation shall be submitted within six months from the date that such mandatory actions are established. For violations of pretreatment requirements, the Discharger shall be subject to enforcement actions, penalties, fines and other remedies by the EPA, or other appropriate parties, as provided in the CWA, as amended (33 USC 1351 et seq.). The EPA or the Regional Water Board may also initiate enforcement action against an industrial user (IU) for non-compliance with applicable standards and requirements as provided in the CWA.

(4) The Discharger shall perform the pretreatment functions as required in 40 CFR Part 403 including, but not limited to:

(a) Enforce the pretreatment requirements under 40 CFR 403.5 and 403.6;

(b) Implement the necessary legal authorities as provided in 40 CFR 403.8(f)(1);

(c) Implement the programmatic functions as provided in 40 CFR 403.8(f)(2);

(d) Publish a list of significant non-compliance as required by 40 CFR 403.8(f)(2)(vii); and

(e) Provide the requisite funding and personnel to implement the pretreatment program as provided in 40 CFR 403.8(f)(3).

(5) The following wastes shall not be introduced into the treatment works:

(a) Wastes which create a fire or explosion hazard in the treatment works;

(b) Wastes which will cause corrosive structural damage to treatment works, but, in no case, wastes with a pH lower than 5.0 unless the works are designed to accommodate such wastes;

[21] *Publicly owned treatment works.*

(c) Wastes at a flow rate and/or pollutant discharge rate which is excessive over relatively short time periods so that there is a treatment process upset and subsequent loss of treatment efficiency;

(d) Solid or viscous wastes in amounts that would cause obstruction to the flow in sewers or otherwise interfere with the proper operation of the treatment works.

(6) The Discharger shall ensure compliance with any existing or future pretreatment standard promulgated by EPA under Section 307 of the CWA or amendments thereto for any discharge to the municipal system.

(7) The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement.

(8) The Discharger shall require each user not in compliance with any pretreatment standard to submit periodic notice (over intervals not to exceed nine months) of progress toward compliance with applicable toxic and pretreatment standards developed pursuant to the CWA or amendments thereto. The Discharger shall forward a copy of such notice to the Regional Water Board and to the EPA Regional Administrator.

(9) The Discharger shall operate the wastewater collection system under a comprehensive industrial pretreatment and pollutant control program for the control of discharge of toxic wastes from point sources. If the California Department of Health Services identifies any contaminants that may pose a risk of contamination to a drinking water supply, it may designate those contaminants for inclusion in the pretreatment and source control program requirements for IEUA to minimize the possibility that the influent wastewater to RP-1 and RP-4 will be contaminated with such toxic chemicals. The source control program shall include:

(a) An assessment of the fate of the specified contaminant compounds through the wastewater and recycled water treatment systems.

(b) A source investigation and monitoring program focused on the specified contaminants.

(c) An outreach program to industrial, commercial and residential communities within the sewage collection agency's service area to manage and minimize the discharge of compounds of concern at the source.

(d) A proactive program for maintaining an inventory of compounds discharged into the wastewater collection system so that new compounds of concern can be evaluated rapidly.

6. Other Special Provisions

a. As necessary based on the consideration of evidence regarding the implementation of the maximum benefit commitments shown in Attachment L , the Regional Water Board will be asked to make a determination of whether those commitments are being satisfied. If the Regional Water Board finds that the maximum benefit commitments are not being satisfied, then the Discharger shall implement a mitigation program approved by the Regional Water Board for recycled water use in the Chino 1, 2 or 3 Groundwater Management Zones using recycled water in excess of the limitations applicable to the Groundwater Management Zones (Sections IV.A.1.c. and IV.A.1.d., and Sections IV.C.1.b.). A proposed mitigation plan and schedule shall be submitted within 60-days of notification by the Regional Water Board Executive Officer of the need to do so. The Discharger shall implement the plan and schedule upon approval by the Regional Water Board.

7. Compliance Schedules – Not Applicable

VII. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in section IV of this Order will be determined as specified below:

A. General.

Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined in the MRP and Attachment A of this Order. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

B. Multiple Sample Data.

When determining compliance with an AMEL or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of “Detected, but Not Quantified” (DNQ) or “Not Detected” (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

1. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

2. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

C. Average Monthly Effluent Limitation (AMEL).

If the average (or when applicable, the median determined by subsection B above for multiple sample data) of daily discharges over a calendar month exceeds the AMEL for a given parameter, this will represent a single violation, though the Discharger will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Discharger will be considered out of compliance for that calendar month. The Discharger will only be considered out of compliance for days when the discharge occurs. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month.

D. Average Weekly Effluent Limitation (AWEL).

If the average or when applicable, the median determined by subsection B above for multiple sample data of daily discharges over a calendar week exceeds the AWEL for a given parameter, this will represent a single violation, though the Discharger will be considered out of compliance for each day of that week for that parameter, resulting in 7 days of non-compliance. If only a single sample is taken during the calendar week and the analytical result for that sample exceeds the AWEL, the Discharger will be considered out of compliance for that calendar week. The Discharger will only be considered out of compliance for days when the discharge occurs. For any one calendar week during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar week.

E. Maximum Daily Effluent Limitation (MDEL).

If a daily discharge or when applicable, the median determined by subsection B above for multiple sample data of a daily discharge exceeds the MDEL for a given parameter, the Discharger will be considered out of compliance for that parameter for that 1 day only within the reporting period. For any 1 day during which no sample is taken, no compliance determination can be made for that day.

F. Instantaneous Minimum Effluent Limitation.

If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both are lower than the instantaneous minimum effluent limitation would result in two instances of non-compliance with the instantaneous minimum effluent limitation).

G. Instantaneous Maximum Effluent Limitation.

If the analytical result of a single grab sample is higher than the instantaneous maximum effluent limitation for a parameter, the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both exceed the instantaneous maximum effluent limitation would result in two instances of non-compliance with the instantaneous maximum effluent limitation).

H. 12-Month Running Average Effluent Limitation (12-MRAEL).

Compliance with the 12-month flow weighted running average limits under Discharge Specification IV.A.1.c., IV.A.1.d., and IV.C.1.b. shall be determined by the arithmetic mean of the last twelve monthly averages.

I. Turbidity Limitations.

The Discharger shall be considered in compliance with Discharge Specifications IV.A.1.e.(1) and IV.C.1.c.(1), if the following conditions are met. If the Discharger is using a properly operating backup turbidimeter, the reading of the backup turbidimeter shall be considered in determining whether there has been an actual noncompliance:

1. There are no excursions above the limits specified in Discharge Specifications IV.A.1.e.(1)(a) and (b) and IV.C.1.c.(1)(a) and (b);
2. Exceedances of the “10 NTU at any time” turbidity requirement do not exceed a duration of one minute.
3. The apparent exceedance was caused by interference with, or malfunction of, the monitoring instrument.

J. Coliform Organism Effluent Limitations.

1. Compliance with the average weekly total coliform limit expressed in Discharge Specification IV.A.1.e.(2)(b), IV.C.1.c.(2)(a), and IV.C.1.d. shall be based on a median of test results from the previous 7 days. To comply with the limit, the 7-day median MPN must not exceed 2.2 per 100 milliliters on any day during the week. However, only one violation is recorded for each calendar week, even if the 7-day median MPN value is greater than 2.2 for more than one day in the week.

2. Compliance with the average weekly total coliform limit expressed in Discharge Specification IV.C.1.e. shall be based on a median of test results from the previous 7 days. To comply with the limit, the 7-day median MPN must not exceed 23 per 100 milliliters on any day during the week. However, only one violation is recorded for each calendar week, even if the 7-day median MPN value is greater than 23 for more than one day in the week.

K. pH Effluent Limitations.

Pursuant to 40 CFR 401.17, the Discharger shall be in compliance with the pH limitations specified in the Discharge Specification IV.A.1.g., IV.A.4.d., above, provided that both of the following conditions are satisfied:

1. The total time during which the pH values are outside the required range of 6.5-8.5 pH values shall not exceed 7 hours and 26 minutes in any calendar month; and
2. No individual excursion from the range of pH values shall exceed 60 minutes.

L. TDS Increment Limit.

Compliance with Discharge Specifications IV.A.1.c.(2) shall be based on IEUA's (RP-1, RP- 4, RP-5, and CCWRF) agency-wide flow weighted TDS water supply quality and shall be determined from TDS analysis of secondary treated wastewater. The Discharger shall provide the necessary calculations showing the overall TDS water supply quality.

M. Total Chlorine Residual Limitation (TCR)

Compliance determinations for total chlorine residual shall be based on 99% compliance. To determine 99% compliance with the effluent limitation for total chlorine residual, the following conditions shall be satisfied:

1. For TCR Limit specified in Section IV.A.1. :
   a The total time during which the total chlorine residual values are above 0.1 mg/L (instantaneous maximum value) shall not exceed 7 hours and 26 minutes in any calendar month;
   b No individual excursion from 0.1 mg/L value shall exceed 5 minutes; and
   c No individual excursion shall exceed 5.0 mg/L.

2. For TCR Limit specified in Section IV.A.4.:
   a The total time during which the total chlorine residual values are above 2.1 mg/L (instantaneous maximum value) shall not exceed 7 hours and 26 minutes in any calendar month;
   b No individual excursion from 2.1 mg/L value shall exceed 5 minutes; and
   c No individual excursion shall exceed 10.5 mg/L.

N. Percent Removal

Compliance with the 85 percent average monthly removal requirement (See Effluent Limitations and Discharge Specifications Section IV.A.1.b.)shall be determined for each individual facility (RP-1, RP-4, RP- 5, and CCWRF).

O. Priority Pollutants.

The Discharger shall be deemed out of compliance with an effluent limitation if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation.

1. Compliance determination shall be based on the reporting level selected from minimum level (ML)[22] specified in Attachment H of this Order, unless an alternative reporting level is approved by the Regional Water Board's Executive Officer. When there is more than one ML value for a given substance, the Discharger shall select the ML value that is below the calculated effluent limitation, and use its associated analytical method, listed in Attachment H of this Order. If no ML value is below the effluent limitation, then the Regional Water Board will select as the reporting level the lowest ML value and its associated analytical method.

2. When determining compliance with an average monthly limit and more than one sample result is available in a month, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of detected but not quantified (DNQ) or not detected (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

   a. The data set shall be ranked from low to high, reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

   b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ. If a sample result, or the arithmetic mean or median of multiple sample results, is below the reporting level, and there is evidence that the priority pollutant is present in the effluent above an effluent limitation and the Discharger conducts a pollutant minimization program (PMP)[23] the Discharger shall not be deemed out of compliance.

P. Non-Priority Pollutants.

The discharge shall be considered to be in compliance with an effluent limitation that is less than or equal to the method detection limit (MDL) specified in 40 CFR 136 if the arithmetic mean of all test results for the monitoring period is less than the constituent effluent limitation. Analytical results that are less than the specified MDL shall be assigned a value of zero.

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[22] *Minimum level is the concentration at which the entire analytical system must give a recognizable signal and acceptable point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.*

[23] *The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation.*

Q. Compliance Determination

Compliance determinations shall be based on available analyses for the time interval associated with the effluent limitation. Where only one sample analysis is available in a specified time interval (e. g., monthly or weekly average), that sample shall serve to characterize the discharge for the entire interval. If quarterly sample results show noncompliance with the average monthly limit and that sample result is used for compliance determinations for each month of the quarter, then three separate violations of the average monthly limit shall be deemed to have occurred.

Compliance with a single effluent limitation which applies to a group of chemicals (e.g., PCBs), based on a single sample shall be determined by considering the concentrations of individual members of the group to be zero if the analytical response for the individual chemical falls below the method detection limit (MDL) for that chemical.

ATTACHMENT A – DEFINITIONS

Arithmetic Mean (μ), also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

Arithmetic mean = $\mu = \Sigma x / n$ where: Σx is the sum of the measured ambient water concentrations, and n is the number of samples.

Average Monthly Effluent Limitation (AMEL): the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL): the highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Best Management Practices (BMPs) are methods, measures, or practices designed and selected to reduce or eliminate the discharge of pollutants to surface waters from point and nonpoint source discharges including storm water. BMPs include structural and non-structural controls, and operation and maintenance procedures, which can be applied before, during, and/or after pollution producing activities.

Bioaccumulative pollutants are those substances taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

Carcinogenic pollutants are substances that are known to cause cancer in living organisms.

Coefficient of Variation (CV) is a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

Criteria Continuous Concentration (CCC) equals the highest concentration of a pollutant to which aquatic life can be exposed for an extended period of time (4 days) without deleterious effects.

Criteria Maximum Concentration (CMC) equals the highest concentration of a pollutant to which aquatic life can be exposed for a short period of time without deleterious effects.

Daily Discharge: Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

Detected, but Not Quantified (DNQ) are those sample results less than the RL, but greater than or equal to the laboratory's MDL.

Effluent Concentration Allowance (ECA) is a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA) as used in USEPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

Estimated Chemical Concentration is the estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

Existing Discharger means any discharger that is not a new discharger. An existing discharger includes an "increasing discharger" (i.e., an existing facility with treatment systems in place for its current discharge that is or will be expanding, upgrading, or modifying its existing permitted discharge after the effective date of the State Implementation Policy).

Infeasible means not capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.

Inland Surface Waters are all surface waters of the State that do not include the ocean, enclosed bays, or estuaries.

Instantaneous Maximum Effluent Limitation: the highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

Instantaneous Minimum Effluent Limitation: the lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

Load Allocation (LA) is the portion of receiving water's total maximum daily load that is allocated to one of its non-point sources of pollution or to natural background sources.

Maximum Daily Effluent Limitation (MDEL) means the highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

Maximum Daily Flow is the maximum flow sample of all samples collected in a calendar day.

MEC: Maximum Effluent Concentration is the observed maximum pollutant concentration for the effluent.

Median is the middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements (*n*) is odd, then the median = $X_{(n+1)/2}$. If *n* is even, then the median = $(X_{n/2} + X_{(n/2)+1})/2$ (i.e., the midpoint between the *n*/2 and *n*/2+1).

Method Detection Limit (MDL) is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in title 40 of the Code of Federal Regulations, Part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (ML) is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

Mixing Zone is a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

Not Detected (ND) are those sample results less than the laboratory's MDL.

Objectionable Bottom Deposits are an accumulation of materials or substances on or near the bottom of a water body, which creates conditions that adversely impact aquatic life, human health, beneficial uses, or aesthetics. These conditions include, but are not limited to, the accumulation of pollutants in the sediments and other conditions that result in harm to benthic organisms, production of food chain organisms, or fish egg development. The presence of such deposits shall be determined by RWQCB(s) on a case-by-case basis.

Persistent pollutants are substances for which degradation or decomposition in the environment is nonexistent or very slow.

Pollutant Minimization Program (PMP) means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Regional Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

Pollution Prevention means any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State or Regional Water Board.

Reporting Level (RL) is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board either from Appendix 4 of the SIP[1] in accordance with section 2.4.2 of the SIP or established in accordance with section 2.4.3 of the SIP. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the RL.

Satellite Collection System is the portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility that a sanitary sewer system is tributary to.

Source of Drinking Water is any water designated as municipal or domestic supply (MUN) in a Regional Water Board Basin Plan.

[1] *SIP refers to the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California.*

Standard Deviation (σ) is a measure of variability that is calculated as follows:

$$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$$

where:

x is the observed value;

μ is the arithmetic mean of the observed values; and

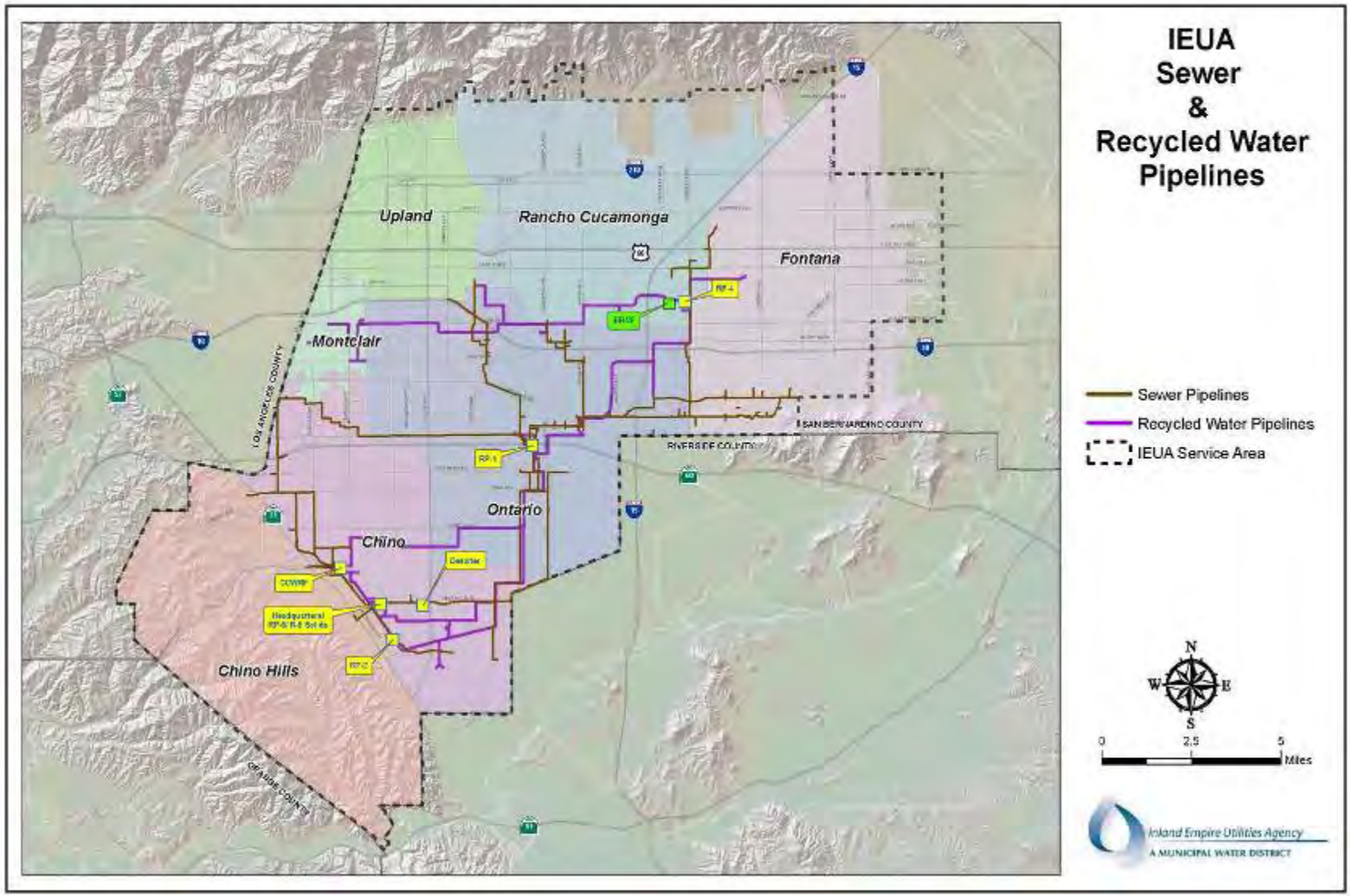
n is the number of samples.

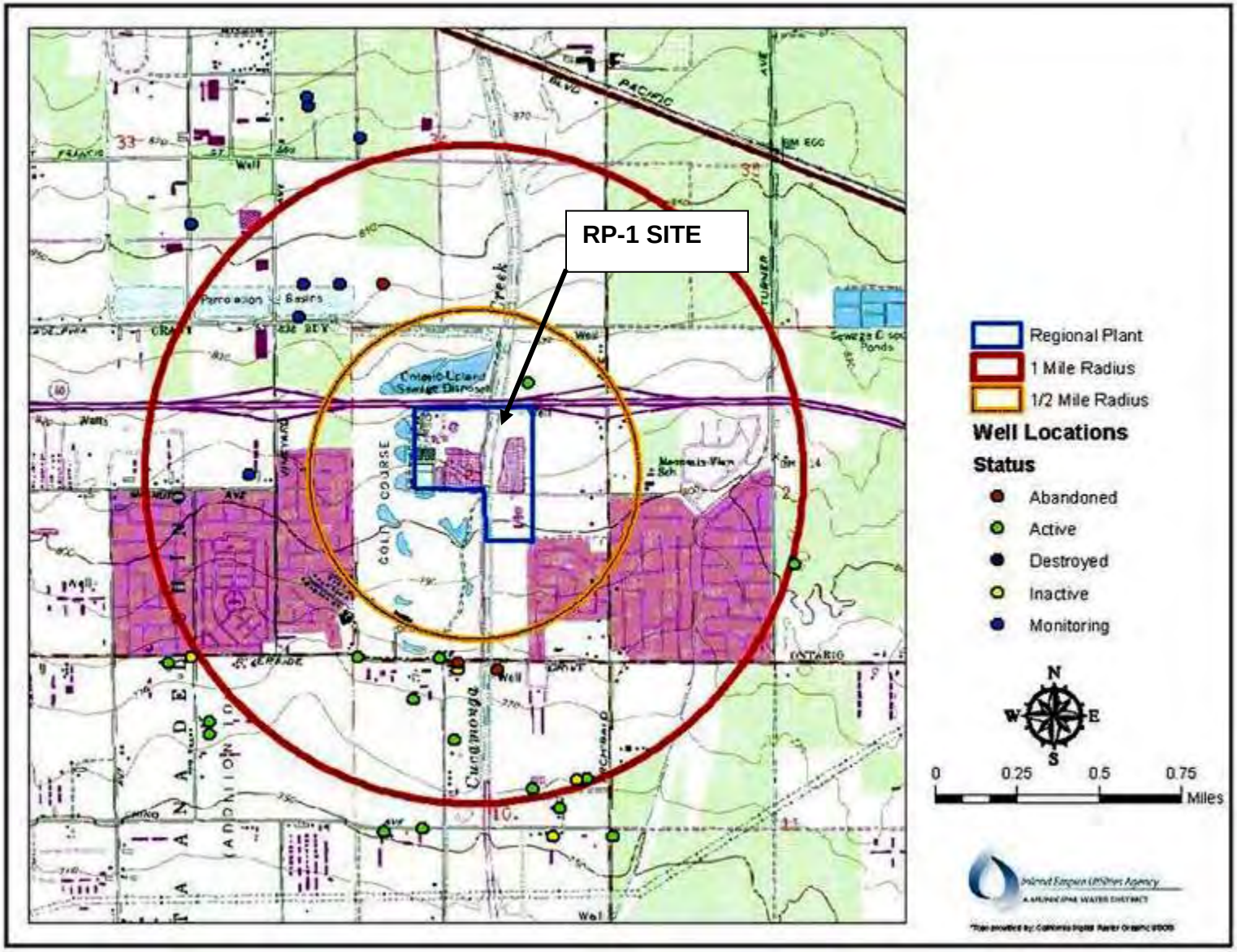
Toxicity Reduction Evaluation (TRE) is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

Water Effect Ratio (WER) is an appropriate measure of the toxicity of a material obtained in a site water divided by the same measure of the toxicity of the same material obtained simultaneously in a laboratory dilution water.

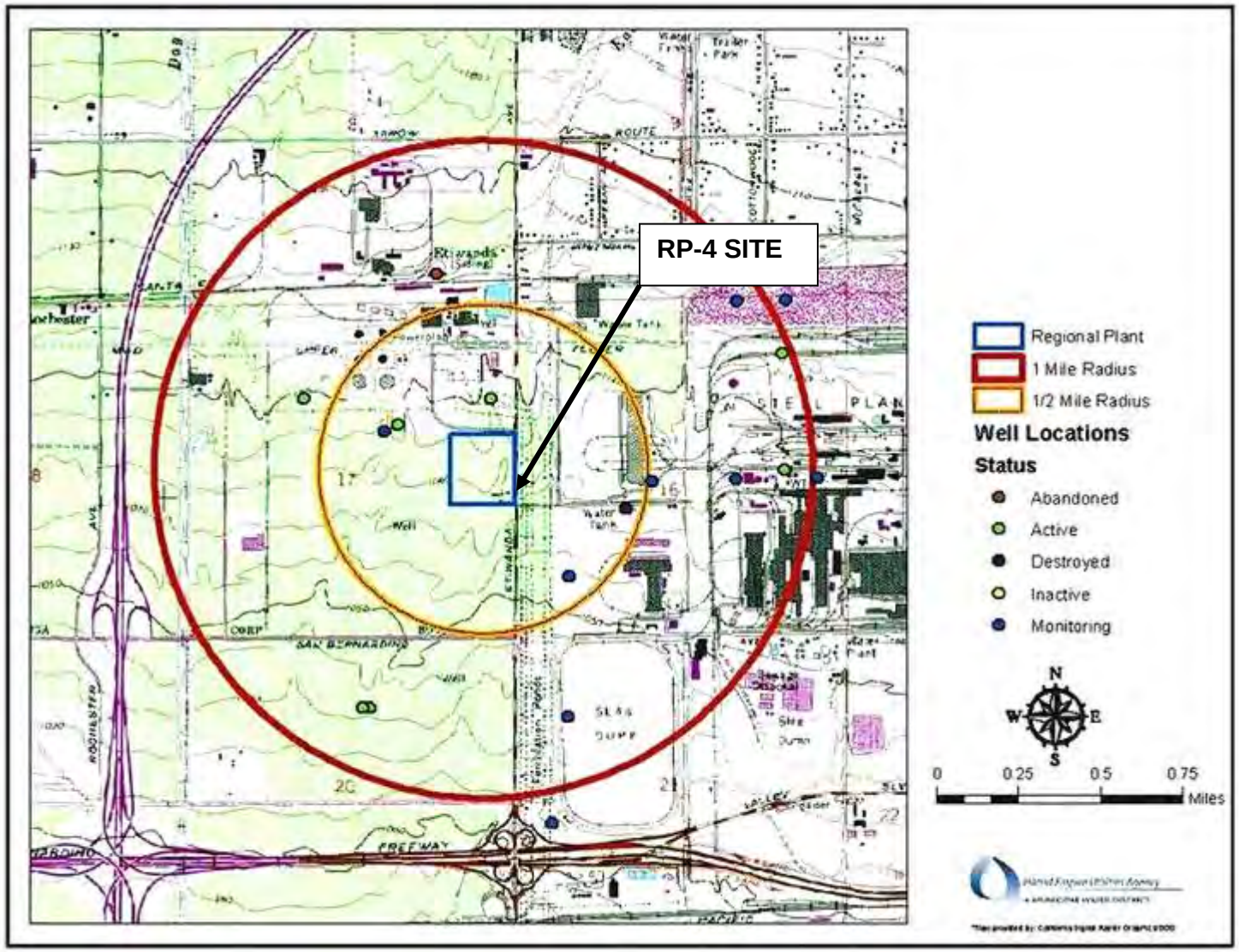
12-Month Running Average Effluent Limitation (12-MRAEL): the highest allowable average of monthly discharges over last twelve months, calculated as the sum of all monthly discharges measured during last twelve months divided by the number of monthly discharges measured during that time period.

ATTACHMENT B – LOCATION

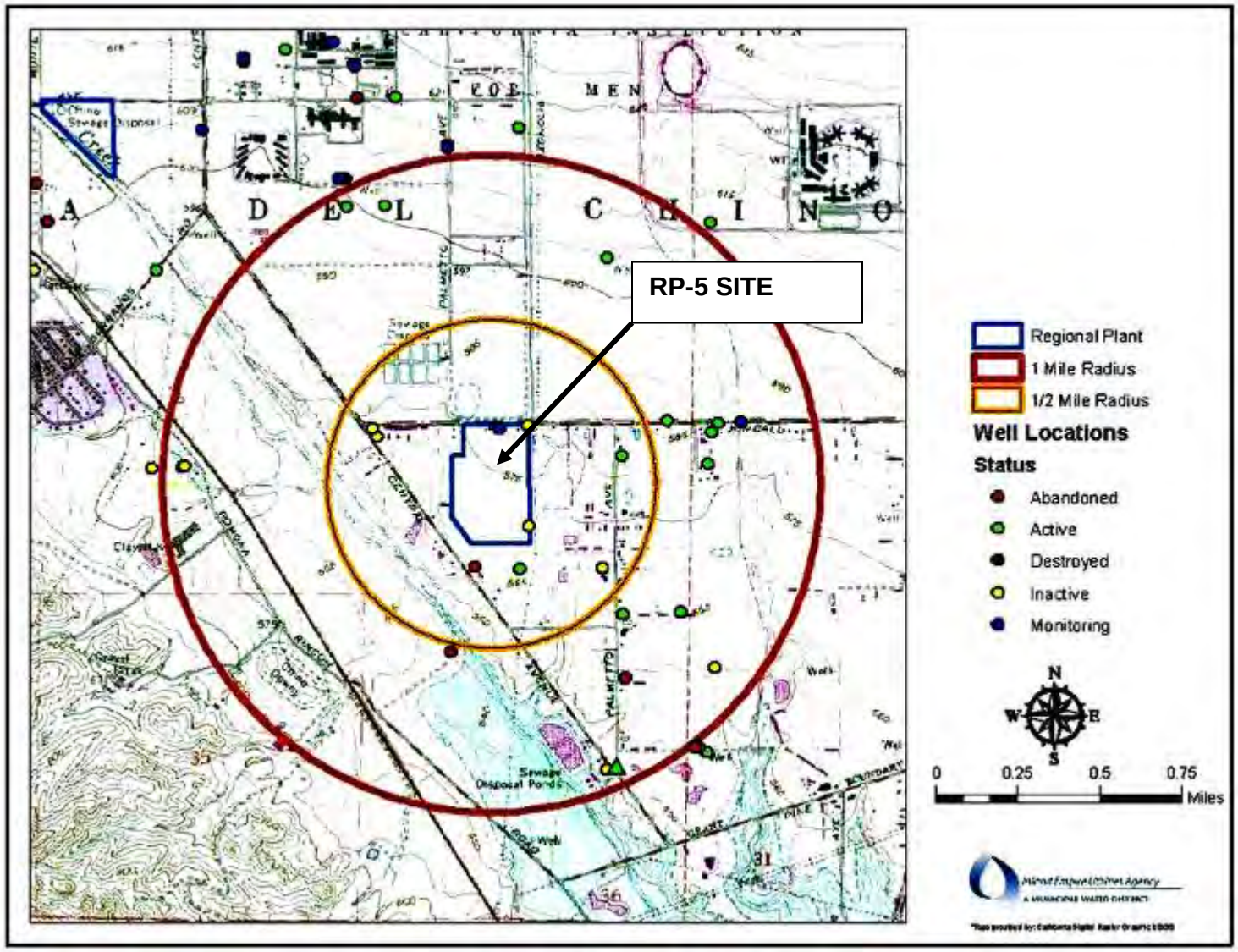




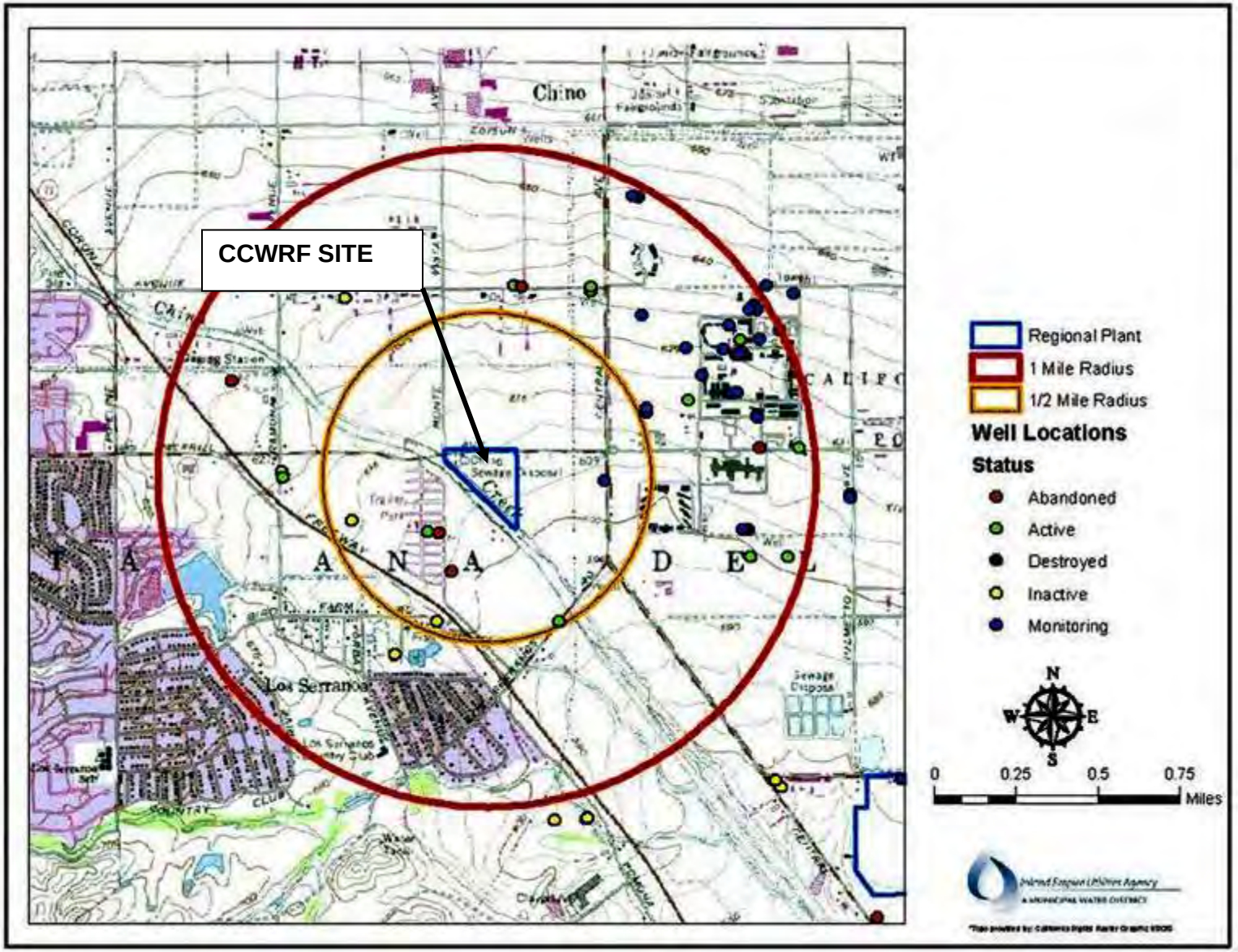
RP-1 LOCATION MAP



RP-4 LOCATION MAP

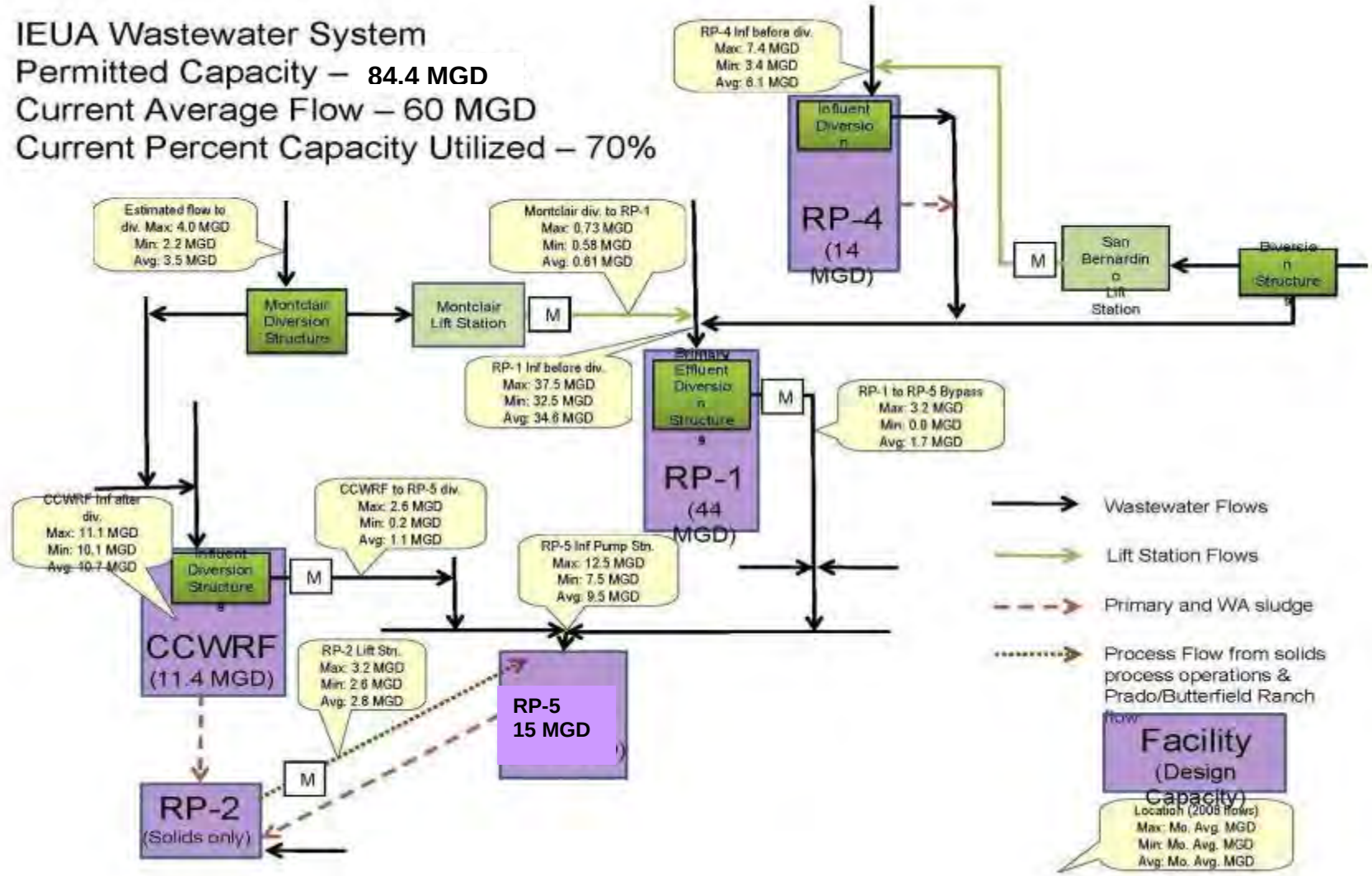


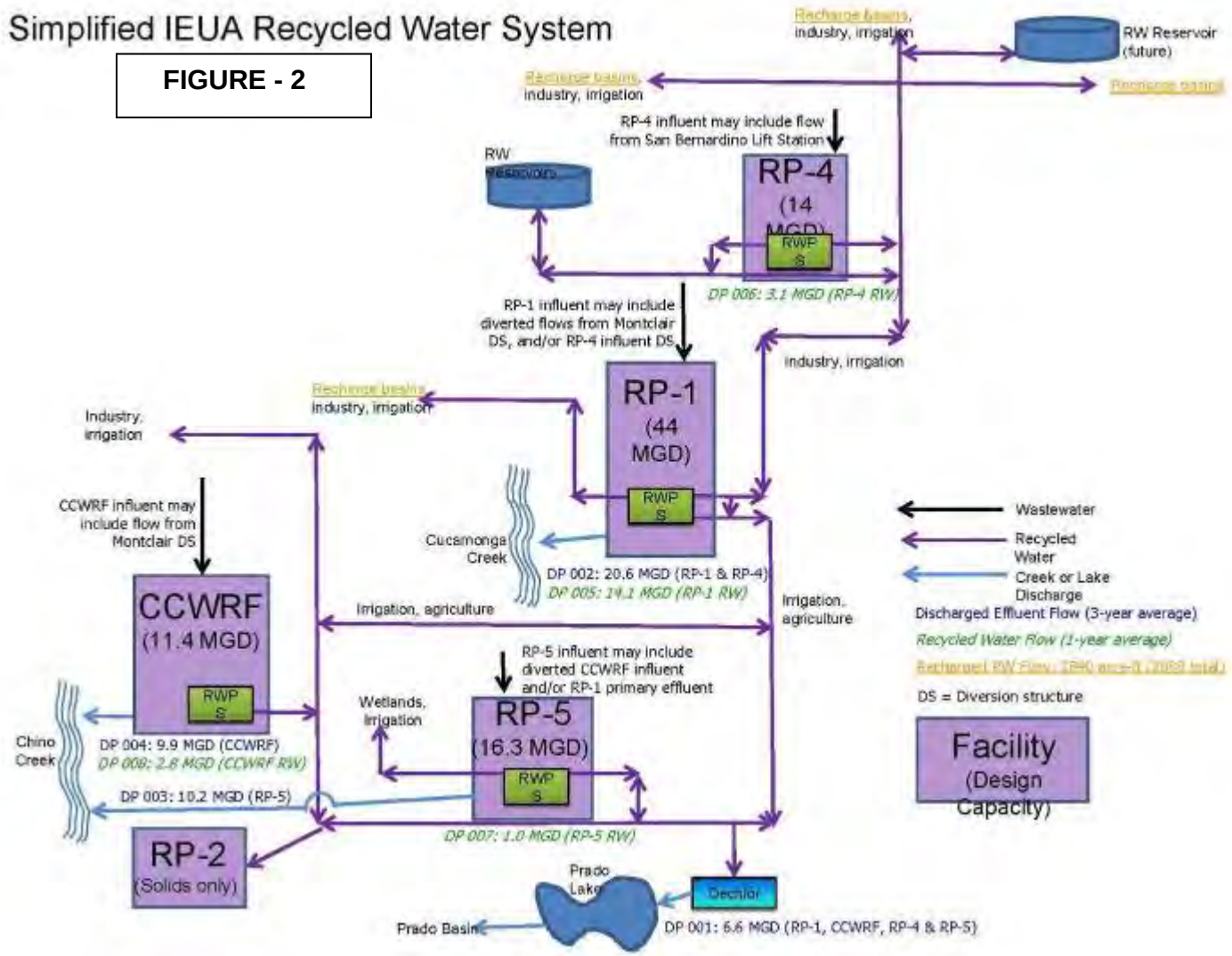
RP-5 LOCATION MAP

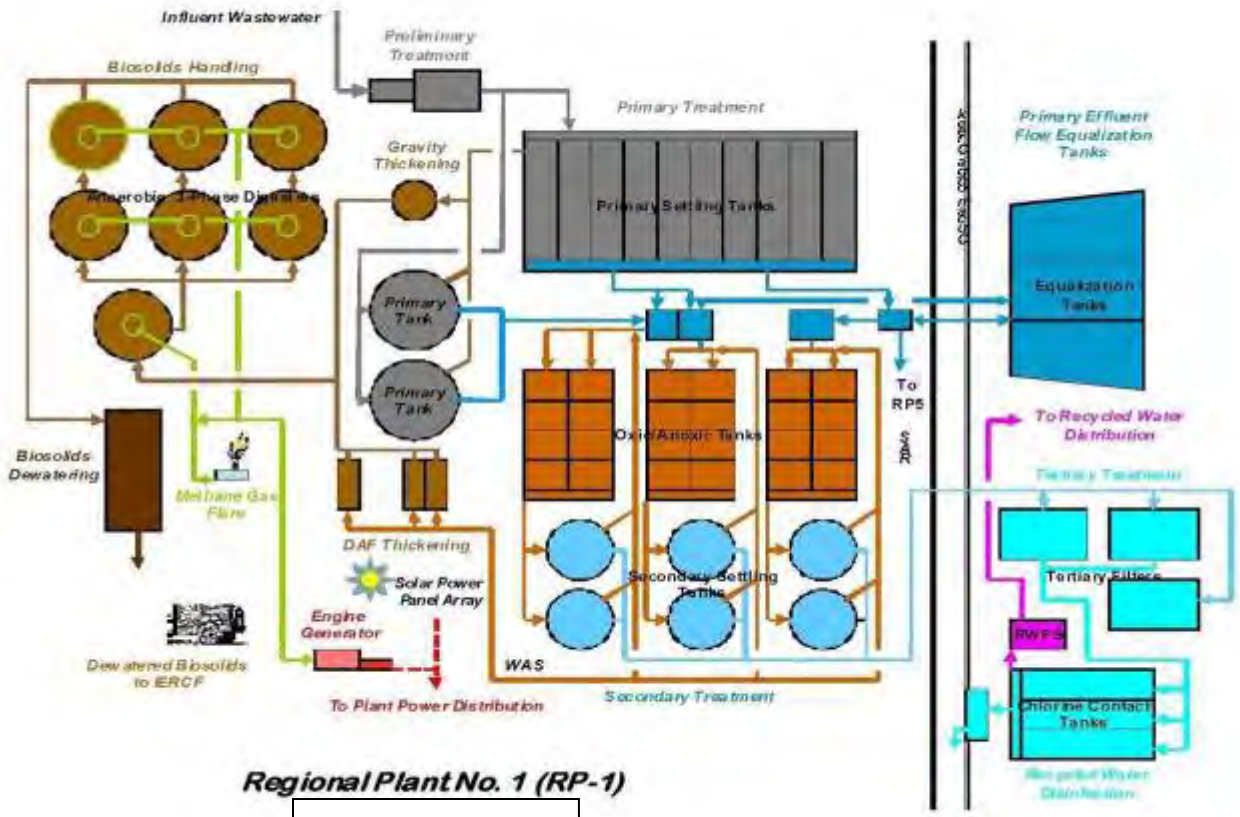


CCWRF LOCATION MAP

ATTACHMENT C – FIGURE 1




Simplified IEUA Recycled Water System
FIGURE - 2
Recharge basins, industry, irrigation
RW Reservoir (future)
Recharge basins, industry, irrigation
RP-4 influent may include flow from San Bernardino Lift Station
RW Reservoir
RP-4
(14 MGD)
RWPS
DP 006: 3.1 MGD (RP-4 RW)
RP-1 influent may include diverted flows from Montclair DS, and/or RP-4 influent DS
industry, irrigation
Recharge basins industry, irrigation
RP-1
(44 MGD)
RWPS
Industry, irrigation
CCWRF influent may include flow from Montclair DS
Cucamonga Creek
DP 002: 20.6 MGD (RP-1 & RP-4)
DP 005: 14.1 MGD (RP-1 RW)
Irrigation, agriculture
Irrigation, agriculture
CCWRF
(11.4 MGD)
RWPS
RP-5 influent may include diverted CCWRF influent and/or RP-1 primary effluent
Wetlands, irrigation
RP-5
(16.3 MGD)
RWPS
Chino Creek
DP 004: 9.9 MGD (CCWRF)
DP 008: 2.8 MGD (CCWRF RW)
DP 003: 10.2 MGD (RP-5)
DP 007: 1.0 MGD (RP-5 RW)
RP-2
(Solids only)
Prado Lake
Dechlor
Prado Basin
DP 001: 6.6 MGD (RP-1, CCWRF, RP-4 & RP-5)
Wastewater
Recycled Water
Creek or Lake Discharge
Discharged Effluent Flow (3-year average)
Recycled Water Flow (1-year average)
Recharged RW Flow: 1840 acre-ft (2003 total)
DS = Diversion structure
Facility
(Design Capacity)



Regional Plant No. 1 (RP-1)

FIGURE - 3

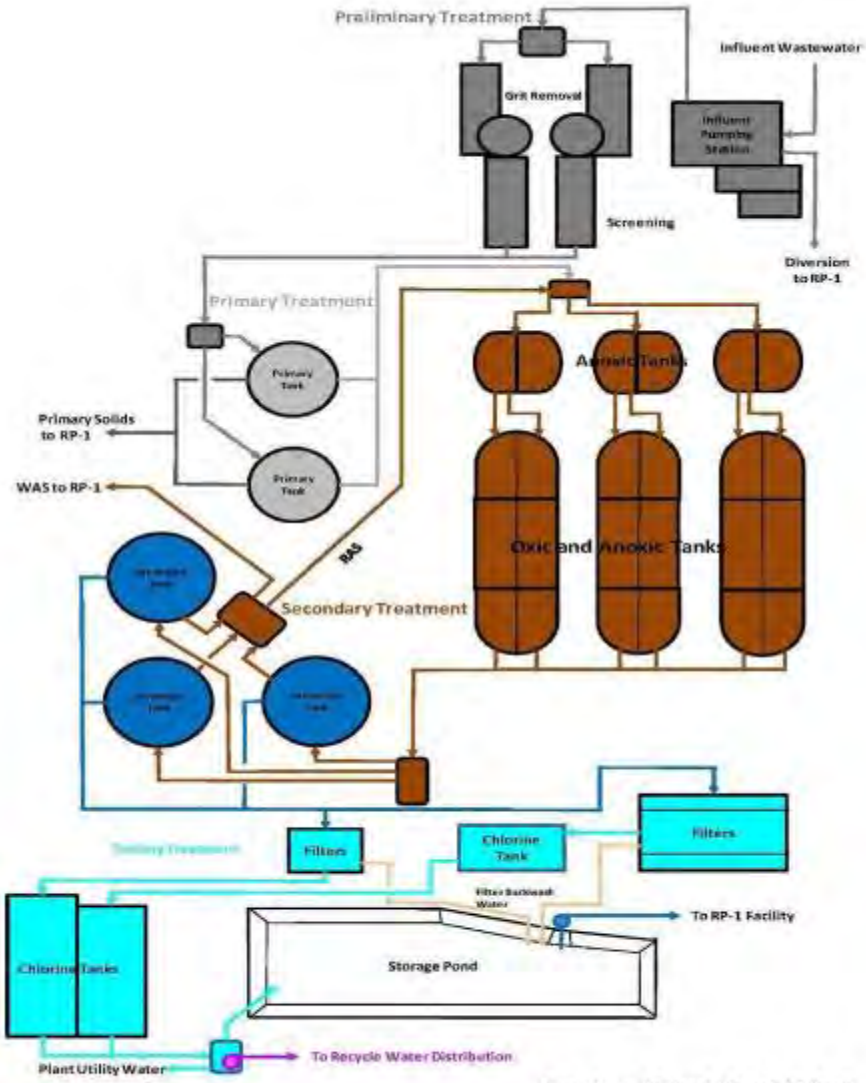
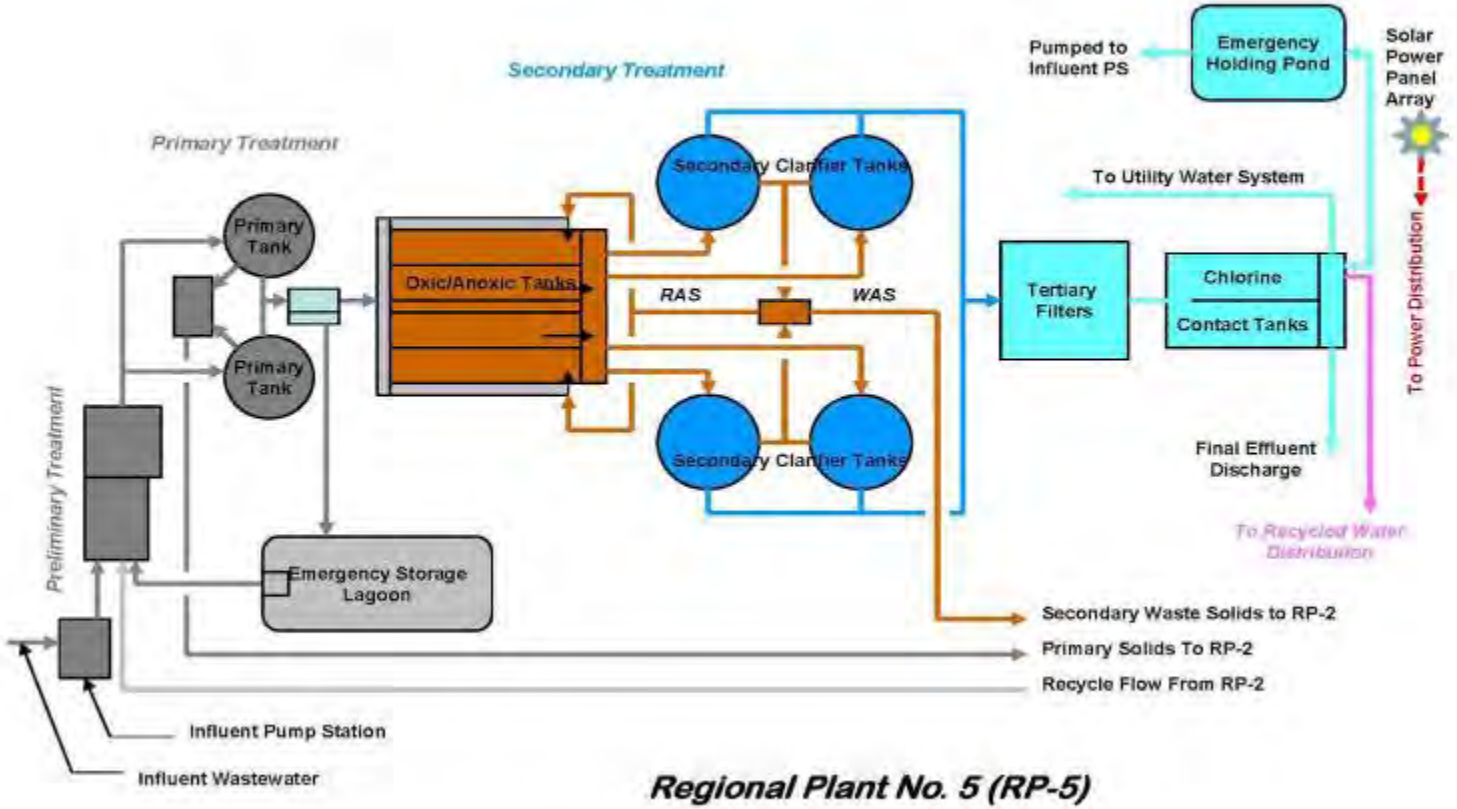
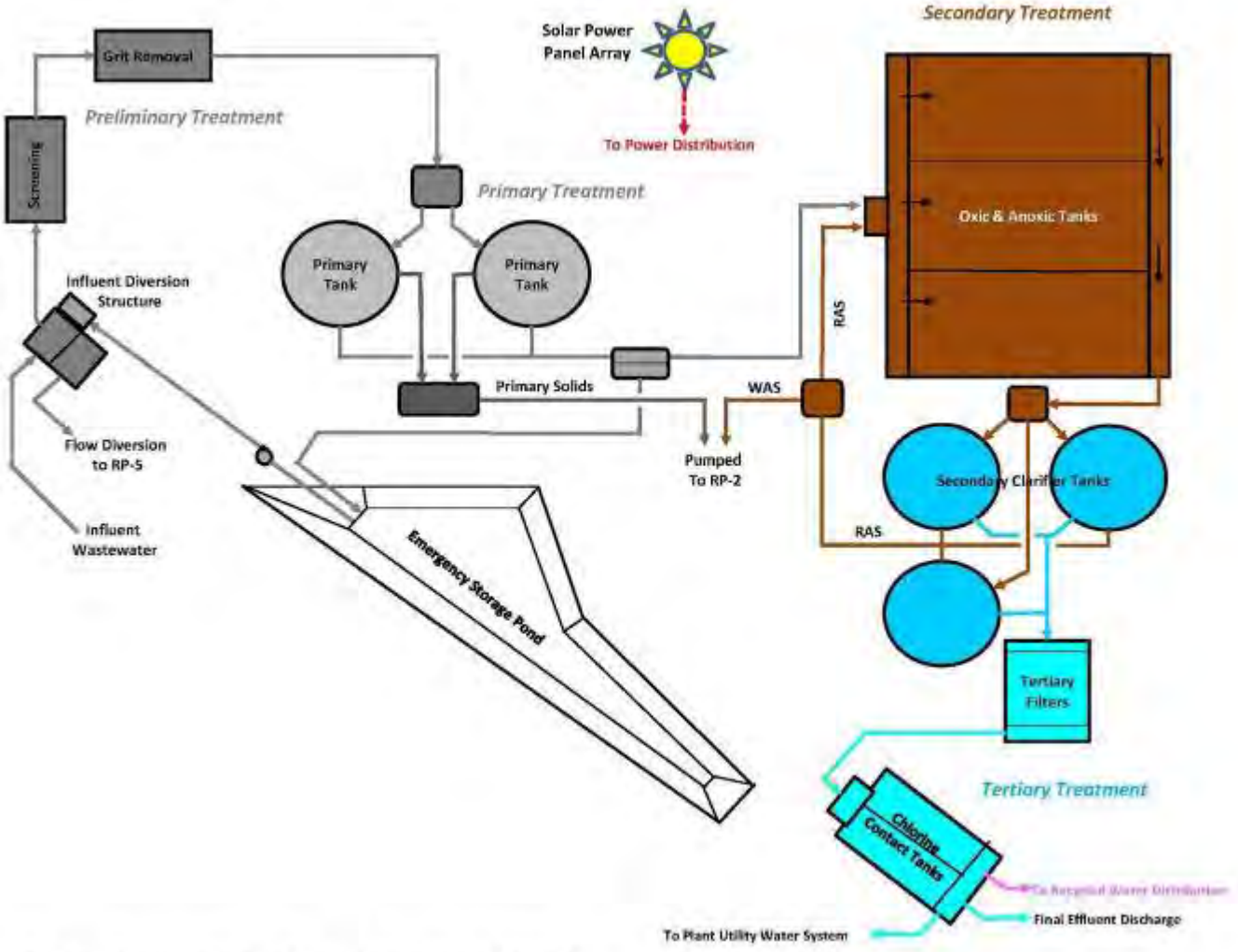

Preliminary Treatment
Influent Wastewater
Grit Removal
Screening
Diversion to RP-1
Primary Treatment
Primary Tank
Primary Tank
Primary Solids to RP-1
WAS to RP-1
RAS
Secondary Treatment
Aeration Tanks
Oxic and Anoxic Tanks
Filters
Chlorine Tank
Filters
To RP-1 Facility
Storage Pond
Chlorine Tanks
Plant Utility Water
To Recycle Water Distribution
Regional Plant No. 4 (RP-4)

FIGURE - 4



Regional Plant No. 5 (RP-5)

FIGURE - 5



Carbon Canyon Water Recycle Facility (CCWRF)

FIGURE - 6

ATTACHMENT D –STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 C.F.R. § 122.41(a).)

2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. § 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 C.F.R. § 122.41(c).)

C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 C.F.R. § 122.41(d).)

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order. (40 C.F.R. § 122.41(e).)

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 122.41(g).)

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 C.F.R. § 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the Regional Water Board, State Water Board, United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (40 C.F.R. § 122.41(i); Wat. Code, § 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (40 C.F.R. § 122.41(i)(1));

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 C.F.R. § 122.41(i)(2));

3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 C.F.R. § 122.41(i)(3)); and

4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (40 C.F.R. § 122.41(i)(4).)

G. Bypass

1. Definitions

   a. “Bypass” means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 122.41(m)(1)(i).)

   b. “Severe property damage” means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. § 122.41(m)(1)(ii).)

2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. § 122.41(m)(2).)

3. Prohibition of bypass. Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless (40 C.F.R. § 122.41(m)(4)(i)):

   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));

   b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and

   c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)

4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)

5. Notice

   a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 C.F.R. § 122.41(m)(3)(i).)

   b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 C.F.R. § 122.41(m)(3)(ii).)

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 C.F.R. § 122.41(n)(1).)

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. § 122.41(n)(2).).

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 C.F.R. § 122.41(n)(3)):

   a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));

   b. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));

   c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and

   d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. § 122.41(n)(3)(iv).)

3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. § 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 C.F.R. § 122.41(f).)

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (40 C.F.R. § 122.41(b).)

C. Transfers

This Order is not transferable to any person except after notice to the Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 C.F.R. § 122.41(l)(3); § 122.61.)

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. § 122.41(j)(1).)

B. Monitoring results must be conducted according to test procedures under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503 unless other test procedures have been specified in this Order. (40 C.F.R. § 122.41(j)(4); § 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by Part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time. (40 C.F.R. § 122.41(j)(2).)

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));

2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));

3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));

4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));

5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and

6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)

C. Claims of confidentiality for the following information will be denied (40 C.F.R. § 122.7(b)):

1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and

2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or USEPA within a reasonable time, any information which the Regional Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Regional Water Board, State Water Board, or USEPA copies of records required to be kept by this Order. (40 C.F.R. § 122.41(h); Wat. Code, § 13267.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 C.F.R. § 122.41(k).)

2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). (40 C.F.R. § 122.22(a)(3).).

3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 C.F.R. § 122.22(b)(1));

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and

c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)

5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

   "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." (40 C.F.R. § 122.22(d).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.22(l)(4).)

2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 C.F.R. § 122.41(l)(4)(i).)

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503, or as specified in this Order, the results of this monitoring shall be included in the

calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 C.F.R. § 122.41(l)(5).)

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 C.F.R. § 122.41(l)(6)(i).)

2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):

    a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)

    b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)

3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 C.F.R. § 122.41(l)(6)(iii).)

F. Planned Changes

The Discharger shall give notice to the Regional Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 C.F.R. § 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 C.F.R. § 122.41(l)(1)(ii).)

3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 C.F.R.§ 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Regional Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements. (40 C.F.R. § 122.41(l)(2).)

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 C.F.R. § 122.41(l)(7).)

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information. (40 C.F.R. § 122.41(l)(8).)

VI. STANDARD PROVISIONS – ENFORCEMENT

A. The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Publicly-Owned Treatment Works (POTWs)

All POTWs shall provide adequate notice to the Regional Water Board of the following (40 C.F.R. § 122.42(b)):

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to sections 301 or 306 of the CWA if it were directly discharging those pollutants (40 C.F.R. § 122.42(b)(1)); and

2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of the Order. (40 C.F.R. § 122.42(b)(2).)

3. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. (40 C.F.R. § 122.42(b)(3).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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List of Tables

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations section 122.48 requires that all NPDES permits specify monitoring and reporting requirements. Water Code Sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

A. General Monitoring Provision

1. All sampling and sample preservation shall be in accordance with the current edition of “Standard Methods for the Examination of Water and Wastewater” (American Public Health Association) or 40CFR136. (revised as of April 11, 2007) "Guidelines Establishing Test Procedures for the Analysis of Pollutants," promulgated by the United States Environmental Protection Agency (EPA).

2. All laboratory analyses shall be performed in accordance with test procedures under 40 CFR 136 (revised as of April 11, 2007) "Guidelines Establishing Test Procedures for the Analysis of Pollutants," promulgated by the United States Environmental Protection Agency (EPA), unless otherwise specified in this MRP. In addition, the Regional Water Board and/or EPA, at their discretion, may specify test methods that are more sensitive than those specified in 40 CFR 136.

3. Chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the California Department of Public Health in accordance with the provision of Water Code Section 13176, or conducted at a laboratory certified for such analyses by the EPA or at laboratories approved by the Regional Water Board's Executive Officer.

4. In conformance with federal regulations 40 CFR 122.45(c), analyses to determine compliance with the effluent limitations for metals shall be conducted using the total recoverable method. For Chromium (VI), the dissolved method in conformance with 40 CFR 136 may be used to measure compliance with the Chromium (VI) limitation.

5. The Discharger shall have, and implement an acceptable written quality assurance (QA) plan for laboratory analyses. Duplicate chemical analyses must be conducted on a minimum of ten percent (10%) of the samples, or at least one sample per month, whichever is greater. A similar frequency shall be maintained for analyzing spiked samples. When requested by the Regional Water Board or EPA, the Discharger will participate in the NPDES discharge monitoring report QA performance study.

6. For every item of monitoring data where the requirements are not met, the monitoring report shall include a statement discussing the reasons for noncompliance, the actions undertaken or proposed that will bring the discharge into full compliance with requirements at the earliest time, and an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Regional Water Board by letter when compliance with the time schedule has been achieved.

7. The Discharger shall assure that records of all monitoring information are maintained and accessible for a period of at least five years (this retention period supersedes the retention period specified in Section IV.A. of Attachment D) from the date of the sample, report, or application. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or by the request of the Regional Water Board at any time. Records of monitoring information shall include:

   a. The information listed in Attachment D- IV Standard Provisions – Records, subparagraph B. of this Order;
   b. The laboratory which performed the analyses;
   c. The date(s) analyses were performed;
   d. The individual(s) who performed the analyses;
   e. The modification(s) to analytical techniques or methods used;
   f. All sampling and analytical results, including
      (1) Units of measurement used;
      (2) Minimum reporting level for the analysis (minimum level);
      (3) Results less than the reporting level but above the method detection limit (MDL);
      (4) Data qualifiers and a description of the qualifiers;
      (5) Quality control test results (and a written copy of the laboratory quality assurance plan);
      (6) Dilution factors, if used; and
      (7) Sample matrix type.
   g. All monitoring equipment calibration and maintenance records;
   h. All original strip charts from continuous monitoring devices;
   i. All data used to complete the application for this Order; and,
   j. Copies of all reports required by this Order.
   k. Electronic data and information generated by the Supervisory Control And Data Acquisition (SCADA) System.

8. The flow measurement system shall be calibrated at least once per year or more frequently, to ensure continued accuracy.

9. Monitoring and reporting shall be in accordance with the following:

   a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

   b. The monitoring and reporting of influent, effluent, and sludge shall be done more frequently as necessary to maintain compliance with this Order and or as specified in this Order.

   c. Whenever the Discharger monitors any pollutant more frequently than is required by this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the discharge monitoring report specified by the Executive Officer.

   d. A "grab" sample is defined as any individual sample collected in less than 15 minutes.

   e. A composite sample is defined as a combination of no fewer than eight individual grab samples obtained over the specified sampling period. The volume of each individual grab sample shall be proportional to the discharge flow rate at the time of sampling. The compositing period shall equal the specific sampling period, or 24 hours, if no period is specified.

   f. Daily samples shall be collected on each day of the week.

   g. Monthly samples shall be collected on any representative day of each month.

   h. Quarterly samples shall be taken on any representative day of January, April, July, and October.

   i. Semi-annual samples shall be collected in January and July.

   j. Annual samples shall be collected in accordance with the following schedule:

Table 1 Annual Sampling Schedule

Year	Annual Samples
2010	July
2011	October
2012	January
2013	April
2014	July
2015	October

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Table 2 Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description	Latitude and Longitude
001/002	M-INF 1A	RP-1 influent line, before Headworks	34°01'48"N, 117°36'07"W
001/002	M-INF 1B	RP-4 influent line, before Headworks	34°05'09"N, 117°31'28"W
001	M-001A	RP-1 effluent Outfall to Prado Park Lake	33°56'39"N, 117°38'34"W
001	M-001B	At the RP-1splitter box	34°01'29"N, 117°35'57"W
002	M-002A	RP-1 and RP-4 Effluent outfall to Reach 1 of Cucamonga Creek	34°01'31"N, 117°35'56"W
002	M-002B	RP-1 at the end of CCB 3 (Chlorine Contact Basin) before outfall discharge to Reach 1 of Cucamonga Creek	34°01'28"N, 117°35'57"W
003	M-INF 3A	RP-5 influent upstream of any in-plant return flows (theoretical point of combined M-INFB & M-INFD flows)	33°58'04"N, 117°40'28"W
003	M-INF 3B	RP-5 Influent Pump Station	33°57'38"N, 117°40'16"W
003	M-INF 3C	RP-2 Recycle Flow	33°57'29"N, 117°40'23"W
003	M-INF 3D	RP-2 Lift Station	33°57.08"N, 117°40'00"W
003	M-003	RP-5 Effluent to Reach 2 of Chino Creek	33°57'44"N, 117°40'41"W
004	M-INF 4	Influent sampling at CCWRF	33°58'56"N, 117°41'48"W
004	M-004	CCWRF Effluent to Reach 2 of Chino Creek	33°58'47"N, 117°41'39"W
005	REC-001	RP-1 Effluent to recycled water use area, same as M-001B	34°01'29"N, 117°35'57"W
006	REC-002	RP-4 Effluent to recycled water use area	34°04'59"N, 117°31'35"W
007	REC-003	RP-5 Effluent to recycled water use area - Same as M-003	33°57'44"N, 117°40'41"W
008	REC-004	CCWRF Effluent to recycled water use area – Same as M-004	33°58'47"N, 117°41'39"W
002	R-002U	Cucamonga Creek within 100 feet upstream of the DP 002	34°01'29"N, 117°35'58"W
002	R-002D	Cucamonga Creek within 500 feet downstream of DP 002 after blending	34°00'43"N, 117°35'59"W
003	R-003U	Chino Creek within 100 feet upstream of DP 003	33º57'45"N, 117º40'41"W
003	R-003D	Chino Creek within 500 feet downstream of DP 003 in	33º57'45"N, 117º40'41"W
004	R-004U	Chino Creek within 100 feet upstream of DP 004	33º58'47"N, 117º40'41"W
004	R-004D	Chino Creek within 500 feet downstream of DP 004 in	33º58'46"N, 117º40'38"W
S-001	STORM-001	Storm water runoff from RP-1, west	34°01'36"N, 117°35'59"W

Table 2 Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description	Latitude and Longitude
S-002	STORM-002	Storm water runoff from RP-1, east	34°01'28"N, 117°35'58"W

Note: RP-5 influent consists of RP-5 Influent Pump Station flows and RP-2 Lift Station flows, which include RP-2 Recycle Flow and Prado/Butterfield Ranch flows. Therefore, values reported for M-INF3A are flow-weighted values based on flows from RP-5 Pump Station and RP-2 Lift Station.

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Locations M-INFs 1A, 1B, 3A, 3B, 3C, 3D, and M-INF 4

1. Sampling stations shall be established for the points of inflow to each treatment plant. The sampling stations shall be located upstream of any in-plant return flows and where representative samples of the influent of the treatment plant can be obtained.

2. The Discharger shall monitor the influent to the Facility at Monitoring Locations M-INFs 1A, 1B, 3A, 3B, 3C, 3D, and M-INF 4 as follows. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level:

Table 3 Influent Monitoring M-INFs 1A, 1B, 3A, 3B, 3C, 3D, and M-INF 4

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Recorder/Totalizer	Continuous	--
pH	pH Units	Recorder	Continuous	--
Specific Conductance	µmhos/cm	Recorder	Continuous	--
TOC	mg/L	Composite	Weekly	See Section I.A.2 & 3, above, of this MRP
BOD_5 [1]	mg/L	Composite	Weekly	"
Total Suspended Solids	mg/L	Composite	Weekly	"
Total Dissolved Solids	mg/L	Composite	Weekly	"
Ammonia-Nitrogen	mg/L	Grab	Weekly	"
Total Nitrogen	mg/L	Composite	Weekly	"
Total Inorganic Nitrogen	mg/L	Composite	Weekly	"
Cyanide (Free)[2]	µg/l	Grab	Monthly	"

1 *BOD_5 is calculated based on a BOD_5/TOC correlation approved by the Regional Water Board.*

2 *Free cyanide is measured as aquatic free cyanide (ASTM Method D7237) without sodium hydroxide (NaOH) preservation.*

Table 3 Influent Monitoring M-INFs 1A, 1B, 3A, 3B, 3C, 3D, and M-INF 4

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total Hardness	mg/L	Composite	Quarterly	"
Boron	mg/L	Composite	Quarterly	"
Chloride	mg/L	Composite	Quarterly	"
Fluoride	mg/L	Composite	Quarterly	"
Sodium	mg/L	Composite	Quarterly	"
Sulfate	mg/L	Composite	Quarterly	See Section I.A.3. above, of this MRP
Arsenic	µg/L	Composite	Quarterly	See Section I.A.2. above, of this MRP
Cadmium	µg/L	Composite	Quarterly	"
Total Chromium or Chromium VI	µg/L	Composite	Quarterly	See Section I.A.2. above, of this MRP
Total Recoverable Copper	µg/L	Composite	Quarterly	"
Total Recoverable Lead	µg/L	Composite	Quarterly	"
Total Recoverable Mercury	µg/L	Composite	Quarterly	"
Total Recoverable Nickel	µg/L	Composite	Quarterly	"
Selenium	µg/L	Composite	Quarterly	"
Total Recoverable Silver	µg/L	Composite	Quarterly	"
Total Recoverable Zinc	µg/L	Composite	Quarterly	"
Bis (2-ethylhexyl) phthalate	µg/L	Grab	Quarterly	See Sections I.A.2., I.A.3., above of this MRP
2,3,7,8-TCDD (Dioxin)[3]	µg/L	Composite	Semi-Annually	See Section I.A.3. above, RL 1 pg/L
Volatile organic portion of EPA Priority Pollutants[4] (See Attachment G)	µg/L	Grab	Annually	See Section I.A.2. above, of this MRP
Remaining EPA Priority Pollutants[5] (See Attachment G)	µg/L	Composite	Annually	"

[3] *Applies at M-INF 3B & 3D and M-INF 4 only.*

[4] *EPA priority pollutants are those remaining volatile organic pollutants listed in Attachment "G" which are not specifically listed in this monitoring program table.*

[5] *Remaining EPA priority pollutants are those pollutants listed in Attachment "G" which are not volatile organics and pollutants not specifically listed in this monitoring program table.*

IV. EFFLUENT MONITORING REQUIREMENTS TO SURFACE WATER

The Discharger shall monitor tertiary effluent at monitoring locations M-001, M-002, M-003, and M-004 as follows. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level.

A. Effluent Monitoring Locations M-001 to M-004

1. The Discharger shall monitor tertiary treated effluent for DP 001, DP 002, DP 003, and DP 004 at Monitoring Locations M-001B, M-002A, M-003, and M-004 as follows.

Table 4 Tertiary Effluent Monitoring at M-001B, M-002A, M-003, and M-004

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and Minimum Level, units, respectively
Flow	mgd	Recorder/ Totalizer	Continuous	--
Specific Conductance[6]	µmhos/cm	Recorder	Continuous	--
pH	pH units	Recorder	Continuous	--
Turbidity[7]	NTU	Recorder	Continuous	--
Total Chlorine Residual[8]	mg/L	Recorder	Continuous	--
Coliform Organisms[9], [10]	MPN per 100 ml[11]	Grab	Daily	See Section I.A.3., above of this MRP
CT	mg-minutes/L	Recorder	Continuous[12]	--
Total Organic Carbon (TOC)	mg/L	Composite	Daily	See Section I.A.3. above, of this MRP
BOD_5[13]	mg/L	Composite	Daily	See Section I.A.3. above, of

6 *Except M-001B.*

7 *Turbidity analysis shall be continuous, performed by a continuous recording turbidimeter. Compliance with the daily average operating filter effluent turbidity shall be determined by averaging the levels of recorded turbidity taken at a minimum of four-hour intervals over a 24-hour period. The results of the daily average turbidity determinations shall be reported monthly.*

8 *Except M-001B.*

9 *Samples for total coliform bacteria shall be collected daily. Samples shall be taken from the disinfected effluent.*

10 *M-001B is the coliform monitoring location for DP 001 & DP 002. Alternative monitoring at M-002B is available if gate is closed between Chlorine Contact Basin 2 and 3.*

11 *MPN/100mL = Most Probable Number per 100 milliliters.*

12 *The CT and modal contact time shall be continuously calculated and recorded. The minimum daily value shall be reported monthly. Modal contact time and CT shall be calculated based on the minimum one-hour average value in a 24-hr period.*

Table 4 Tertiary Effluent Monitoring at M-001B, M-002A, M-003, and M-004

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and Minimum Level, units, respectively
				this MRP
Total Suspended Solids	mg/L	Composite	Daily	See Section I.A.3. above
Ammonia-Nitrogen	mg/L	Grab	Weekly	See Section I.A.3. above, of this MRP
Temperature	°C	Grab	Weekly	--
Total Dissolved Solids[14]	mg/L	Composite	Monthly	See Section I.A.3. above
Total Inorganic Nitrogen	mg/L	Composite	Monthly	See Section I.A.3. above
Total Nitrogen	mg/L	Composite	Monthly	See Section I.A.3. above
Cyanide, free[15]	µg/L	Grab	Monthly	See Sections I.A.2., I.A.3., above of this MRP and RL 5 µg/L
Total Recoverable Copper	µg/L	Composite	Monthly	See Sections I.A.2., I.A.3. above of this MRP and RL 0.5 µg/L
Toxicity[16]	TUc	See Section V.A, Below	Monthly	See Section V, Below
Total Hardness	mg/L	Composite	Monthly	See Section I.A.3. above
Bicarbonate	mg/L	Composite	Monthly	See Section I.A.3. above, of this MRP
Boron	mg/L	Composite	Monthly	See Section I.A.3. above
Calcium	mg/L	Composite	Monthly	See Section I.A.3. above
Carbonate	mg/L	Composite	Monthly	See Section I.A.3. above
Chloride	mg/L	Composite	Monthly	See Section I.A.3. above
Fluoride	mg/L	Composite	Monthly	See Section I.A.3. above, of this MRP
Magnesium	mg/L	Composite	Monthly	See Section I.A.3. above
Sodium	mg/L	Composite	Monthly	See Section I.A.3. above
Sulfate	mg/L	Composite	Monthly	See Section I.A.3. above
Total Recoverable Cadmium	µg/L	Composite	Monthly	See Sections I.A.2., I.A.3., above of this MRP and RL 0.5 µg/L

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13 *BOD_5 is calculated daily based on a BOD_5/TOC correlation approved by the Regional Water Board.*

14 *Except M-001B.*

15 *Free cyanide is measured as aquatic free cyanide (ASTM Method D7237) without NaOH preservation.*

16 *Except M-001B.*

Table 4 Tertiary Effluent Monitoring at M-001B, M-002A, M-003, and M-004

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and Minimum Level, units, respectively
Chromium (VI) or Total Chromium[17]	µg/L	Composite	Monthly	See Sections I.A.2., I.A.3. above of this MRP and RL 5 µg/L, Total Cr, RL 2 µg/L
Total Recoverable Lead	µg/L	Composite	Monthly	See Sections I.A.2., I.A.3. above of this MRP and RL 2 µg/L
Total Recoverable Mercury	µg/L	Composite	Monthly	See Sections I.A.2., I.A.3. above of this MRP and RL 0.05 µg/L
Total Recoverable Selenium	µg/L	Composite	Monthly	See Sections I.A.2., I.A.3. above of this MRP and RL 2 µg/L
Total Recoverable Silver	µg/L	Composite	Monthly	See Sections I.A.2., I.A.3., above of this MRP and RL 1 µg/L
Total Recoverable Zinc	µg/L	Composite	Monthly	See Sections I.A.2., I.A.3., above of this MRP
Bis (2-ethylhexyl) phthalate	µg/L	Grab	Monthly	See Sections I.A.2., I.A.3., above of this MRP
Bromodichloromethane[18]	µg/L	Grab	Monthly	See Sections I.A.2., I.A.3., above of this MRP, ML 5 µg/L
Aluminum	mg/L	Composite	Quarterly	See Section I.A.3. above
Antimony	mg/L	Composite	Quarterly	See Sections I.A.2., I.A.3., above of this MRP
Arsenic	µg/L	Composite	Quarterly, (See IV.A.3., below)	See Section I.A.3. above
Barium	µg/L	Composite	Quarterly, (See IV. A.3., below)	See Section I.A.3. above
Cobalt	µg/L	Composite	Quarterly (See IV.A.3., below)	See Section I.A.3. above,
Total Recoverable Nickel	µg/L	Composite	Quarterly (See IV.A.3., below)	See Section I.A.3. above,
2,3,7,8-TCDD (Dioxin)[19]	µg/L	Composite	Quarterly (See IV.A.5., below)	See Section I.A.3. above, RL 1 pg/L
Volatile organic portion of remaining EPA Priority Pollutants (See Attachment G)	µg/L	Grab	Annually (See IV.A.4., below)	See Sections I.A.2., I.A.3., above of this MRP
Remaining EPA Priority Pollutants (See Attachment G)	µg/L	Composite	Annually (See IV.A.4., below)	See Sections I.A.2., I.A.3., above of this MRP

[17] *If Total Chromium test result is greater than 11 µg/L, the following sample shall be tested for Chromium VI, until directed otherwise.*

[18] *Applies at M-003 only.*

[19] *Applies at M-003 and M-004 only.*

2. The Discharger shall monitor tertiary treated effluent for DPs 001 and 002 at M-001A as follows:

Table 5 Effluent Monitoring Requirements at M-001A

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Test Method
Turbidity	NTU	Recorder	Continuous	--
Total Chlorine Residual	mg/l	Recorder	Continuous	--
Specific Conductance	µmhos/cm	Recorder	Continuous	--
Total Dissolved Solids	mg/l	Composite	Monthly	See Sections I.A.2., I.A.3., above of this MRP
Toxicity	TUc	See Section V.A, Below	Monthly	See Section V, Below

3. The monitoring frequency for those priority pollutants that are detected during the required quarterly monitoring at a concentration greater than the concentration specified for that pollutant[20] in Attachment I - Triggers for Monitoring Priority Pollutants shall be accelerated to monthly. To return to the monitoring frequency specified, the Discharger shall request and receive approval from the Regional Water Board's Executive Officer or designee.

4. The monitoring frequency for those priority pollutants that are detected during the required semi-annual or annual monitoring at a concentration greater than the concentration specified for that pollutant in Attachment I shall be accelerated to quarterly for one year. To return to the specified monitoring frequency, the Discharger shall request and receive approval from the Regional Water Board's Executive Officer or designee.

5. The Discharger is required to conduct quarterly monitoring for Dioxin for one year. After one year, if quarterly monitoring result show non-detect values at acceptable reporting levels, the Discharger may reduce the frequency of monitoring for Dioxin from quarterly to semi-annual monitoring upon approval by the Regional Water Board Executive Officer or designee.

B. Secondary Effluent Monitoring at M-002, M-003 and M-004 with 20:1 Dilution

1. The Discharger shall monitor secondary treated effluent at M-002B, M-003 and M-004 when 20:1 dilution is provided by the receiving surface water at the time of the discharge, as follows:

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[20] *For those priority pollutants without specified criteria values, accelerated monitoring is not required.*

Table 6 Secondary Effluent Monitoring at M-002B to M-004 w/ 20:1 Dilution

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Test Method
Flow	mgd	Grab	Daily (when discharging)	--
pH	pH units	Recorder/Totalizer	Continuous	--
Total Chlorine Residual	mg/L	Recorder	Continuous	--
BOD_5	mg/L	Grab	Daily (when discharging)	See Section I.A.3., above, of this MRP
Total Dissolved Solids	mg/L	Grab	when discharging	"
Coliform Organisms	MPN per 100 ml[21]	Grab	Daily (when discharging)	See Sections I.A.2., I.A.3., above of this MRP
Suspended Solids	mg/L	Grab	Daily (when discharging)	See Sections I.A.2., I.A.3., above of this MRP
Total Hardness	mg/L	Grab	When discharge	See Section I.A.3., above, of this MRP
EPA Priority Pollutants	µg/L	Grab	Annually[22] (See IV.A.3., above)	See Sections I.A.2., I.A.3., above of this MRP

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Toxicity Monitoring Requirements at M-001A, M-002A, M-003, and M-004

1. The Discharger shall conduct critical life stage chronic toxicity testing in accordance with Method 1002.0 - Survival and Reproduction test for water flea, *Ceriodaphnia dubia* as specified in "Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms", Fourth Edition, Environmental Monitoring Systems Laboratory, U.S. Environmental Protection Agency 2002, Cincinnati, Ohio (October 2002, EPA-821-R-02-013).

2. The Discharger shall establish procedures to ensure that the toxicity testing laboratory notifies the Discharger of the results of toxicity testing by the end of the next business day following the completion of such tests.

3. A minimum of one monthly chronic toxicity test shall be conducted on representative composite samples.

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[21] *MPN/100mL = Most Probable Number per 100 milliliters*

[22] *Sample is collected from the first discharge, once a year.*

4. The Discharger shall increase the frequency of chronic toxicity testing to every two weeks whenever any test result exceeds 1.0 TUc. The first test under the accelerated schedule shall be conducted within two weeks of receiving notice of the test that exceeds 1.0 TUc, and every two weeks thereafter. The Discharger may resume the regular test schedule when two consecutive chronic toxicity tests result in 1.0 TUc, or when the results of the Initial Investigation Reduction Evaluation conducted by the Discharger have adequately addressed the identified toxicity problem.

5. The presence of chronic toxicity shall be estimated as specified in Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. Fourth Edition. EPA-821-R-02-013.

6. Results for both survival and reproduction endpoints shall be reported in TUc, where TUc = 100/NOEC or 100/ICp or ECp (p is the percent effluent). The no observed effect concentration (NOEC) is the highest concentration of toxicant to which organisms are exposed in a chronic test, that causes no observable adverse effect on the tests organisms (e.g., the highest concentration of toxicant to which the values for the observed responses are not statistically significant different from the controls). The inhibition concentration (IC) is a point estimate of the toxicant concentration that causes a given percent reduction in a non-quantal biological measurement (e.g., reproduction or growth) calculated from a continuous model (the EPA Interpolation Method). The effective concentration (EC) is a point estimate of the toxicant concentration that would cause a given percent reduction in quantal biological measurement (e.g., larval development, survival) calculated from a continuous model (e.g., probit).

7. Additional Testing Requirements

    a. A series of at least five dilutions and a control will be tested. Five dilutions of the series shall be within 60% to 100% effluent concentration.
    b. If organisms are not cultured in-house, concurrent testing with reference toxicants shall be conducted. Where organisms are cultured in-house, monthly reference toxicant testing is sufficient. Reference toxicants shall also be conducted using the same test conditions as the effluent toxicity test (e.g., same test duration, etc).
    c. If either of the reference toxicant test or the effluent tests do not meet all test acceptability criteria as specified in the manual[23], then the Discharger must re-sample and re-test within 14 days or as soon as the Discharger receives notification of failed tests.
    d. Control and dilution water should be receiving water or lab water, as appropriate, as described in the manual. If the dilution water used is different from the culture water, a second control, using culture water shall also be used.

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[23] *Refers to USEPA Manual "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. - 4th Ed., October 2002, EPA-821-R-02-013.*

8. Quality Assurance/Control:

   a. A quality assurance/quality control (QA/QC) program shall be instituted to verify the results of the effluent toxicity monitoring program. The QA/QC program shall include but shall not be limited to the following: (1) Selection of an independent testing laboratory; (2) Approval by the Regional Water Board's Executive Officer or Executive Officer's designee of the independent testing laboratory; (3) Once during the year, the Discharger shall split samples with the independent laboratory for conducting chronic toxicity testing; (4) Results from the independent laboratory shall be submitted to the Regional Water Board and the Discharger for evaluation; (5) The Discharger shall review the test acceptability criteria in accordance with the EPA test protocols, Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. Fourth Edition. EPA-821-R-02-013.

   b. Results from the independent laboratory of the annual QA/QC split samples are to be used for Quality Assurance/Quality Control (QA/QC) purposes only and not for purposes of determining compliance with other requirements of this Order.

9. The use of alternative methods for measuring chronic toxicity may be considered by the Executive Officer on a case–by-case basis. The use of a different test species, in lieu of conducting the required test species may be considered and approved by the Executive Officer on a case-by case basis upon submittal of the documentation supporting Discharger’s determination that a different species is more sensitive and appropriate.

10. Reporting: Results of all toxicity testing conducted within the month following the reporting period shall be submitted monthly in accordance with "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. Fourth Edition. EPA-821-R-02-013.” The report shall include a determination of the median value of all chronic toxicity testing results conducted during the two previous months.

11. Whenever an Initial Investigation Reduction Evaluation is conducted, the results of the evaluation shall be submitted upon completion. In addition, monthly status reports shall be submitted as part of the Discharger’s monitoring report for the previous month.

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VII. RECLAMATION MONITORING REQUIREMENTS

A. Monitoring Locations REC-001 to REC-004

1. The Discharger shall monitor recycled water at REC-001, REC-002, REC-003 and REC-004 as follows:

Table 7 Reclamation Monitoring at REC-001 to REC-004

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Recorder/Totalizer	Continuous	--
pH	Standard units	Recorder/Totalizer	Continuous	--
Turbidity[24]	NTU	Recorder	Continuous	--
CT	mg-minutes/L	Recorder	Continuous[25]	--
Coliform Organisms	MPN per 100 mL	Grab	Daily	See Section I.A.3., above, of this MRP
BOD_5	mg/L	Composite	Daily	See Section I.A.3., above, of this MRP
Total Suspended Solids	mg/L	Composite	Daily	See Section I.A.3., above, of this MRP
TDS	mg/L	Composite	Monthly	See Section I.A.3., above, of this MRP

B. Monitoring Users

Whenever recycled water is supplied to a user, the Discharger shall record on a permanent log: the volume of recycled water supplied; the user of recycled water; the locations of those sites including the names of the groundwater management zones underlying the recycled water use sites; type of use (e.g. irrigation, industrial, etc); and the dates at which water is supplied. The Discharger shall submit annually a summary report of the recorded information by groundwater management zone to the Regional Water Board.

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[24] *Turbidity samples shall be collected at M-001A, M-002A, M-003, and M-004, respectively.*

[25] *The CT and modal contact time shall be continuously calculated and recorded. Modal contact time and CT shall be calculated based on the minimum one-hour average value in a 24-hr period.*

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

A. Flow Measurements at Monitoring Locations R-002U, R-003U, and R-004U During 20:1 Dilution.

The Discharger shall make provisions for the measurement of the receiving water flow at a suitable location in the creek and determine whether a 20:1 dilution exists at DP 002, DP 003, or DP 004, before discharging secondary treated effluent. A dilution of 20:1 or more exclusive of discharges to surface waters from upstream publicly owned treatment works is required at the point of discharge for the discharge of secondary effluent. Flow measurements shall be made prior to any direct discharge to the creeks and shall continue on a daily basis until the discharge is terminated.

B. Monitoring Locations R-002U, R-003U, and R-004U

1. The Discharger shall monitor the receiving water at R-002U, R-003U, and R-004U for the following parameters/constituents when there is flowing water:

Table 8 Receiving Water Monitoring at R-002U, R-003U, and R-004U

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	estimate	Weekly	--
Dissolved Oxygen	mg/L	Grab	Weekly	--
Temperature	^{0}C	"	Weekly	--
pH	pH unit	Grab	Weekly	--
Total Dissolved Solids	mg/L	Grab	Monthly	See Sections I.A.3. above of this MRP
Total Inorganic Nitrogen	mg/L	Grab	Monthly	See Sections I.A.3. above of this MRP
Total Hardness	mg/L	Grab	Quarterly	See Sections I.A.3. above of this MRP
Total Suspended Solids	mg/L	Grab	Quarterly	See Sections I.A.3. above of this MRP
EPA Priority Pollutants (see VIII.C.2., below)	µg/L	Grab	Annually	See Sections I.A.2., 3. above of this MRP

C. Monitoring Locations R-002D & R-003D

1. The Discharger shall monitor the receiving water at R-002D, R-003D, when there is flowing water upstream of the discharge point for the following constituents:

Table 9 Receiving Water Monitoring at R-002D & R-003D

Parameter	Units	Sample Type	Minimum Sampling & Testing Frequency	Required Analytical Test Method
Dissolved Oxygen	mg/L	Grab	Weekly	--
Temperature	^{0}C	Grab	Weekly	--
pH	pH unit	Grab	Weekly	--
Color change, foam, deposition of material, odor	--	Observe	Weekly	See Section I.A.3., above, of this MRP
Total Hardness	mg/L	Grab	Quarterly	See Sections I.A.3. above of this MRP
Total Suspended Solids	mg/L	Grab	Quarterly	"
EPA Priority Pollutants (see VIII.C.2., below)	µg/L	Grab	Annually	See Sections I.A.2., 3. above of this MRP

2. For the annual monitoring of the heavy metals EPA Priority Pollutants, the total recoverable and total dissolved metal concentrations shall be determined.

D. Regional Monitoring for Fish Flesh Testing:

Unless otherwise directed by the Regional Water Board Executive Officer, the Discharger shall implement the approved plan for the annual sampling and testing of mercury levels in fish flesh samples collected from the Santa Ana River. The frequency of monitoring and submission of reports shall be as stipulated in the approved plan.

E. Monitoring Requirements for Groundwater – Not Applicable

Monitoring of groundwater by the Discharger is addressed in Order No.R8-2007-0039.

IX. OTHER MONITORING REQUIREMENTS

A. Biosolids Monitoring

1. Biosolids monitoring shall be conducted as follows:

Table 10 Biosolids Monitoring Requirements

Biosolids Monitoring	Units	Type of Sample	Minimum Frequency of Sampling & Testing
Priority Pollutants	mg/kg	Grab	Semi-annually
Moisture Content (% solid)	mg/kg	Grab	Quarterly

2. The Discharger shall maintain a permanent log of solids hauled away from the treatment facilities for use/disposal elsewhere, including the date hauled, the volume or weight (in dry tons), type (screening, grit, raw sludge, biosolids), application (agricultural, composting, etc), and destination. This information shall be reported quarterly.

B. Stormwater Monitoring

The Discharger shall monitor discharges at Discharge Points S-001 to S-002 (as specified in Table 2 of this MRP) and submit monitoring reports in accordance with Attachments J and K - Stormwater Monitoring and Reporting Requirements.

C. Water Supply Monitoring

1. In August of each year, a sample of each source of the water supplied to the sewered area shall be obtained and analyzed for total dissolved solids concentration expressed in "mg/L".

2. Monthly reports shall be submitted stating the amount (in percentage or acre-feet) supplied to the sewered area from each source of water and the resulting flow-weighted water supply quality for total dissolved solids.

D. Pretreatment Monitoring and Reporting

1. The Discharger shall submit to the Regional Water Board and the EPA Region 9, a quarterly compliance status report. The quarterly compliance status reports shall cover the periods January 1 - March 31, April 1 - June 30, July 1 - September 30, and October 1 -December 31. Each report shall be submitted by the end of the month following the quarter, except that the report for April 1 - June 30 may be included in the annual report. This quarterly reporting requirement shall commence for the first full quarter following issuance of this Order. The reports shall identify:

   a. All significant industrial users (SIUs) which violated any standards or reporting requirements during that quarter;

   b. The violations committed (distinguish between categorical and local limits);

   c. The enforcement actions undertaken; and

d. The status of active enforcement actions from previous periods, including closeouts (facilities under previous enforcement actions which attained compliance during the quarter).

2. Annually, the Discharger shall submit a report to the Regional Water Board, the State Water Resources Control Board and the EPA Region 9 describing the pretreatment activities within the service area during the previous year. In the event that any control authority within the service area is not in compliance with any conditions or requirements of this Order or their approved pretreatment program (such as due to industrial user discharges, interjurisdictional agency agreement implementation issues, or other causes,) then the Discharger shall also include the reasons for non-compliance and state how and when the Discharger and the control authority shall comply with such conditions and requirements. This annual report shall cover operations from July 1 through June 30 of each fiscal year and is due on September 30 of each year. The report shall contain, but not be limited to, the following information:

   a. A summary of analytical results from representative, flow-proportioned, 24-hour composite sampling of the POTWs' influent and effluent wastewaters for those pollutants which are known or suspected to be discharged by industrial users (IUs) as identified by EPA under Section 307(a) of the CWA. The summary will include the result of annual full priority pollutant scan, with quarterly samples analyzed only for those pollutants[26] detected in the full scan. The Discharger shall also provide any influent or effluent monitoring data for non-priority pollutants which the Discharger believes may be causing or contributing to Interference, Pass Through or adversely impacting sludge quality. Sampling and analysis shall be performed in accordance with the techniques prescribed in 40 CFR 136 and amendments thereto.

   b. A discussion of any upset, interference, or pass-through incidents at the treatment plants (if any), which the Discharger knows or suspects were caused by IUs of the POTW system. The discussion shall include the following:

      (1) The reasons why the incidents occurred, the corrective actions taken, and, if known, the name and address of the IU(s) responsible.

      (2) A review of the applicable pollutant limitations to determine whether any additional limitations, or changes to existing requirements, may be necessary to prevent pass through, interference or noncompliance with sludge disposal requirements.

[26] *The Discharger is not required to analyze for asbestos.*

c. A complete and updated list of the Discharger's significant industrial users (SIUs), including names, Standard Industrial Classification (SIC) code(s) and addresses, and a list of any SIU deletions and/or additions. The Discharger shall provide a brief explanation for each deletion. The SIU list shall identify the SIUs subject to Federal Categorical Standards by specifying which set(s) of standards are applicable to each SIU. The list shall also indicate which SIUs are subject to local limitations more stringent than Federal Categorical Standards and those, which are not subject to local limits.

d. A list or table characterizing the industrial compliance status of each SIU, including:

(1) SIU name;
(2) Industrial category;
(3) The type (processes) of wastewater treatment in place;
(4) Number of samples taken by the POTW during the year;
(5) Number of samples taken by the SIU during the year;
(6) Whether all needed certifications (if allowed) were provided by SIUs which have limits for total toxic organics;
(7) Federal and Regional Standards violated during the year, reported separately;
(8) Whether the SIU at any time in the year was in Significant Noncompliance (SNC)[27], as defined by 40 CFR 403.12 (f)(2)(vii); and
(9) A summary of enforcement actions against the SIU taken during the year, including the type of action, final compliance date, and amount of fines assessed/collected (if any). Proposed actions, if known, should be included.
(10) Number of inspections conducted at each SIU during the year.

e. A compliance summary table which includes:

(1) SIU's which were in SNC at any time during the year;
(2) The total number of SIUs which are in SNC with pretreatment compliance schedules during the year;
(3) The total number of notices of violation and administrative orders issued against SIUs during the year;
(4) The total number of civil and criminal judicial actions filed against SIUs during the year;
(5) The number of SIUs which were published as being in SNC during the year; and
(6) The number of IUs from which penalties were collected during the year.

[27] *SNC is determined at the beginning of each quarter based on data of the previous six months.*

f. A short description of any significant changes in operating the pretreatment program which differ from the previous year including, but not limited to changes concerning:

(1) The program's administrative structure;
(2) Local industrial discharge limitations;
(3) Monitoring program or monitoring frequencies;
(4) Legal authority or enforcement policy;
(5) Funding mechanisms; and
(6) Resource requirements and/or staffing levels.

g. A summary of the annual pretreatment budget, including the cost of pretreatment program functions and equipment purchases.

h. A summary of public participation activities to involve and inform the public.

i. A description of any changes in sludge disposal methods and a discussion of any concerns not described elsewhere in the report.

3. The cumulative number of industrial users that the Discharger has notified regarding Baseline Monitoring Reports and the cumulative number of industrial user responses.

4. The Discharger shall submit the quarterly compliance status reports and the annual pretreatment report to EPA Region 9, the State Board and the Regional Water Board.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.
2. All analytical data shall be reported with method detection limit[28] (MDLs) and with identification of either reporting level or limits of quantitation (LOQs). Quality assurance/quality control data shall be submitted upon request. Test results shall be reported in either milligrams/liter (mg/L) or micrograms/liter (µg/L), or picograms/L (pg/L), as appropriate.
3. For effluent wastewater monitoring:

[28] *The standardized test procedure to be used to determine the method detection limit (MDL) is given at Appendix B, 'Definition and Procedure for the Determination of the Method Detection Limit' of 40 CFR 136.*

a. The Discharger shall require its testing laboratory to calibrate the analytical system down to the minimum level (ML)[29] specified in Attachment H for priority pollutants with effluent limitations in this Order, unless an alternative minimum level is approved by the Regional Water Board's Executive Officer. When there is more than one ML value for a given substance, the Discharger shall use the ML values, and their associated analytical methods, listed in Attachment H that are below the calculated effluent limitation. The Discharger may select any one of those cited analytical methods for compliance determination. If no ML value is below the effluent limitation, then the lowest ML value and its associated analytical method, listed in Attachment H shall be used. Any internal quality control data associated with the sample must be reported when requested by the Executive Officer. The Regional Water Board will reject the quantified laboratory data if quality control data is unavailable or unacceptable.

b. The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

(1) Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

(2) Sample results less than the reported ML, but greater than or equal to the laboratory's current Method Detection Limit (MDL)[30], shall be reported as "Detected, but Not Quantified," or "DNQ." The estimated chemical concentration of the sample shall also be reported.

(3) Sample results not detected above the laboratory's MDL shall be reported as "not detected" or "ND."

4. For receiving water monitoring and for those priority pollutants without effluent limitations, the Discharger shall require its testing laboratory to quantify constituent concentrations to the lowest achievable MDL as determined by the procedure found in 40 CFR 136 (revised as of April 11, 2007). In situations where the most stringent applicable receiving water objective (freshwater or human health (consumption of organisms only), as specified for that pollutant in 40 CFR 131.38[31] is below the minimum level value specified in Attachment H and the Discharger cannot achieve an MDL value for that pollutant below the ML value, the Discharger shall submit justification why a lower MDL value cannot be achieved. Justification shall be submitted together with monthly monitoring reports.

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29 *Minimum level is the concentration at which the entire analytical system must give a recognizable signal and acceptable point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.*

30 *MDL is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analytical concentration is greater than zero, as defined in 40 CFR 136, Appendix B, revised as of April 11, 2007.*

31 *See Federal Register/ Vol. 65, No. 97 / Thursday, May 18, 2000 / Rules and Regulations.*

5. For non-priority pollutants monitoring, all analytical data shall be reported with method detection limits, as determined by the procedure found in 40 CFR 136 (revised as of April 11, 2007).
6. Any internal quality control data associated with the sample must be reported when requested by the Executive Officer. The Regional Water Board will reject the quantified laboratory data if quality control data is unavailable or unacceptable.
7. Discharge monitoring data shall be submitted in a format acceptable by the Regional Water Board. Specific reporting format may include preprinted forms and/or electronic media. The results of all monitoring required by this Order shall be reported to the Regional Water Board, and shall be submitted in such a format as to allow direct comparison with the limitations and requirements of this Order.
8. The Discharger shall tabulate the monitoring data to clearly illustrate compliance and/or noncompliance with the requirements of the Order.
9. The Discharger shall submit to the Regional Water Board reports necessary to determine compliance with effluent limitations in this Order and shall follow the chemical nomenclature and sequential order of priority pollutant constituents shown in Attachment G – Priority Pollutant Lists for reporting the required annual priority pollutant monitoring.
10. The reports for June and December shall include a roster of plant personnel, including job titles, duties, and level of State certification for each individual.
11. The Discharger shall report monitoring results for specific parameters in accordance with the following table:

Table 11 Reporting Requirements

Parameter	Measurement
Flow	Daily total flow
pH	Daily High and daily low
Total Residual Chlorine	Daily Maximum
Electrical Conductivity	Daily High
Turbidity	Daily maximum

12. The Discharger shall file a written report with the Regional Water Board within ninety (90) days after the average dry-weather waste flow for any month equals or exceeds 75 percent of the design capacity of the waste treatment and/or disposal facilities. The Discharger's senior administrative officer shall sign a letter which transmits that report and certifies that the policy making body is adequately informed about it. The report shall include:

    a. Average daily flow for the month, the date on which the instantaneous peak flow occurred, the rate of that peak flow, and the total flow for the day.

    b. The Discharger's best estimate of when the average daily dry-weather flow rate will equal or exceed the design capacity of the treatment facilities.

c. The Discharger's intended schedule for studies, design, and other steps needed to provide additional capacity for the waste treatment and/or disposal facilities before the waste flow rate equals the capacity of present units.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). Until such notification is given, the Discharger shall submit hard copy SMRs. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.

2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under Sections III through IX. Additionally, the Discharger shall report in the SMR the results of any special studies, acute and chronic toxicity testing, TRE/TIE, PMP, and Pollution Prevention Plan required by Special Provisions – VI.C. of this Order. The Discharger shall submit monthly, quarterly, and annual SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table 12 Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On	Monitoring Period	SMR Due Date
Continuous	The effective day of this Order	All	Submit with monthly SMR
Daily	The effective day of this Order	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	Submit with monthly SMR
Weekly	The effective day of this Order	Sunday through Saturday	Submit with monthly SMR
Monthly	First day of calendar month following permit effective date or on permit date if that date is first day of the month	1st day of calendar month through last day of calendar month	First day of the second month following the reporting period, submit as monthly SMR

Table 12 Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On	Monitoring Period	SMR Due Date
Quarterly[32]	Closest of January 1, April 1, July 1, or October 1 following permit effective date	January 1 through March 31, samples are collected in January; April 1 through June 30; samples are collected in April; July 1 through September 30; samples are collected in July; October 1 through December 31; samples are collected in October	First day of the second month following the reporting period, submit with monthly SMR
Semi-annually	Closest of January 1 or July 1 following permit effective date	January 1 through June 30, samples are collected in January. July 1 through December 31, samples are collected in July.	first day of the second month following the reporting period, submit with monthly SMR
Annually	The effective day of this Order	January 1 through December 31, see Table 1.	April 1 each year including report requirements in Attachments Pretreatment report due to September, 1

4. Reporting Protocols. The Discharger shall report with each sample result the applicable reported Minimum Level (ML) and the current Method Detection Limit (MDL), as determined by the procedure in Part 136.

   The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

   a. Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

   b. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

   c. For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (+ a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

[32] *Quarterly monitoring result for certain constituents may be used to satisfy the annual monitoring for the same constituents.*

d. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.

e. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

5. The Discharger shall submit hard copy SMRs (with an original signature) when required by subsection B.1 above in accordance with the following requirements:

   a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations.

   b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

   c. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the address listed below:

      California Regional Water Quality Control Board
      Santa Ana Region
      3737 Main Street, Suite 500
      Riverside, CA 92501-3348

6. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

7. By April 1 of each year, the Discharger shall submit an annual report to the Regional Water Board. The annual report shall include the following:

   a. Tabular and graphical summaries of the monitoring data obtained during the previous year;

   b. A discussion of the compliance record and the corrective actions taken or planned, which may be needed to bring the discharge into full compliance with the waste discharge requirements;

   c. A summary of the quality assurance (QA) activities for the previous year; and

d. For priority pollutant constituents that do not have effluent limitations but are required to be monitored, the Discharger shall evaluate the monitoring data obtained during the previous year and determine whether detected constituents are at levels that would warrant reopening the permit to include effluent limitations for such constituent(s). To conduct this evaluation, the concentration of detected constituents shall be compared to the most stringent applicable receiving water objectives (freshwater or human health (consumption of organisms only) as specified for that pollutant in 40 CFR 131.3833). The Discharger shall include a discussion of the corrective actions taken or planned to address values above receiving water objectives.

C. Discharge Monitoring Reports (DMRs)

1. As described in Section X.B.1 above, at any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of Discharge Monitoring Reports (DMRs). Until such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below.

2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharger shall submit the original DMR and one copy of the DMR to the address listed below:

Table 13 Monitoring Reporting Submittal

Standard Mail	FedEx/UPS/ Other Private Carriers
State Water Resources Control Board Division of Water Quality c/o DMR Processing Center PO Box 100 Sacramento, CA 95812-1000	State Water Resources Control Board Division of Water Quality c/o DMR Processing Center 1001 I Street, 15th Floor Sacramento, CA 95814

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated will not be accepted unless they follow the exact same format of EPA Form 3320-1.

   Regional Administrator
   U. S. Environmental Protection Agency
   Region 9 – Attention WTR – 7
   75 Hawthorne Street
   San Francisco, CA 94105

[33] *See Federal Register/ Vol. 65, No. 97 / Thursday, May 18, 2000 / Rules and Regulations.*

D. Other Reports

1. The Discharger shall report the results of any special studies, acute and chronic toxicity testing, TRE/TIE, PMP, and Pollution Prevention Plan required by Special Provisions – VI.C. of this Order. The Discharger shall submit reports with the first monthly SMR scheduled to be submitted on or immediately following the report due date in compliance with SMR reporting requirements described in subsection X.B.5 above.

2. Site Spills

a. In accordance with the requirements of Health and Safety Code section 5411.5, the Discharger shall provide notification to the local health officer or the director of environmental health with jurisdiction over the affected water body of any unauthorized release of sewage or other waste that causes, or probably will cause, a discharge to any waters of the state.

b. In accordance with the requirements of Water Code section 13271, the Discharger shall provide notification to the Office of Emergency Services of the release of reportable amounts of hazardous substances or sewage that causes, or probably will cause, a discharge to any waters of the state. The California Code of Regulations, Title 23, section 2250, defines a reportable amount of sewage as being 1,000 gallons. The phone number for reporting these releases to the Office of Emergency Services is (800) 852-7550.

c. The Discharger shall notify the Regional Water Board of any unauthorized release of sewage from its wastewater treatment plant that causes, or probably will cause, a discharge to a water of the state as soon as possible, but not later than two (2) hours after becoming aware of the release. This notification does not need to be made if the Discharger has notified the Office of Emergency Services. The phone number for reporting these releases of sewage to the Regional Water Board is (951) 782-4130. At a minimum, the following information shall be provided:

(1) The location, date, and time of the release.

(2) The water body that received or will receive the discharge.

(3) An estimate of the amount of sewage or other waste released and the amount that reached a surface water at the time of notification.

(4) If ongoing, the estimated flow rate of the release at the time of the notification.

(5) The name, organization, phone number and email address of the reporting representative.

d. As soon as possible, but not later than twenty four (24) hours after becoming aware of an unauthorized discharge of sewage or other waste from its wastewater treatment plant to a water of the state, the Discharger shall submit a statement to the Regional Water Board by email at spillreportR8@waterboards.ca.gov. If the discharge is 1,000 gallons or more, this statement shall certify that the State Office of Emergency Services has been notified of the discharge in accordance with Water Code section 13271. The statement shall also certify that the local health officer or director of environmental health with jurisdiction over the affected water bodies has been notified of the discharge in accordance with Health and Safety Code section 5411.5. The statement shall also include at a minimum the following information:

(1) Agency and Order No.

(2) The location, date, and time of the discharge.

(3) The water body that received the discharge.

(4) A description of the level of treatment of the sewage or other waste discharged.

(5) An initial estimate of the amount of sewage or other waste released and the amount that reached a surface water.

(6) The Office of Emergency Services control number and the date and time that notification of the incident was provided to the Office of Emergency Services.

(7) The name of the local health officer or director of environmental health representative notified (if contacted directly); the date and time of notification; and the method of notification (e.g., phone, fax, email).

Attachment F – Fact Sheet

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ATTACHMENT F – FACT SHEET

As described in Section II of this Order, this Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for Dischargers in California. Only those sections or subsections of this Order that are specifically identified as "not applicable" have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as "not applicable" are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table 1. Facility Information

WDID		**8 332818001**			
Discharger/Operator		Inland Empire Utilities Agency			
Name of Facility		Regional Water Recycling Plant No. 1 (RP-1)	Regional Water Recycling Plant No. 4 (RP-4)	Regional Water Recycling Plant No. 5 (RP-5)	Carbon Canyon Water Reclamation Facility (CCWRF)
Address		2450 East Philadelphia Street.	12811 Sixth Street	6068 Kimball Avenue, Building "C"	14950 Telephone Avenue
		Ontario, CA 91761	Rancho Cucamonga, CA 91729	Chino, CA 91708	Chino, CA 91710
		San Bernardino County			
Facility Contact, Title and Phone		Patrick O. Sheilds, Executive Manager of Operations, (909) 993-1806			
Authorized Person to Sign and Submit Reports		Patrick O. Sheilds, Executive Manager of Operations, (909) 993-1806			
Address		6075 Kimball Avenue, Chino, CA 91708			
Mailing/Billing Address		P.O. Box 9020, Chino Hills, CA 91709			
Major or Minor Facility		Major			
Type of Facility		POTW			
Threat to Water Quality		1			
Complexity		A			
Pretreatment Program		Y			
Reclamation Requirements		Y			
Facilities Permitted Flow		84.4 million gallons per day (mgd)			
Facility Design Flow		44 mgd	14 mgd	15 mgd (and 1.3 mgd flow from sludge treatment system at Regional Water Recycling Plant No.2 (RP-2))	11.4 mgd
Watershed		Santa Ana River watershed			
Receiving Water	**Surface Waters**	Prado Park Lake, Reach 1A of Chino Creek, Reach 1 of Cucamonga Creek, Mill Creek, and Reach 3 of Santa Ana River		Reach 1B of Chino Creek and Reach 3 of Santa Ana River	Reach 2 of Chino Creek and Reach 3 of Santa Ana River
	Groundwater	Chino North "Maximum Benefit" Groundwater Management Zone/Chino 1, 2, and 3 "Antidegradation" Groundwater Management Zones			
Receiving Water Type		Inland surface water and groundwater			

A. Inland Empire Utilities Agency (hereinafter Discharger, or IEUA) is the owner and operator of four regional water recycling facilities, appurtenant structures[1], sewer pipeline system, and recycled water distribution system (hereinafter Facilities). The four Facilities are linked as shown in Figures 1 and 2 of Attachment C.

For the purposes of this Order, references to the "discharger" or "permittee" in applicable federal and State laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

B. The Discharger produces tertiary treated wastewater and discharges to surface waters at different locations, including discharges into Reaches IA, IB and 2 of Chino Creek, Reach 1 of Cucamonga Creek, Prado Park Lake, and Reach 3 of the Santa Ana River. Chino Creek, Reach 1 of Cucamonga Creek, Prado Park Lake, and the Santa Ana River are waters of the United States. Discharges from the Facilities are regulated pursuant to the following Orders tabulated below for each facility:

Table 2. List of Orders adopted for each Facility

Facility	Order No.	Order Adoption Date	Expiration Date	WDR Regulatory Scope
RP-1 & RP-4	R8-2006-0010, amended by R8-2007-0045 and R8-2007-0078	May 19, 2006	May 1, 2011	Regulates discharges to Prado Park Lake and Reach 1 of Cucamonga Creek, tributaries to Reach 3 of Santa Ana River and recycled water use.
RP-5	R8-2008-0028	Sept. 5, 2008	Sept. 1, 2013	Regulates discharges to Reach 1B of Chino Creek, a tributary to Reach 3 of Santa Ana River and recycled water use.
CCWRF	R8-2004-0020, amended by R8-2006-0038 and R8-2007-0078	August 13, 2004	August 1, 2009	Regulates discharges to Reach 2 of Chino Creek, a tributary to Reach 3 of Santa Ana River and recycled water use.

The terms and conditions of the current Orders remain in effect until new Waste Discharge Requirements and NPDES permit are adopted pursuant to this Order.

[1] *Appurtenant structures among other things include the Regional Water Recycling Plant No.2 (RP-2) facility. RP-2 is an existing tertiary wastewater treatment plant owned by the Discharger. Cease and Desist Order No. 94-74 required the Discharger to relocate the liquid treatment facilities at RP-2 to a site not subject to flooding. Consequently, RP-5 replaced RP-2. Only the sludge treatment systems at RP-2 are operational and there are no longer surface water discharges from RP-2. Primary and waste activated sludge from RP-5 and CCWRF are piped to the regional solids handling facility at RP-2 for sludge treatment. Dewatered wastewater from RP-2 is pumped back to the headworks of RP-5.*

C. The Discharger filed a report of waste discharge and submitted an application for a new Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit on January 27, 2009. The Discharger requests consolidation of all three permits into one permit for the Discharger's Facilities. This request is consistent with the interconnected nature of the facilities and the approach specified in the individual Orders to regulate certain constituents (TDS and TIN) on an agency-wide, flow-weighted average basis. This new permit will regulate the discharges from the Facilities to surface waters and will also regulate recycled water use. Supplemental information was requested starting February 13, 2009. The latest supplemental information was received on May 21, 2009. A site visit was conducted on May 19, 2009, to observe operations and collect additional data to develop permit limitations and conditions. The application was deemed complete on May 21, 2009.

II. FACILITY DESCRIPTION

A. Description of Wastewater and Biosolids Treatment or Controls

1. Discharger and Service Area

Inland Empire Utilities Agency (IEUA) is a municipal water supply and wastewater treatment agency. IEUA owns and operates a regional wastewater collection system and water recycling plants, including RP-1, RP-4, RP-5, and CCWRF. The treatment Facilities receive domestic, commercial, and industrial waste waters generated within the IEUA service areas. Wastewater can be diverted to different plants via available routing options built into the regional system (see Figure 1 of Attachment C for further detail). After treatment, recycled water can be discharged to nearby outfall(s) or recycled for industrial uses, irrigation and groundwater recharge. The following table summarizes the service areas and the population served by each Facility.

Table 3. Summary of Service Areas & Population Served

Facility	Population Served	Cities/Agency Served
RP-1 & RP-4	602,000	Chino, Fontana, Montclair, Upland, Ontario, and Cucamonga Valley Water District
RP-5	104,000	Chino, Chino Hills, and Ontario; Montclair and Upland via CCWRF
CCWRF	126,400	Chino, Chino Hills, Montclair, and Upland

Attachment B provides a map of the area at each water recycling Facility.

Attachment C provides the IEUA System-Wide influent flow interrelationship diagram, IEUA System-Wide Water Recycling Distribution System and treatment flow schematic for each Facility.

2. Design Characteristics and Biosolids Treatment

The treatment processes at each Facility are tabulated as follows:

Table 4. Plant Treatment Processes

Facility	RP-1	RP-4	RP-5	CCWRF
Preliminary & Primary Treatment	Mechanical bar screens, grit chambers, chemical addition, primary clarifiers, flow equalization /emergency storage basins	Mechanical bar screens, grit chambers, chemical addition, primary clarifiers	Mechanical bar screen, grit chambers, one storage basin (, primary clarifiers	Mechanical bar screen, grit removal, chemical addition, primary clarifiers, emergency storage basin
Secondary Treatment	Aeration trains with oxic/anoxic zones, secondary clarifiers	Aeration basins with oxic /anoxic zones, secondary clarifiers	Aeration basins with anoxic/oxic zones, secondary clarifiers	Aeration basins with anoxic/oxic zones, secondary clarifiers
Tertiary Treatment	Coagulation/Flocculation, sedimentation, filtration, chlorination, dechlorination	Coagulation/Flocculation, filtration, chlorination, de-chlorination (not used), emergency diversion pond	Coagulation/Flocculation, filtration, chlorination, de-chlorination, emergency overflow pond	Coagulation/flocculation, filtration, chlorination, dechlorination
Design Capacity, mgd	44	14	15 (and 1.3 mgd RP-2 sludge treatment system wastewater flows)	11.4
Solids Handling	The solids handling for these facilities takes place at RP-1. RP-4 primary sludge and waste activated sludge are conveyed through the sewer system and enter RP-1 as influent. Solids treatment includes gravity thickener and dissolved air flotation thickeners, anaerobic digestion, digester gas utilization, and belt press dewatering. Belt press wash water is pumped to the DAFT units where the solids can be recovered and the remaining liquid is returned to the activated sludge process.[2] Belt press filtrate is pumped to the Non-Reclaimable Waste System (NRWS) line and is ultimately treated by the County Sanitation Districts of Los Angeles County.		Primary and waste activated sludge wastes from RP-5 and CCWRF are piped to the regional solids handling facility at RP-2 for sludge treatment. The solids treatment system at RP-2 includes gravity thickeners; dissolved air flotation thickeners; anaerobic digestion; aerobic digestion; belt press, and centrifuge dewatering. Dewatered biosolids are hauled away to approved disposal sites Sludge treatment system wastewater from RP-2 is pumped back to headworks of RP-5.	

[2] *IEUA plans to construct a building to house four new centrifuges for dewatering digested sludge. This will replace the belt press dewatering. The tentative project completion and start-up date is 2012.*

3. Recycled Water Uses

The Discharger delivers tertiary treated wastewater through the regional recycled water system at various locations for recycling use. The recycled water is used for landscape irrigation by public and private users, for agricultural irrigation by farmers, for dust control at construction sites and for industrial purposes, including equipment/machinery cooling. Total average flow for recycled water use has increased significantly in recent years, with a peak annual average usage of approximately 20 mgd in 2008. This Order also regulates the recycled water use within the Discharger's service area.

Recycled water from RP-1 and RP- 4 is also used for groundwater recharge in areas overlying the Chino North Groundwater Management Zone. This groundwater recharge is regulated under a separate Order (Order No. R8-2007-0039). Order No. R8-2007-0039 was issued to the Discharger and the Chino Basin Watermaster to regulate the use of recycled water for the Chino Basin Recycled Water Groundwater Recharge Project, Phase I and Phase II. Order No. R8-2009-0021 does not regulate the use of recycled water for groundwater recharge.

B. Discharge Points and Receiving Waters

1. Discharge Points to Surface Water

Tertiary treated wastewater from each of the four Facilities is discharged at different Discharge Points (DPs 001, 002, 003, & 004) to surface waters that include Reaches 1A, 1B and 2 of Chino Creek, Reach 1 of Cucamonga Creek, and Prado Park Lake. These waterbodies are tributary to Reach 3 of the Santa Ana River within the Prado Basin Management Zone.

2. Stormwater Discharge points

Stormwater flows generated on site at RP-1 are collected and pumped to a liquid process stream for treatment. In the event that stormwater flows exceed the capacity to store and/or pump to a liquid process stream, stormwater may enter Reach 1 of Cucamonga Creek via S-001 or S-002.

Stormwater flows generated on site at RP- 4 are fully contained in an onsite, 4 million gallon capacity storage basin. All water captured in this basin is then pumped to a liquid process stream for treatment.

Stormwater flows generated on site at RP-5 and CCWRF plant are collected and pumped to the liquid process stream for treatment.

3. Recycled Water Use Area

Recycled water for irrigation is delivered to IEUA's service area through Discharge Points (DP) 005 through DP 008.

4. Receiving Water

Surface water. Tertiary treated wastewater discharges from the Facilities are either into Reaches 1A, 1B and 2 of Chino Creek, Reach 1 of Cucamonga Creek, and Prado Park Lake, tributaries of Reach 3 of the Santa Ana River within the Prado Basin Management Zone (PBMZ).

Groundwater. The Discharger distributes recycled water throughout its service area. The current recycled water use area overlies the Chino North "Maximum Benefit" Groundwater Management Zone (or Chino 1, 2, and 3 "Antidegradation" groundwater management zones).

There is little or no groundwater storage within the PBMZ.

Table 5 shows a summary of the discharge points, discharge coordinates (longitude and latitude), affected receiving waters, and estimated volume of discharge:

Table 5. Summary of Discharge Points and Receiving Waters

Discharge Point	Latitude	Longitude	Discharging Facility	Effluent Description and Receiving Water	Flow (MGD) & Frequency
001	N33°56'39"	W117°38'34"	RP-1	Tertiary treated effluent into Prado Park Lake. Overflow from the lake to an unnamed creek, then to Reach 1A of Chino Creek, a tributary to Reach 3 of Santa Ana River in Prado Basin	6.6 mgd 3-year average Continuous discharge
002	N34°1'31"	W117°33'56"	RP-1 & RP-4	Reach 1 of Cucamonga Creek, then to Mill Creek, then Reach 1A of Chino Creek, a tributary to Reach 3 of Santa Ana River in Prado Basin	20.6 mgd 3-year average Continuous discharge
003	N33°57'44"	W117°40'41"	RP-5	Reach 1B of Chino Creek, a tributary to Reach 3 of Santa Ana River	10.2 mgd 3-year average Continuous discharge
004	N33°58'56	W117°41'48"	CCWRF	Reach 2 of Chino Creek, a tributary to Reach 3 of Santa Ana River	9.9 mgd 3-year average Continuous discharge

Table 5. Summary of Discharge Points and Receiving Waters					
Discharge Point	Latitude	Longitude	Discharging Facility	Effluent Description and Receiving Water	Flow (MGD) & Frequency
005	N34°01'29"	W117°35'57"	RP-1	Recycled water use in areas overlying Chino North "Max Benefit" GMZ	14.1 mgd 1-year average - intermittent
006	N34°04'59"	W117°31'35"	RP-4	Recycled water use in areas overlying Chino North "Max Benefit" GMZ	3.1 mgd 1-year average (2007) - intermittent
007	N33°57'51"	W117°40'24"	RP-5	Recycled water use in areas overlying Chino North "Max Benefit" GMZ	1.0 MGD 1-year average - intermittent
008	N33°58'47"	W117°41'37"	CCWRF	Recycled water use in areas overlying Chino North "Max Benefit" GMZ	2.8 mgd 1-year average - intermittent
S-001	N34°01'36"	W117°35'59"	RP-1	Stormwater runoff to Reach 1 of Cucamonga Creek	Varies during storm event
S-002	N34°01'28"	W117°35'58"	RP-1	Stormwater runoff to Reach 1 of Cucamonga Creek	Varies during storm event

C. Summary of Previous Requirements and Self-Monitoring Report (SMR) Data

1. Effluent Limitations/Discharge Specifications contained in the previous Order No. R8-2006-0010 for discharges from RP-1 & RP-4 at Discharge Point 001 and DP002 and representative monitoring data from the term of the previous Order are as follows:

Table 6. RP-1 Historic Effluent Limitations and Monitoring Data at M-001A and M-001B

Parameter (units)	Effluent Limitation			Monitoring Data (From Aug. 2004 to December 2008)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge	Highest 12-Month Average
Flow (mgd) (Jan 06 to Dec 08)				11.1		11.7	Avg: 6.5
pH Daily Average (SU)			Range 6.5-8.5			Range 6.7-8.4	
BOD5 (mg/L)	20	30		2	3		
Suspended Solids (mg/L)	20	30		2	3		
Coliform Organisms (MPN/100 mL)	23 (1/mo.)	2.2			2		
Ammonia-Nitrogen (mg/L)	4.5			2.9			

Table 6. RP-1 Historic Effluent Limitations and Monitoring Data at M-001A and M-001B

Parameter (units)	Effluent Limitation			Monitoring Data (From Aug. 2004 to December 2008)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge	Highest 12-Month Average
Total Residual Chlorine (mg/L)			0.1 Instant. Max			0.0	
TDS (mg/L)	12-M, 550 agency-wide[3]			543			505 combined M-001 and M-002
Total Hardness (mg/L)					5th percentile 123	159	
Toxicity, TUc				1.7 Reproductio n			
TIN[4] (mg/L)	12-M, 8 agency-wide						9.8 Note: combined RP-1 and RP-4
Arsenic(µg/L)				6		6	
Cadmium(µg/L)				<0.25		<0.25	
Total recoverable Chromium (VI) (µg/L)				4.6		4.6	
Copper (µg/L)				7		7	
Free Cyanide (µg/L)[5]	4.2		8.5	24		24	
Lead (µg/L)				<0.5		<0.5	
Mercury (µg/L)				<0.05		<0.05	
Nickel (µg/L)				16		16	
Total recoverable Selenium (µg/L)	4.1		8.2	7		7	
Silver (µg/L)				0.7		0.7	
Zinc (µg/L)				122		122	
Bis(2-Ethylhexyl) Phthalate (µg/L)	5.9		11.8	9		9	
Bromodichloro Methane (µg/L)				34		34	
Chlorodibromo Methane (µg/L)				13		13	

[3] *This limitation may be met on an agency-wide basis using flow weighted averages of the discharges from all treatment plants operated by the Discharger*

[4] *Agency wide, the Discharger currently complies with the total inorganic nitrogen limitations in the Orders for RP-1, RP-4, RP-5 and CCWRF.*

[5] *Prior to January 2008, "Available cyanide" was measured rather than just "Free Cyanide". Available cyanide encompasses weak-acid dissociable cyanide compounds (that can release free cyanide) and free cyanide.*

Table 6. RP-1 Historic Effluent Limitations and Monitoring Data at M-001A and M-001B

Parameter (units)	Effluent Limitation			Monitoring Data (From Aug. 2004 to December 2008)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge	Highest 12-Month Average
Turbidity, NTU			2			>2	

Table 7. RP-1 & RP-4 Historic Effluent Limitations and Monitoring Data at M-002A and M-002B

Parameter (units)	Effluent Limitation			Monitoring Data (From Aug 2004 to December 2008)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge	Highest 12-Month Average
Flow (mgd) (Jan 06 to Dec 08)				28.5		40.9	Avg: 20.4
pH Daily Average (SU)			Range 6.5-8.5			Range 6.5-8.0	
BOD5 (mg/L)	20	30		2	3		
Suspended Solids (mg/L)	20	30		5	12		
Coliform Organisms (MPN/100 mL)	23 (1/mo.)	2.2	240		2		
Ammonia-Nitrogen (mg/L)	4.5			3.0			
Total Residual Chlorine (mg/L)			0.1 instant. Max			4.8	
TDS (mg/L)	12-M, 550 agency-wide			534			505 Note: combined RP-1 and RP-4
Total Hardness (mg/L)					5^{th} percentile 120	162	
Toxicity, TUc				1.3 Reproduction			
TIN (mg/L)	12-M, 8 agency-wide						9.8 combined M-001 and M-002 only
Arsenic(µg/L)				6		6	
Cadmium(µg/L)				<0.25		<0.25	
Total recoverable Chromium (VI) (µg/L)				4.3		4.3	
Copper (µg/L)				8		8	
Free Cyanide (µg/L)[6]	4.2		8.5	15		15	
Lead (µg/L)				5		5	
Mercury (µg/L)				<0.05		<0.05	
Nickel (µg/L)				4		4	

[6] *Prior to January 2008, "Available" cyanide was measured rather than "Free Cyanide".*

Table 7. RP-1 & RP-4 Historic Effluent Limitations and Monitoring Data at M-002A and M-002B

Parameter (units)	Effluent Limitation			Monitoring Data (From Aug 2004 to December 2008)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge	Highest 12-Month Average
Total recoverable Selenium (µg/L)	4.1		8.2	8		8	
Silver (µg/L)				0.37		0.37	
Zinc (µg/L)				59		59	
Bis(2-Ethylhexyl) Phthalate (µg/L)	5.9		11.8	7		7	
Bromodichloro Methane (µg/L)				31		31	
Chlorodibromo Methane (µg/L)				13		13	

2. Effluent limitations/Discharge Specifications contained in the previous Order No. R8-2008-0028 for discharges from RP-5 at discharge Point 003 and representative monitoring data from the term of the previous Order are as follows:

Table 8. RP-5 Historic Effluent Limitations and Monitoring Data at M-003

Parameter (units)	Effluent Limitation			Monitoring Data (From Aug 2004 to December 2008)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge	Highest 12-Month Average
Flow (mgd) (Jan 06 to Dec 08)				13.0		15.4	Avg: 10.3
pH Daily Average (SU)			Range 6.5-8.5			Range 6.5-8.1	
BOD5 (mg/L)	20	30		<2	<3		
Suspended Solids (mg/L)	20	30		4	7		
Coliform Organisms (MPN/100 mL)	23 (1/mo.)	2.2	240		2		
Ammonia-Nitrogen (mg/L)	4.5			0.4			
Total Residual Chlorine (mg/L)			0.1 Instant. Max.			0.0	
TDS (mg/L)	12-M, 550 agency-wide			557			533
Total Hardness (mg/L)					5^{th} percentile 148	215	
Toxicity, TUc				>1.7 Reproduction			
TIN (mg/L)	12-M, 8 agency-wide						6.5
Arsenic (µg/L)				7		7	
Cadmium (µg/L)				1.7		1.7	

Table 8. RP-5 Historic Effluent Limitations and Monitoring Data at M-003

Parameter (units)	Effluent Limitation			Monitoring Data (From Aug 2004 to December 2008)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge	Highest 12-Month Average
Total recoverable Chromium (VI) (µg/L)				9		9	
Copper (µg/L)				13		13	
Free Cyanide (µg/L) [7]	4.6		7.3	8		8	
Lead (µg/L)				3		3	
Mercury (µg/L)				<0.05		<0.05	
Nickel (µg/L)				7		7	
Total recoverable Selenium (µg/L)				3		3	
Silver (µg/L)				0.5		0.5	
Zinc (µg/L)				69		69	
Bis(2-Ethylhexyl) Phthalate (µg/L)				3		3	
Bromodichloro Methane (µg/L)				48		48	
Chlorodibromo Methane (µg/L)				21		21	
2,3,7,8-TCDD (Dioxin), (µg/L)						0.0000035	

3. Effluent limitations/Discharge Specifications contained in the previous Order No. R8-2004-0020 for discharges from CCWRF at Discharge Point 004 and representative monitoring data from the term of the previous Order are as follows:

Table 9. CCWRF Historic Effluent Limitations and Monitoring Data at M-004

Parameter (units)	Effluent Limitation			Monitoring Data (From Aug 2004 to December 2008)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge	Highest 12-Month Average
Flow (mgd) (Jan 06 to Dec 08)	11.4			10.0		13.2	Avg: 6.9
pH Daily Average (SU)			Range 6.5-8.5			Range 6.6-7.7	
BOD5 (mg/L)	20	30		2	3		
Suspended Solids (mg/L)	20	30		2	8		
Coliform Organisms (MPN/100 mL)	23 (1/mo.)	2.2	240		2		
Ammonia-Nitrogen (mg/L)	4.5			0.2			

[7] *Prior to January 2008, "Available cyanide" was measured rather than "Free Cyanide".*

Table 9. CCWRF Historic Effluent Limitations and Monitoring Data at M-004

Parameter (units)	Effluent Limitation			Monitoring Data (From Aug 2004 to December 2008)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge	Highest 12-Month Average
Total Residual Chlorine (mg/L)			0.1 instant. Max			0.0	
TDS (mg/L)	12M, 550 agency-wide			554			537
Total Hardness (mg/L)					5th percentile 130		
Toxicity, TUc				1.7 Reproduction			
TIN (mg/L)	12M, 8						7.5
Arsenic(µg/L)				7		7	
Cadmium(µg/L)				<0.25		<0.25	
Total recoverable Chromium (VI) (µg/L)	8.2		16.3	4.1		4.1	
Copper (µg/L)				12		12	
Free Cyanide (µg/L)[8]	4.1		8.2	8		8	
Lead (µg/L)				0.5		0.5	
Mercury (µg/L)				<0.05		<0.05	
Nickel (µg/L)				20		20	
Total recoverable Selenium (µg/L)	4.1		8.2	<2		<2	
Silver (µg/L)				0.9		0.9	
Zinc (µg/L)				57		57	
Bis(2-Ethylhexyl) Phthalate(µg/L)	5.9		11.8	25		25	
Bromodichloro Methane (µg/L)				33		33	
Chlorodibromo Methane (µg/L)				10		10	
2,3,7,8-TCDD (Dioxin) (µg/L)						0.00000026	

D. Compliance Summary

Based on a review of effluent monitoring data submitted by the Discharger for the period from 2004 through 2008, the following Table shows the compliance summary for each Facility:

[8] *Prior to January 2008, "Available cyanide" was measured rather than Free Cyanide.*

Table 10. Compliance Status RP-1, RP-5 and CCWRF

Date	Plant	Parameter	Value	Permit Limit	Reason for Violation	Corrective Measures
01/02/04	RP-1 (001)	Chlorine Residual	4.6 mg/L	0.1mg/L	Sodium Bisulfite (SBS) crystallized due to low temps	Heat tape installed to the SBS piping distribution system to prevent crystallization of SBS in the line
10/17/04	RP-1 (001)	Chlorine Residual	6.5 mg/L	0.1mg/L or not exceed 5 mg/L	Dechlor Station power failure	Monthly standby generator testing and automated V-1 valve closure
03/14/05	RP-1 (001)	Turbidity	>2 NTU	2 NTU	Plant upset, unstable activated sludge system , and one activated sludge train was in repair	Placed train back into service, reseeded one activated sludge system, polymer addition, chlorinated RAS.
03/14/05 - 03/16/05	RP-1 (002)	Turbidity	>2 NTU	2 NTU, 5 NTU 5%		
07/24/06	RP-1 (002)	Chlorine Residual	4.8 mg/L	0.1mg/L	Stage 2 Power Alert. Standby generator at pump stations and Dechlor stn power failure	Preventative maintenance procedures reviewed, revised, and implemented.
10/01/06	RP-1 (002)	Coliform	900 MPN/100 mL	240 MPN/ 100mL	Sample contamination	Staff retrained in sample collection and handling techniques
09/05/07	RP-1 (001)	Coliform	500 MPN/100 mL	240 MPN/ 100mL	Sample contamination	Staff retrained in sample collection and handling techniques
11/22/07	RP-1 (002)	Coliform	>1600 MPN/100 mL	240 MPN/ 100mL	Metal tip at sampling point contaminated sample	Discontinued use of metal tip at sampling point
03/06/07	CCWRF	Bis(2-ethylhexyl phthalate	25 µg/L	5.9 µg/L avg; 11.8 µg/L max	Sample contamination	Compound commonly used in the manufacturing of plastics. Influent concentration was “non-detect”
01/04/05	RP-5	Chlorine Residual	5.29 mg/L	0.1mg/L or not exceed 5 mg/L	Sodium Bisulfite (SBS) crystallized due to low temps	Heat tape installed to the SBS piping distribution system to prevent crystallization of SBS in the line.
01/09/05	RP-5	Chlorine Residual	>5.0 mg/L	0.1mg/L or not exceed 5 mg/L	Control analyzer failure	Allow effluent gate to close automatically as designed.

E. Planned Changes – Not Applicable

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

A. Legal Authorities

This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and Chapter 5.5, Division 7 of the California Water Code (commencing with Section 13370). It shall serve as a NPDES permit for point source discharges from the Regional Water Recycling Facilities to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, Chapter 4, Division 7 of the Water Code (commencing with Section 13260). This Order also includes Producer/User Recycling Requirements to regulate recycled water use for irrigation and other industrial uses.

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code section 21000 et seq. (*County of Los Angeles v. California State Water Resources Control Board* (2006) 143 Cal.App.4th 985, mod. (Nov. 6, 2006, B184034) 50 Cal.Rptr.3d 619, 632-636.)

This action also involves the re-issuance of waste discharge requirements for an existing Facility that discharges treated wastewater to land and as such, is exempt from the provisions of California Environmental Quality Act (commencing with Section 21100) in that the activity is exempt pursuant to Title 14 of the California Code of Regulations Section 15301.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The Regional Water Board adopted an updated Water Quality Control Plan for the Santa Ana Basin (hereinafter Basin Plan) that became effective on January 24, 1995. The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, State Water Resources Control Board (State Water Board) Resolution No. 88-63 (Sources of Drinking Water Policy) requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic water supply use to water bodies. Based on the exception criteria specified in Resolution No. 88-63, the Regional Water Board excepted certain waters from the municipal and domestic supply beneficial use.

   On January 22, 2004, the Regional Water Board adopted Resolution No. R8-2004-0001, amending the Basin Plan to incorporate revised boundaries for groundwater subbasins, now termed “management zones”, new nitrate-nitrogen and TDS objectives for the new management zones, and new nitrogen and TDS management strategies applicable to both surface and ground waters. The State Water Board and Office of Administrative Law (OAL) approved the N/TDS

Amendment on September 30, 2004 and December 23, 2004, respectively. EPA approved the surface water standards components of the N/TDS Amendment on June 20, 2007. Effluent limitations in this Order for TDS and TIN discharges to Chino Creek, Reach 1 of Cucamonga Creek, Prado Park Lake, and Reach 3 of the Santa Ana River are based on applicable wasteload allocations specified in the Basin Plan as amended.

The designated beneficial uses of receiving waters affected by the discharge from the Facility are as follows:

Table 11. Basin Plan Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
001	Prado Park Lake, overflow from the lake to an unnamed creek, then to Reach 1A of Chino Creek	Present or Potential: Water contact recreation (REC-1), non-contact water recreation (REC-2), warm freshwater habitat, wildlife habitat (WILD), and rare, threatened and endangered species. Recreational use at Prado Park Lake is restricted to fishing and boating. Excepted from Municipal and Domestic Supply.
002	Reach 1 of Cucamonga Creek, to Mill Creek, then Reach 1A of Chino Creek	Present or Potential: Groundwater Recharge, Water contact recreation (REC-1), non-contact water recreation (REC-2), Limited warm freshwater habitat, and wildlife habitat (WILD). Excepted from Municipal and Domestic Supply.
003	Reach 1B of Chino Creek	Present or Potential: Water contact recreation (REC-1), non-contact water recreation (REC-2), warm freshwater habitat, wildlife habitat (WILD), and rare, threatened and endangered species. Excepted from Municipal and Domestic Supply.
004	Reach 2 of Chino Creek	Present or Potential: Groundwater Recharge, Water contact recreation (REC-1), non-contact water recreation (REC-2), Cold freshwater habitat, and wildlife habitat (WILD). Excepted from Municipal and Domestic Supply.
001, 002, 003, 004, S-001, & S-002	Reach 3 of Santa Ana River within Prado Basin Management Zone	Present or Potential: Agricultural supply, groundwater recharge, water contact recreation, non-contact water recreation, warm freshwater habitat, wildlife habitat, rare, threatened or endangered species, and spawning, reproduction, and development waters supporting high quality aquatic habitats. Excepted from Municipal and Domestic Supply.

Table 11. Basin Plan Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
001, 002, 003, 004, 005, 006, 007, 008, S-001, & S-002	Chino North "Max Benefit" GMZ / Chino 1, 2 and 3 "antidegradation" GMZs	Present or Potential: Municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.
	Orange GMZ (affected GMZ downstream of discharge points)	Present or Potential: Municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.

Requirements of this Order implement the Basin Plan.

2. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.

3. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

4. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes (40 C.F.R. § 131.21, 65 Fed. Reg. 24641 (April 27, 2000)). Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

5. **Antidegradation Policy.** 40 CFR § 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. As discussed in Section IV. E. 2 of this Fact Sheet, the permitted discharges are consistent with the antidegradation provisions of § 131.12 and State Water Board Resolution No. 68-16.

6. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations[9] section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. All effluent limitations in the Order are at least as stringent as the effluent limitations in the previous Orders for each Facility.

7. **Monitoring and Reporting Requirements.** Section 122.48 of 40 CFR requires that all NPDES permits specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of the CWC authorize the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP) establishes monitoring and reporting requirements to implement federal and State requirements. This MRP is provided in Attachment E.

D. Impaired Water Bodies on CWA 303(d) List

Reach 1 of Chino Creek, Mill Creek (Prado Area) and Prado Park Lake are included in the USEPA approved 2006 CWA 303(d) list due to nutrients resulting principally from agricultural and dairy operations inputs during storm events. Reaches 1 & 2 of Mill Creek are also listed due to pathogen indicators, also resulting principally from dairy operations inputs during storm events. This Order requires that the wastewater discharged from the Facilities be essentially free of pathogens/pathogen indicators and that the wastewaters comply with the applicable Basin Plan wasteload allocation for total inorganic nitrogen (8 mg/L) for surface water discharges.

E. Other Plans, Polices and Regulations-Not Applicable

[9] *All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.*

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source Dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: section 122.44(a) requires that permits include applicable technology-based limitations and standards; and section 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water

A. Discharge Prohibitions

The discharge prohibitions are based on the Federal Clean Water Act, Basin Plan, State Water Board's plans and policies, U.S. Environmental Protection Agency guidance and regulations, and previous permit provisions in Orders No. R8-2006-0010, R8-2008-0028, and R8-2004-0020 and are consistent with the requirements set for other discharges regulated by NPDES permits adopted by the Regional Water Board.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations, require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at Part 133 and/or Best Professional Judgment (BPJ) in accordance with Part 125, section 125.3.

Regulations promulgated in 40 CFR §125.3(a)(1) require technology-based effluent limitations for municipal dischargers to be placed in waste discharge requirements based on Secondary Treatment Standards or Equivalent to Secondary Treatment Standards.

The Federal Water Pollution Control Act Amendments of 1972 (PL 92-500) established the minimum performance requirements for POTWs [defined in Section 304(d)(1)]. Section 301(b)(1)(B) of that Act requires that such treatment works must, as a minimum, meet effluent limitations based on secondary treatment as defined by the USEPA Administrator.

Based on this statutory requirement, USEPA developed secondary treatment regulations, which are specified in 40 CFR Part 133. These technology-based regulations apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of biochemical oxygen demand (BOD_5), total suspended solids (TSS), and pH.

2. Applicable Technology-Based Effluent Limitations for 20:1 dilution

This Facility meets the technology-based regulations for the minimum level of effluent quality attainable by secondary treatment in terms of BOD_5, total suspended solids and removal rate as summarized in the Table below. These effluent limitations have been set for secondary treated wastewater discharges at Discharge Points (DPs) 002, 003, and 004 under 20:1 dilution conditions.

Table 12. Summary of Technology-Based Effluent Limits for Secondary Treatment

Constituent	Average Weekly (mg/L)	Average Monthly (mg/L)	Average Monthly Removal Rate %
Biochemical Oxygen Demand, 5-day 20^0C	45	30	85
Total Suspended Solids	45	30	85

DP 001 discharges to Prado Park Lake. This lake is a property of the County of San Bernardino. The County and the Discharger agreed that the Discharger will provide up to 6.6 mgd of tertiary treated recycled water to the lake for recreation and fishing. There are no other discharges into the lake except stormwater from the tributary drainage area. Overflow from this lake discharges continuously to an unnamed creek, then to Reach 1A of Chino Creek. Consequently, discharges of secondary treated wastewater under 20:1 dilution condition into the lake is not allowed.

C. WQBEL-Based Effluent Limitations for DP 001 through DP 004

1. Scope and Authority

Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

Section 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the

pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

a. The Basin Plan specifies narrative and numeric water quality objectives applicable to surface water as follows.

Table 13. Applicable Basin Plan Surface Water Quality Objectives

Constituents	Basis for Limitations
Ammonia Nitrogen	Dissociates under certain conditions to the toxic un-ionized form. Thus, nitrogen discharges to surface water pose a threat to aquatic life and instream beneficial uses, as well as to the beneficial uses of affected groundwater. The Basin Plan specifies total ammonia and un-ionized ammonia objectives and an effluent limit of 4.5 mg/L for discharges to surface waters--Chino Creek and Mill Creek.
Hydrogen Ion (pH)	Hydrogen Ion (pH) is a measure of Hydrogen Ion concentration in the water. A pH range of 6.5 to 8.5 for surface water discharges is specified.
Oil & Grease	Oil and related materials have a high surface tension and are not soluble in water, resulting in odors and visual impacts.
Total Dissolved Solids	High levels of TDS can adversely impact groundwater affected by recharge of the affected receiving waters, as well as the use of that groundwater for supply purposes. The TDS limit for surface water discharges is based on the amended Basin Plan wasteload allocation for the discharger of 550 mg/L[10] and 80 mgd flow.
Total Inorganic Nitrogen	Nitrogen discharges to the Santa Ana River pose a threat to aquatic life and instream beneficial uses, as well as to the beneficial uses of affected groundwater. The TIN limit for surface water discharges is based on the amended Basin Plan wasteload allocation of 8.0 mg/L and 80 mgd flow .
Total Chlorine Residual	Wastewater disinfection with chlorine usually produces chlorine residual. Chlorine and its reaction products are toxic to aquatic life. To protect aquatic life, the chlorine residual in wastewater discharged to inland surface waters shall not exceed 0.1 mg/L.

10 *The Basin Plan specifies in Table 5-5 that TDS and TIN discharges to surface waters from the Discharger's wastewater treatment facilities are to be regulated pursuant to a single wasteload allocation, applied as a flow-weighted average of the discharges from the facilities. The TDS and TIN wasteload allocations are not contingent on "maximum benefit" objectives or implementation.*

(1) TDS and TIN: TDS and TIN limitations are specified in the Order for discharges of tertiary treated effluent at DPs 001, 002, 003, and 004. These TDS/TIN limits are based on the waste load allocation specified in Table 5-5 of the amended Basin Plan.

(2) TDS: This Order also includes a TDS limit based on the flow weighted running average quality of the water supplied to the service area plus a reasonable use increment of 250 mg/L. This reasonable use increment addition is discussed and authorized in the Basin Plan.

(3) For surface water discharges, the more restrictive of the TDS limit based on the wasteload allocation or the TDS limit based on water supply quality plus the reasonable use increment applies to discharges from the Facilities.

(4) In accordance with 40 CFR Section 122.45(d), there may be instances in which the basis for a limit for a particular continuous discharge may be impracticable to be stated as a maximum daily, average weekly, or average monthly effluent limitation. The Regional Water Board has determined that it is not practicable to express TDS and TIN effluent limitations as average weekly and average monthly effluent limitations because the TDS and TIN objectives in the Basin Plan were established primarily to protect the underlying groundwater. Consequently, a 12-month average period is more appropriate.

b. NTR, CTR and SIP. The National Toxics Rule, California Toxics Rule (CTR) and State Implementation Policy specify numeric objectives for toxic substances and the procedures whereby these objectives are to be implemented. The procedures include those used to conduct reasonable potential analysis to determine the need for effluent limitations for priority and non-priority pollutants.

c. Requirement to meet 2.2 total coliform bacteria limit in the effluent. Article 3, Section 60305 of Title 22, Chapter 3, "Use of Recycled water for impoundments" of the California Code of Regulations specifies that recycled water used as a source of supply in a nonrestricted recreational impoundment shall be at all times an adequately disinfected, oxidized, coagulated, clarified, filtered wastewater (tertiary treated). The degree of treatment specified represents an approximately 5-log reduction in the virus content of the water. The California State Department of Public Health (CDPH) has determined that this degree of virus removal is necessary to protect the health of people using these impoundments for water contact recreation. The CDPH has developed wastewater disinfection guidelines ("Wastewater Disinfection for Health Protection", Department of Health Services, Sanitary Engineering Branch, February 1987) for discharges of wastewater to surface waters where water contact recreation (REC-1) is a beneficial use. The disinfection guidelines recommend the same treatment requirements for wastewater discharges to REC-1 waters as those stipulated in Title 22 for supply of recycled water to nonrestricted recreational impoundments, since the public health risks under both

scenarios are analogous. The disinfection guidelines are based on sound science and are widely used as guidance to assure public health and beneficial use protection.

None of the surface waters to which the discharges regulated under this Order occur are considered to be "nonrestricted recreational impoundments", nor is "recycled water[11]" being used as a supply source pursuant to the definitions in Title 22. However, to protect the water contact recreation beneficial use and to prevent nuisance and health risk, it is necessary and appropriate to require the same degree of treatment for wastewater discharges to the affected waterbodies as would be required for the use of recycled water in a nonrestricted recreational impoundment. Thus, this Order specifies requirements based on tertiary or equivalent treatment.

d. Requirement to meet disinfection CT limit in the effluent. The Board has consulted with the CDPH regarding the applicability of the process design standards (specifically filter rates, CT, and modal contact) for discharges of waste to flowing streams. CDPH has determined that although compliance with these standards is necessary to protect public health when recycled water is used, compliance with these standards is not necessary to protect public health for discharges into waterbodies that provide dilution of the wastewater, provided the performance standards are consistently met. During periods when the receiving water can provide a 1:1 dilution of the wastewater discharge, the Order provides that the specified filter rates, CT, and modal contact time do not apply to wastewater discharges to surface water. The specified filter rates, CT, and modal contact time applies to recycled water use.

3. Determining the Need for WQBELs

In accordance with Section 1.3 of the SIP, the Regional Water Board conducted a reasonable potential analysis (RPA) for each priority pollutant with an applicable criterion or objective to determine if a WQBEL is required in the Order. The Regional Water Board analyzed effluent data to determine if a pollutant in a discharge has the reasonable potential to cause or contribute to an excursion above a state water quality standard. For all parameters that have the reasonable potential to cause or contribute to an excursion above a water quality standard, numeric WQBELs are required. The RPA considers criteria from the CTR, and when applicable, water quality objectives specified in the Basin Plan. For hardness dependent metals, a fixed hardness value for each outfall, based on the lowest 5th percentile of effluent hardness measurements from each plant, is used to facilitate the determination of compliance. The decision to use the 5th percentile of effluent hardness measurements is based on previous practice resulting from the Santa Ana River Use Attainability Analysis conducted in 1994 and a 2008 special study conducted by the State Water Board staff.

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11 *As defined in the Reclamation Criteria, recycled water means water which, as a result of treatment of domestic wastewater, is suitable for a direct beneficial use or a controlled use that would not otherwise occur.*

Sufficient data are needed to conduct a complete RPA. If data are not sufficient, the Discharger will be required to gather the appropriate data for the Regional Water Board to conduct the RPA. Upon review of the data, and if the Regional Water Board determines that WQBELs are needed to protect the beneficial uses, the permit will be reopened for appropriate modification.

The RPA was performed by reviewing the data provided by the Discharger in accordance with the SIP. Total recoverable selenium, and bis(2-ethylhexyl) phthalate were determined to have reasonable potential to cause an excursion above applicable pollutant criteria or objectives for discharges at DP 001 and DP 002. For discharges at DP 003, cyanide, selenium, bis(2-ethylhexyl) phthalate, and Bromodichloromethane were determined to have reasonable potential to cause an excursion above applicable pollutant criteria or objectives. For discharges at DP 004, bis(2-ethylhexyl) phthalate was determined to have reasonable potential to cause an excursion above applicable pollutant criteria or objectives. For CCWRF, the RPA also determined that total recoverable chromium (VI) does not have the reasonable potential to cause an excursion above applicable pollutant criteria or objectives. Consequently, effluent limitations for this constituent are not included in this Order.

The December 2007 monitoring data for 2,3,7,8-TCDD (Dioxin) at DP 003 and DP 004 showed one detected value each at 0.0000035 µg/L and 0.00000026 µg/L, respectively. These values are above the water quality criteria for Dioxin. However, the prior monitoring results before detection showed non-detect values and subsequent to detection, three monitoring data for each outfall also showed non-detect values. Considering the previous and subsequent monitoring results, it is determined that there is no reasonable potential for Dioxin to exceed applicable pollutant criteria. Consequently, no effluent limitation for Dioxin is included in the Order. However, the Order requires the Discharger to conduct quarterly monitoring for Dioxin for one year. The monitoring frequency is reduced to semi-annual if quarterly monitoring results show non-detect values at acceptable reporting levels.

For free cyanide, the RPA was based on the previous RPA that was done for each facility because the EPA approved test method for free cyanide is in question and the Discharger is using a test method that is currently being verified for accuracy and repeatability. This test method will be submitted to EPA for approval. Meanwhile, this Order retains the current effluent limits for free cyanide for RP-1, RP-4, RP-5 and CCWRF.

The following tables show the RPA study results for each Facility. Effluent limitations are established in this Order for those parameters with “yes” in the RPA column of the tables.

Table 14. RP-1 - Comparing DP 001 Effluent Data with WQOs

Parameter	unit	Effluent MEC[12]	CTR-Fresh water			Basin Plan	RPA
		Fresh water	CMC/CCC	WQO	Human Health Organisms Only	WQO	
Cyanide, Free	µg/L	24	22/5.2				yes
Bis(2-ethylhexyl) Phthalate	µg/L	9			5.9		yes
Total recoverable selenium	µg/L	7.0	0/5.0				yes

*: 5th percentile of effluent hardness of 124 mg/l is used to calculate metals criteria with hardness related.

Table 15. RP-1 & RP-4 - Comparing DP 001 & DP 002 Effluent Data with WQOs

Parameter	unit	Effluent MEC	CTR-Fresh water			Basin Plan	RPA
		Fresh water	CMC/CCC	WQO	Human Health	WQO	
Cyanide, Free	µg/L	15	22/5.2				yes
Bis(2-ethylhexyl) Phthalate	µg/L	7			5.9		yes
Total recoverable selenium	µg/L	8.0	0/5.0				yes

*: 5th percentile of effluent hardness of 122 mg/l is used to calculate metals criteria with hardness related.

Table 16. RP-5 - Comparing DP 003 Effluent Data with WQOs

Parameter	unit	Effluent MEC	CTR-Fresh water			Basin Plan	RPA
		Fresh water	CMC/CCC	WQO	Human Health	WQO	
Cyanide, Free	µg/L	8	22/5.2				yes
Bis(2-ethylhexyl) Phthalate	µg/L	4			5.9		no
Total recoverable Selenium	µg/L	3	0/5.0				No
2,3,7,8-TCDD (Dioxin)	µg/L	0.0000035			0.000000014		No, see Section IV.C.3., above
Bromodichloromethane	µg/L	48			46		yes

*: 5th percentile of effluent hardness of 148 mg/l is used to calculate metals criteria with hardness related.

[12] *MEC, CMC, CCC are defined in Attachment A.*

Table 17. CCWRF - Comparing DP 004 Effluent Data with WQOs

Parameter	unit	Effluent MEC	CTR-Fresh water			Basin Plan	RPA
		Fresh water	CMC/CCC	WQO	Human Health	WQO	
Cyanide, Free	µg/L	8	22/5.2				yes
Bis(2-ethylhexyl) Phthalate	µg/L	25			5.9		yes
Total recoverable chromium (VI)	µg/L	4.1	16/11				No
Total recoverable Selenium	µg/L	<2	0/5.0				No
2,3,7,8-TCDD (Dioxin)	µg/L	0.00000026			0.000000014		No, see Section IV.C.3., above

*: 5th percentile of effluent hardness of 130 mg/l is used to calculate metals criteria with hardness related.

4. WQBEL Calculations

No mixing zone allowance is included in the calculation of effluent limits in this Order. Consequently, compliance with the effluent limits is required to be determined at the end of the discharge pipe for freshwater discharge.

a. For priority pollutants, water quality based effluent limits based on monitoring results and the calculation process outlined in Section 1.4 of the California Toxic Rule and the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays and Estuaries of California are summarized in the following Tables 19, 20 and 21. The criteria calculation is based on CTR criteria for freshwater.

The calculated coefficients of variation (CVs) for data sets of total recoverable selenium and cyanide are based on standard deviation, number of samples and mean of the data set.

This Order retains the free cyanide limits in the prior permits. The following table shows the free cyanide limits.

Table 18. Cyanide Limits in prior Orders

Discharge Point	Order	Facility	Effluent Limitations, µg/L	
			Average Monthly	Maximum Daily
DP 001&DP 002	R8-2006-0010	RP-1/RP-4	4.2	8.5
DP 003	R8-2008-0028	RP-5	4.6	7.3
DP 004	R8-2004-0020	CCWRF	4.3	8.5

Table 19. Calculation of Effluent Limits at DP 001 and DP002

				CV = 0.6, long-term average			Aquatic Life		Human		Permit Limit	
	CTR Criteria			Acute M	Chronic M	LTA	Objective/limits		Health Limits		Concentration Limit	
	Fresh water		Human Health	0.321	0.527		**3.11**	**1.55**	**2.01**			
Constituent	CMC	CCC		Acute LTA	Chronic LTA		MDEL	AMEL	MDEL	AMEL	MDEL	AMEL
Bis(2-ethylhexyl) Phthalate			5.9						11.9	5.9	**11.9**	**5.9**
Total recoverable selenium		5.0			2.6	***2.6***	8.2	4.1			**8.2**	**4.1**

Table 20. Calculation of Effluent Limits at DP 003

Bromodichloromethane			46						92.5	46.0	**92**	**46**

Table 21. Calculation of Effluent Limits at DP 004

Constituent	CMC	CCC		Acute LTA	Chronic LTA		MDEL	AMEL	MDEL	AMEL	MDEL	AMEL
Bis(2-ethylhexyl) Phthalate			5.9						11.9	5.9	**11.9**	**5.9**

5. Whole Effluent Toxicity (WET)

This Order does not specify WET limits but requires chronic toxicity monitoring. This Order, as in the previous Orders, also requires the Discharger to conduct the accelerated monitoring as specified in Attachment E when the result of any single chronic toxicity test of the effluent exceeds 1.0 TUc. The monitoring data for all the Facilities during the past three years (2005-2008) indicated that the monthly trigger of 1 TUc has not been exceeded.

D. BPJ - Based Effluent Specifications for DP 001 through DP 004

For tertiary treated wastewater, the BOD_5 and TSS concentration limits are based on Best Professional Judgment. The technology-based secondary treatment standards specify BOD_5 and TSS concentration limits that are less stringent.

Table 22. Tertiary Effluent BOD_5 and TSS Limits

Constituent	Average Weekly	Average Monthly
Biochemical Oxygen Demand	30 mg/L	20 mg/L
Suspended Solids	30 mg/L	20 mg/L

E. Summary of Final Effluent Limitations

1. Satisfaction of Anti-Backsliding Requirements

All effluent limitations in this Order are at least as stringent as the effluent limitations in previous Orders.

2. Satisfaction of Antidegradation Policy

The discharges addressed in this Order are existing discharges regulated under waste discharge requirements issued for each of the Facilities. This Order consolidates those requirements. The effluent limitations in this Order are at least as stringent as those specified in the prior individual waste discharge requirements. No increases in the regulated discharge flows are proposed. Therefore, discharges conducted in conformance with the requirements of this Order will not result in a lowering of water quality. The discharges therefore conform to antidegradation requirements specified in Resolution No. 68-16, which incorporates the federal antidegradation policy at 40 CFR 131.12 where, as here, is it applicable.

3. Stringency of Requirements for Individual Pollutants

Water quality-based effluent limitations have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to section 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations for priority pollutants are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. Apart from certain surface water standards changes resulting from the N/TDS Basin Plan amendment that do not materially affect the quality requirements for the discharges regulated by this Order, all beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to section 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

4. Summary of Final Effluent Limitations

Table 23. Summary of Water Quality-Based Effluent Limits at all DPs

Parameter	Units	Effluent Limitations					Basis
		Average Monthly	Average Weekly	Max Daily	Instant. Max.	Range	
BOD_5	mg/L	20	30	--	--	--	Basin Plan
Total Suspended Solids	mg/L	20	30	--	--	--	BP
pH	Std. unit	--	--	--		6.5-8.5	BP
Total Residual Chlorine	mg/L				0.1		BP
Coliform	MPN	--		2.2 MPN	--	--	Title 22
Ammonia Nitrogen	mg/L	4.5					BP
Free Cyanide	µg/L	4.0		9.2			CTR
Bis (2-Ethylhexyl) Phthalate at DPs 001, 002, & 004	µg/L	5.9		12			CTR
Total recoverable selenium at DPs 001 & 002	µg/L						CTR
Bromodichloromethane At DP 003	µg/L	46		92	µg/L		CTR

F. Interim Effluent Limitations - Not Applicable

G. Land Discharge Specifications – Not Applicable

H. Reclamation Specifications

1. Section 13523 of the California Water Code provides that a Regional Water Board, after consulting with and receiving the recommendations from the CDPH and any party who has requested in writing to be consulted, and after any necessary hearing, shall prescribe water reclamation requirements for water which is used or proposed to be used as recycled water, if, in the judgment of the Board, such requirements are necessary to protect the public health, safety, or welfare. Section 13523 further provides that such requirements shall include, or be in conformance with, the statewide uniform water recycling criteria established by the CDPH pursuant to California Water Code Section 13521.

2. Reclamation specifications in the proposed Order are based upon the recycling criteria contained in Title 22, Division 4, Chapter 3, Sections 60301 through 60355, California Code of Regulations, and the California Water Code Section 13521.

3. As shown in Chapter 4 of the Basin Plan as amended by the N/TDS Amendment, Resolution No. R8-2004-0001, two sets of groundwater management zones (GMZs) and respective TDS objectives have been adopted for a portion of the Chino Basin. "Maximum benefit" objectives are established for the Chino North GMZ, while "antidegradation" objectives are set for the Chino 1, 2 and 3 GMZs. Order Nos. R8-2004-0020, R8-2006-0010, and R8-2008-0028 include TDS limits for recycled water use that implement the Chino North and Chino 1, 2, and 3 TDS objectives. Provided that applicable maximum benefit commitments specified in Chapter 5 of the amended Basin Plan (and shown in Attachment J of this Order) are satisfied by the Discharger and the Chino Basin Watermaster, the TDS discharges from the combined effluent quality from the Discharger's treatment plants will be limited to 550 mg/L. Note that the "maximum benefit" objective for the Chino North GMZ is 420 mg/L. The basis for the TDS limit of 550 mg/L is as follows. The TDS value of 550 mg/L for recycled water use was assumed as part of the development of the maximum benefit objective for the Chino North GMZ and the maximum benefit program. Implementation of that program, which entails blending of recycled water with other sources of supply (stormwater, imported State Project Water) will assure that the TDS objective of the Chino North GMZ is achieved and maintained. If the Regional Board finds that thee maximum benefit commitments are not satisfied, then the Chino 1, 2 and 3 "antidegradation" management zones and their respective TDS objectives apply. Since the Chino 1, 2 and 3 GMZs lack assimilative capacity for TDS, the TDS limits are the same as the management zone objectives.

Table 24. TDS Limitations

Receiving Groundwater Management Zone	12-Mo Average TDS Concentration, mg/L
Chino 1	280
Chino 2	250
Chino 3	260
Chino – North "maximum benefit"	550

4. TIN limits: When recycled water is reused for irrigation, no nitrogen limit is established for the effluent, since nitrogen is anticipated to be used by plants and will not affect water quality.

I. Stormwater Discharge Requirements

On April 17, 1997, the State Board adopted the General Industrial Storm Water Permit, Order No. 97-03-DWQ, NPDES No. CAS000001. This General Permit implements the Final Regulations (40 CFR 122, 123, and 124) for stormwater runoff published on November 16, 1990 by EPA in compliance with Section 402(p) of the Clean Water Act (CWA). Industrial facilities, including POTW sites, are required to obtain NPDES Permits for stormwater discharges. Accordingly, this Order incorporates requirements for the discharge of stormwater from RP-1[13].

J. Groundwater Recharge Requirements – Not Applicable

Order No. R8-2007-0039 regulates the use of recycled water from RP-1 and RP-4 for groundwater recharge.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

The surface water receiving water limitations in this Order are based upon the water quality objectives contained in the Basin Plan. As such, they are required part of the proposed Order.

B. Groundwater – Not Applicable

[13] *Stormwater discharges from the Discharger's other Facilities are treated onsite (see II. B. 2, above).*

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 of 40 CFR requires all NPDES permits to specify recording and reporting of monitoring results. Sections 13267 and 13383 of the CWC authorize the Regional Water Boards to require technical and monitoring reports. The MRP, Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and State requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for these Facilities.

A. Influent Monitoring

This Order carries forward the treatment plant influent monitoring requirements specified in Orders No. R8-2004-0020, R8-2006-0010, and R8-2008-0028 with modifications. Influent monitoring is required to determine the effectiveness of the treatment program and assess treatment plant performance, and to implement EPA source control/pretreatment program.

B. Effluent Monitoring

The Discharger is required to conduct monitoring of the permitted discharges in order to evaluate compliance with permit conditions. Monitoring requirements are given in the proposed monitoring and reporting program (Attachment E). This provision requires compliance with the monitoring and reporting program, and is based on 40 CFR 122.44(i), 122.62, 122.63 and 124.5. The SMP is a standard requirement in almost all NPDES permits (including the proposed Order) issued by the Regional Water Board. In addition to containing definitions of terms, it specifies general sampling/analytical protocols and the requirements of reporting of spills, violations, and routine monitoring data in accordance with NPDES regulations, the California Water Code, and Regional Water Board's policies. The monitoring and reporting program also contains sampling program specific for the Discharger's wastewater treatment plant. It defines the sampling stations and frequency, pollutants to be monitored, and additional reporting requirements. Pollutants to be monitored include all pollutants for which effluent limitations are specified. Further, in accordance with Section 1.3 of the SIP, periodic monitoring is required for all priority pollutants defined by the CTR, for which criteria apply and for which no effluent limitations have been established, to evaluate reasonable potential to cause or contribute to an excursion above a water quality standard.

This Order continues the monitoring requirements specified in the Order No. R8-2004-0020, No. R8-2006-0010, and No. R8-2008-0028, with modifications. This Order also requires the Discharger to conduct accelerated monitoring for those constituents that are detected in the annual priority pollutant scan.

C. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity (WET) protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. WET tests measure the degree of response of exposed aquatic test organisms to an effluent. The WET approach implements the narrative "no toxics in toxic amounts" criterion. There are two types of WET tests: acute and chronic. An acute toxicity test is conducted over a shorter time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth.

The Basin Plan specifies a narrative objective for toxicity, requiring that all waters be maintained free of toxic substances in concentrations that are lethal to or produce other detrimental response on aquatic organisms. Detrimental response includes but is not limited to decreased growth rate, decreased reproductive success of resident or indicator species, and/or significant alterations in population, community ecology, or receiving water biota.

In addition to the Basin Plan requirements, Section 4 of the SIP states that a chronic toxicity effluent limitation is required in permits for all discharges that will cause, have the reasonable potential to cause, or contribute to chronic toxicity in receiving waters. Therefore, in accordance with the SIP, this Order requires the Discharger to conduct chronic toxicity testing. In addition, the Order establishes thresholds that when exceeded require the Discharger to conduct accelerated toxicity testing and/or to conduct toxicity identification evaluation (TIE) studies.

This Order requires the Discharger to conduct chronic toxicity testing of the effluent from each of the Facilities on a monthly basis. The Order also requires the Discharger to conduct an Initial Investigation Toxicity Reduction Evaluation (IITRE) program when either the two-month median of toxicity test results exceeds 1 TUc or any single test exceeds 1.7 TUc for survival endpoint. Based on the results of this investigation program and at the discretion of the Executive Officer, a more rigorous Toxicity Reduction Evaluation/Toxicity Identification Evaluation (TRE/TIE) may be required. A re-opener provision is included in the Order to incorporate a chronic toxicity effluent limitation if warranted by the toxicity test results.

D. Receiving Water Monitoring

1. Surface Water

Receiving water monitoring is required to determine compliance with receiving water limitations and to characterize the water quality of the receiving water. Requirements are based on the Basin Plan.

2. Groundwater – Not Applicable

E. Other Monitoring Requirements

1. **Water Supply Monitoring** - The Discharger is required to collect a sample of each source of water supplied and analyze for total dissolved solids. The result of this monitoring will enable the Discharger to show compliance with TDS limitations in the Order.

2. **Biosolids Monitoring** - This Order continues the monitoring requirements specified in Order No. R8-2004-0020, No. R8-2006-0010, and No. R8-2008-0028, with modifications.

3. **Pretreatment Monitoring** - These monitoring and reporting requirements are established pursuant EPA 40 CFR 403 regulations.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42.

Section 122.41(a)(1) and (b) through (n) establish conditions that apply to all State-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. Section 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with section 123.25, this Order omits federal conditions that address enforcement authority specified in section0s 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

B. Special Provisions

1. Reopener Provisions

The provisions are based on 40 CFR Parts 122.44(c) and 123. The Regional Water Board may reopen the permit to modify permit conditions and requirements. Causes for modifications include the promulgation of new regulations, modification in sludge use or disposal practices, or adoption of new regulations by the State Water Board or Regional Water Board, including revisions to the Basin Plan.

2. Special Studies and Additional Monitoring Requirements

Toxicity Identification Evaluations or Toxicity Reduction Evaluations. This provision is based on the SIP, Section 4, Toxicity Control Provisions.

3. Best Management Practices and Pollution Prevention

Best Management Practices and Pollution Prevention - The requirements are based on the SIP Section 2.4.5.1

4. Construction, Operation, and Maintenance Specifications

Construction, Operation, and Maintenance Specifications - The requirements are based on requirements that were specified in prior Orders issued to the Discharger.

5. Special Provisions for Municipal Facilities - POTWs Only

a. Oxidized, filtered, and disinfected by UV or chlorine Wastewater Requirements: These requirements are based on Title 22 requirements for the use of recycled water.

b. Pretreatment: The system treatment plants capacity is 84.4 mgd. Consequently, this Order contains requirements for the implementation of an effective pretreatment program pursuant to Section 307 of the Federal Clean Water Act; Parts 35 and 403 of Title 40, Code of Federal Regulations (40 CFR 35 and 40 CFR 403); and/or Section 2233, Title 23, California Code of Regulations.

c. The State Water Board issued General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003-DWQ (General Order) on May 2, 2006. The General Order requires public agencies that own or operate sanitary sewer systems with greater than one mile of pipes or sewer lines to enroll for coverage under the General Order. The General Order requires agencies to develop sanitary sewer management plans (SSMPs) and report all sanitary sewer overflows (SSOs), among other requirements and prohibitions. The Discharger has enrolled and implemented these requirements.

Furthermore, the General Order contains requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows. Inasmuch as the Discharger's collection system is part of the system that is subject to this Order, Provisions section VI.C.5.a. of this Order applies. For instance, the 24-hour reporting requirements in this Order (Provisions section VI.A.2.b.) are not included in the General Order. The Discharger must comply with both the General Order and this Order. The Discharger and public agencies that are discharging wastewater into one or more of the individual facilities were required to obtain enrollment for regulation under the General Order. The Discharger and public agencies that are discharging wastewater into one or more of the individual facilities have enrolled and implemented these requirements.

d. Biosolids: On February 19, 1993, the USEPA issued a final rule for the use and disposal of sewage sludge, 40 CFR, Part 503. This rule requires that producers of sewage sludge meet certain reporting, handling, and disposal requirements. The State of California has not been delegated the authority to implement this program, therefore, the U.S. Environmental Protection Agency is the implementing agency.

6. Other Special Provisions – Not Applicable

7. Compliance Schedules – Not Applicable

VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, Santa Ana Region (Regional Water Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for Inland Empire Utilities Agency's Regional Water Recycling Facilities. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through the posting of a Notice of Public Hearing at the Inland Empire Utilities Agency's RP-1, RP-4, RP-5, CCWRF Facilities and office, and at the Regional Water Board website http://www.waterboards.ca.gov/santaana/board_decisions/tentative_orders/index.shtml and publication in the local newspaper on June 10, 2009.

B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments must be submitted either in person or by mail to the Executive Officer at the Regional Water Board at the address shown below.

To be fully responded to by staff and considered by the Regional Water Board, written comments should be received at the Regional Water Board offices by 5:00 p.m. on June 19, 2009.

Jane Qiu
California Regional Water Quality Control Board
Santa Ana Region
3737 Main Street, Suite 500
Riverside, CA 92501-3348

C. Public Hearing

The Regional Water Board will hold a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: July 20, 2009
Time: 10:00 A.M.
Location: California Regional Water Quality Control Board
Santa Ana Region
3737 Main Street, Suite 500
Riverside, CA 92501-3348

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our web address is http://www.waterboards.ca.gov/santaana. You can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

E. Information and Copying

The Report of Waste Discharge (RWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 9:00 a.m. and 3:00 p.m. Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling Jane Qiu (951) 320-2008.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference this facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this Order should be directed to Jane Qiu at (951) 320-2008.

ATTACHMENT G - EPA PRIORITY POLLUTANT LIST

EPA PRIORITY POLLUTANT LIST					
Metals		**Acid Extractibles**		**Base/Neutral Extractibles (continuation)**	
1.	Antimony	45.	2-Chlorophenol	91.	Hexachloroethane
2.	Arsenic	46.	2,4-Dichlorophenol	92.	Indeno (1,2,3-cd) Pyrene
3.	Beryllium	47.	2,4-Dimethylphenol	93.	Isophorone
4.	Cadmium	48.	2-Methyl-4,6-Dinitrophenol	94.	Naphthalene
5a.	Chromium (III)	49.	2,4-Dinitrophenol	95.	Nitrobenzene
5b.	Chromium (VI)	50.	2-Nitrophenol	96.	N-Nitrosodimethylamine
6.	Copper	51.	4-Nitrophenol	97.	N-Nitrosodi-N-Propylamine
7.	Lead	52.	3-Methyl-4-Chlorophenol	98.	N-Nitrosodiphenylamine
8.	Mercury	53.	Pentachlorophenol	99.	Phenanthrene
9.	Nickel	54.	Phenol	100.	Pyrene
10.	Selenium	55.	2, 4, 6 – Trichlorophenol	101.	1,2,4-Trichlorobenzene
11.	Silver	**Base/Neutral Extractibles**		**Pesticides**	
12.	Thallium	56.	Acenaphthene	102.	Aldrin
13.	Zinc	57.	Acenaphthylene	103.	Alpha BHC
Miscellaneous		58.	Anthracene	104.	Beta BHC
14.	Cyanide, Free	59.	Benzidine	105.	Delta BHC
15.	Asbestos (not required unless requested)	60.	Benzo (a) Anthracene	106.	Gamma BHC
16.	2,3,7,8-Tetrachlorodibenzo-P-Dioxin (TCDD)	61.	Benzo (a) Pyrene	107.	Chlordane
Volatile Organics		62.	Benzo (b) Fluoranthene	108.	4, 4' - DDT
17.	Acrolein	63.	Benzo (g,h,i) Perylene	109.	4, 4' - DDE
18.	Acrylonitrile	64.	Benzo (k) Fluoranthene	110.	4, 4' - DDD
19.	Benzene	65.	Bis (2-Chloroethoxy) Methane	111.	Dieldrin
20.	Bromoform	66.	Bis (2-Chloroethyl) Ether	112.	Alpha Endosulfan
21.	Carbon Tetrachloride	67.	Bis (2-Chloroisopropyl) Ether	113.	Beta Endosulfan
22.	Chlorobenzene	68.	Bis (2-Ethylhexyl) Phthalate	114.	Endosulfan Sulfate
23.	Chlorodibromomethane	69.	4-Bromophenyl Phenyl Ether	115.	Endrin
24.	Chloroethane	70.	Butylbenzyl Phthalate	116.	Endrin Aldehyde
25.	2-Chloroethyl Vinyl Ether	71.	2-Chloronaphthalene	117.	Heptachlor
26.	Chloroform	72.	4-Chlorophenyl Phenyl Ether	118.	Heptachlor Epoxide
27.	Dichlorobromomethane	73.	Chrysene	119.	PCB 1016
28.	1,1-Dichloroethane	74.	Dibenzo (a,h) Anthracene	120.	PCB 1221
29.	1,2-Dichloroethane	75.	1,2-Dichlorobenzene	121.	PCB 1232
30.	1,1-Dichloroethylene	76.	1,3-Dichlorobenzene	122.	PCB 1242
31.	1,2-Dichloropropane	77.	1,4-Dichlorobenzene	123.	PCB 1248
32.	1,3-Dichloropropylene	78.	3,3'-Dichlorobenzidine	124.	PCB 1254
33.	Ethylbenzene	79.	Diethyl Phthalate	125.	PCB 1260
34.	Methyl Bromide	80.	Dimethyl Phthalate	126.	Toxaphene
35.	Methyl Chloride	81.	Di-n-Butyl Phthalate		
36.	Methylene Chloride	82.	2,4-Dinitrotoluene		
37.	1,1,2,2-Tetrachloroethane	83.	2-6-Dinitrotoluene		
38.	Tetrachloroethylene	84.	Di-n-Octyl Phthalate		
39.	Toluene	85.	1,2-Dipenylhydrazine		
40.	1,2-Trans-Dichloroethylene	86.	Fluoranthene		
41.	1,1,1-Trichloroethane	87.	Fluorene		
42.	1,1,2-Trichloroethane	88.	Hexachlorobenzene		
43.	Trichloroethylene	89.	Hexachlorobutadiene		
44.	Vinyl Chloride	90.	Hexachlorocyclopentadiene		

ATTACHMENT H – MINIMUM LEVELS

MINIMUM LEVELS IN PPB (μg/l)

Table 1- VOLATILE SUBSTANCES[1]	GC	GCMS
Acrolein	2.0	5
Acrylonitrile	2.0	2
Benzene	0.5	2
Bromoform	0.5	2
Carbon Tetrachloride	0.5	2
Chlorobenzene	0.5	2
Chlorodibromomethane	0.5	2
Chloroethane	0.5	2
Chloroform	0.5	2
Dichlorobromomethane	0.5	2
1,1 Dichloroethane	0.5	1
1,2 Dichloroethane	0.5	2
1,1 Dichloroethylene	0.5	2
1,2 Dichloropropane	0.5	1
1,3 Dichloropropylene (volatile)	0.5	2
Ethylbenzene	0.5	2
Methyl Bromide (*Bromomethane*)	1.0	2
Methyl Chloride (*Chloromethane*)	0.5	2
Methylene Chloride (*Dichloromethane*)	0.5	2
1,1,2,2 Tetrachloroethane	0.5	1
Tetrachloroethylene	0.5	2
Toluene	0.5	2
trans-1,2 Dichloroethylene	0.5	1
1,1,1 Trichloroethane	0.5	2
1,1,2 Trichloroethane	0.5	2
Trichloroethylene	0.5	2
Vinyl Chloride	0.5	2
1,2 Dichlorobenzene (volatile)	0.5	2
1,3 Dichlorobenzene (volatile)	0.5	2
1,4 Dichlorobenzene (volatile)	0.5	2

Selection and Use of Appropriate ML Value:

ML Selection: When there is more than one ML value for a given substance, the discharger may select any one of those ML values, and their associated analytical methods, listed in this Attachment that are below the calculated effluent limitation for compliance determination. If no ML value is below the effluent limitation, then the discharger shall select the lowest ML value, and its associated analytical method, listed in the PQL Table.

ML Usage: The ML value in this Attachment represents the lowest quantifiable concentration in a sample based on the proper application of all method-based analytical procedures and the absence of any matrix interferences. Assuming that all method-specific analytical steps are followed, the ML value will also represent, after the appropriate application of method-specific factors, the lowest standard in the calibration curve for that specific analytical technique. Common analytical practices sometimes require different treatment of the sample relative to calibration standards.
Note: chemical names in parenthesis and italicized is another name for the constituent.

[1] *The normal method-specific factor for these substances is 1, therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance.*

MINIMUM LEVELS IN PPB (μg/l)

Table 2 – Semi-Volatile Substances[2]	GC	GCMS	LC
2-Chloroethyl vinyl ether	1	1	
2 Chlorophenol	2	5	
2,4 Dichlorophenol	1	5	
2,4 Dimethylphenol	1	2	
4,6 Dinitro-2-methylphenol	10	5	
2,4 Dinitrophenol	5	5	
2- Nitrophenol		10	
4- Nitrophenol	5	10	
4 Chloro-3-methylphenol	5	1	
2,4,6 Trichlorophenol	10	10	
Acenaphthene	1	1	0.5
Acenaphthylene		10	0.2
Anthracene		10	2
Benzidine		5	
Benzo (a) Anthracene (*1,2 Benzanthracene*)	10	5	
Benzo(a) pyrene (*3,4 Benzopyrene*)		10	2
Benzo (b) Flouranthene (*3,4 Benzofluoranthene*)		10	10
Benzo(g,h,i)perylene		5	0.1
Benzo(k)fluoranthene		10	2
bis 2-(1-Chloroethoxyl) methane		5	
bis(2-chloroethyl) ether	10	1	
bis(2-Chloroisopropyl) ether	10	2	
bis(2-Ethylhexyl) phthalate	10	5	
4-Bromophenyl phenyl ether	10	5	
Butyl benzyl phthalate	10	10	
2-Chloronaphthalene		10	
4-Chlorophenyl phenyl ether		5	
Chrysene		10	5
Dibenzo(a,h)-anthracene		10	0.1
1,2 Dichlorobenzene (semivolatile)	2	2	
1,3 Dichlorobenzene (semivolatile)	2	1	
1,4 Dichlorobenzene (semivolatile)	2	1	
3,3-Dichlorobenzidine		5	
Diethyl phthalate	10	2	
Dimethyl phthalate	10	2	
di-n-Butyl phthalate		10	
2,4 Dinitrotoluene	10	5	
2,6 Dinitrotoluene		5	
di-n-Octyl phthalate		10	
1,2-Diphenylhydrazine		1	
Fluoranthene	10	1	0.05
Fluorene		10	0.1
Hexachloro-cyclopentadiene	5	5	
1,2,4 Trichlorobenzene	1	5	

MINIMUM LEVELS IN PPB (μg/l)

Table 2 - SEMI-VOLATILE SUBSTANCES[2]	GC	GCMS	LC	COLOR
Pentachlorophenol	1	5		
Phenol [3]	1	1		50
Hexachlorobenzene	5	1		
Hexachlorobutadiene	5	1		
Hexachloroethane	5	1		
Indeno(1,2,3,cd)-pyrene		10	0.05	
Isophorone	10	1		
Naphthalene	10	1	0.2	
Nitrobenzene	10	1		
N-Nitroso-dimethyl amine	10	5		
N-Nitroso -di n-propyl amine	10	5		
N-Nitroso diphenyl amine	10	1		
Phenanthrene		5	0.05	
Pyrene		10	0.05	

Table 3– INORGANICS[4]	FAA	GFAA	ICP	ICPMS	SPGFAA	HYDRIDE	CVAA	COLOR	DCP
Antimony	10	5	50	0.5	5	0.5			1000
Arsenic		2	10	2	2	1		20	1000
Beryllium	20	0.5	2	0.5	1				1000
Cadmium	10	0.5	10	0.25	0.5				1000
Chromium (total)	50	2	10	0.5	1				1000
Chromium VI	5							10	
Copper	25	5	10	0.5	2				1000
Lead	20	5	5	0.5	2				10000
Mercury				0.5			0.2		
Nickel	50	5	20	1	5				1000
Selenium		5	10	2	5	1			1000
Silver	10	1	10	0.25	2				1000
Thallium	10	2	10	1	5				1000
Zinc	20		20	1	10				1000
Cyanide								5	

2 *With the exception of phenol by colorimetric technique, the normal method-specific factor for these substances is 1000, therefore, the lowest standards concentration in the calibration curve is equal to the above ML value for each substance multiplied by 1000.*

3 *Phenol by colorimetric technique has a factor of 1.*

4 *The normal method-specific factor for these substances is 1, therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance.*

MINIMUM LEVELS IN PPB (μg/l)

Table 4- PESTICIDES – PCBs[5]	GC
Aldrin	0.005
alpha–BHC (*a-Hexachloro-cyclohexane*)	0.01
beta–BHC (*b-Hexachloro-cyclohexane*)	0.005
Gamma–BHC (*Lindane; g-Hexachloro-cyclohexane*)	0.02
Delta-BHC (*d-Hexachloro-cyclohexane*)	0.005
Chlordane	0.1
4,4'-DDT	0.01
4,4'-DDE	0.05
4,4'-DDD	0.05
Dieldrin	0.01
Alpha-Endosulfan	0.02
Beta-Endosulfan	0.01
Endosulfan Sulfate	0.05
Endrin	0.01
Endrin Aldehyde	0.01
Heptachlor	0.01
Heptachlor Epoxide	0.01
PCB 1016	0.5
PCB 1221	0.5
PCB 1232	0.5
PCB 1242	0.5
PCB 1248	0.5
PCB 1254	0.5
PCB 1260	0.5
Toxaphene	0.5

Techniques:
GC - Gas Chromatography
GCMS - Gas Chromatography/Mass Spectrometry
HRGCMS - High Resolution Gas Chromatography/Mass Spectrometry (i.e., EPA 1613, 1624, or 1625)
LC - High Pressure Liquid Chromatography
FAA - Flame Atomic Absorption
GFAA - Graphite Furnace Atomic Absorption
HYDRIDE - Gaseous Hydride Atomic Absorption
CVAA - Cold Vapor Atomic Absorption
ICP - Inductively Coupled Plasma
ICPMS - Inductively Coupled Plasma/Mass Spectrometry
SPGFAA - Stabilized Platform Graphite Furnace Atomic Absorption (i.e., EPA 200.9)
DCP - Direct Current Plasma
COLOR - Colorimetric

5 *The normal method-specific factor for these substances is 100, therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance multiplied by 100.*

ATTACHMENT I – TRIGGERS FOR MONITORING PRIORITY POLLUTANTS

Table I-1. For DP001 and DP002

	CONSTITUENT	µg/L		CONSTITUENT	µg/L
1	Antimony	2150	38	Tetratchloroethylene	4.43
2	Arsenic	75	*39*	***Toluene***	***150***
3	Beryllium	--	*40*	***1,2,-Trans-dichloroethylene***	***10***
4	Cadmium	3.7	*41*	***1,1,1-Trichloroethane***	***200***
5a	Chromium III	122	42	***1,1,2-Trichloroethane***	***5***
5b	Chromium VI	5.5	*43*	***Trichloroethylene***	***5***
6	Copper	14	*44*	***Vinyl Chloride***	***0.5***
7	Lead	12	45	2-Chlorophenol	200
8	Mercury	0.026	46	2,4-Dichlorophenol	395
9	Nickel	31	47	2,4-Dimethylphenol	1150
10	Selenium	2.5	48	2-Methy-4,6-Dinitrophenol	383
11	Silver	2.9	49	2,4-Dinitrophenol	7000
12	Thallium	3.2	50	2-Nitrophenol	--
13	Zinc	71	51	4-Nitrophenol	--
14	Cyanide	2.6	52	3-Methyl-4-Chlorophenol	--
15	Asbestos	--	53	***Pentachlorophenol***	***1***
16	2,3,7,8-TCDD (Dioxin)	0.000000007	54	Phenol	2,300,000
17	Acrolein	390	55	2,4,6-Trichlorophenol	3.3
18	Acrylonitrile	0.33	56	Acenapthene	1,350
19	***Benzene***	***1***	57	Acenapthylene	--
20	Bromoform	180	58	Anthracene	55,000
21	***Carbon Tetrachloride***	***0.5***	59	Benzidine	0.00027
22	Chlorobenzene	10500	60	Benzo (a) anthracene	0.025
23	Chlorodibromomethane	17	61	Benzo (a) pyrene	0.025
24	Chloroethane	--	62	Benzo (b) fluoranthene	0.025
25	2-Chloroethyl vinyl ether	--	63	Benzo (g,h,i) pyrylene	--
26	Chloroform	--	64	Benzo (k) fluorantene	0.025
27	Dichlorobromomethane	23	65	Bis (2-Chloroethoxy) methane	--
28	***1,1-Dichloroethane***	***5***	66	Bis (2-Chloroethyl) ether	0.7
29	***1,2-Dichloroethane***	***0.5***	67	Bis (2-Chloroisopropyl) ether	85,000
30	1,1-Dichloroethylene	1.6	68	Bis (2-ethyhexyl) phthalate	3.0
31	***1,2-Dichloropropane***	***5***	69	4-Bromophenyl phenyl ether	--
32	***1,3-Dichloropropylene***	***0.5***	70	Butyl benzyl phthalate	2600
33	***Ethylbenzene***	***300***	71	2- Chloronapthalene	2150
34	Methyl Bromide	2000	72	4-Chlrorphenyl phenyl ether	--
35	Methyl Chloride	--	73	Chrysene	0.025
36	Methylene Chloride	800	74	Dibenzo (a,h) anthracene	0.025
37	***1,1,2,2-Tetratchloroethane***	***1***	***75***	***1,2-Dichlorobenzene***	***600***

Table I-1. For DP001 and DP002--Continued

	CONSTITUENT	µg/L
76	1,3-Dichlorobenzene	1,300
77	***1,4-Dichlorobenzene***	***5***
78	3,3-Dichlorobenzidine	0.039
79	Diethyl phthalate	60,000
80	Dimethyl phthalate	1,450,000
81	Di-N-butyl phthalate	6,000
82	2,4-Dinitrotoluene	4.6
83	2,6-Dinitrotoluene	--
84	Di-N-octyl phthalate	--
85	1,2-Diphenylhydrazine	0.27
86	Fluoranthene	185
87	Fluorene	7,000
88	Hexachlorobenzene	0.00039
89	Hexachlorobutadiene	25
90	***Hexachlorocyclopentadiene***	***50***
91	Hexachloroethane	4.5
92	Indeno (1,2,3-cd) pyrene	0.025
93	Isophorone	300
94	***Naphthalene***	***17***
95	Nitrobenzene	950
96	***N-Nitrosodimethylamine***	***0.01***
97	***N-Nitrosodi-N-propylamine***	***0.01***
98	N-Nitrosodiphenylamine	8
99	Phenantrene	--

	CONSTITUENT	µg/L
100	Pyrene	5,500
101	***1,2,4 -Trichlorobenzene***	***5***
102	Aldrin	0.00007
103	BHC Alpha	0.0065
104	BHC Beta	0.023
105	BHC Gamma	0.032
106	BHC Delta	--
107	Chlordane	0.0003
108	4,4-DDT	0.0003
109	4,4-DDE	0.0003
110	4,4-DDD	0.00042
111	Dieldrin	0.00007
112	Endosulfan Alpha	0.028
113	Endosulfan Beta	0.028
114	Endosulfan Sulfate	120
115	Endrin	0.018
116	Endrin Aldehyde	0.42
117	Heptachlor	0.00011
118	Heptachlor Epoxide	0.000055
119	PCB 1016	0.000085
120	PCB 1221	0.000085
125	PCB 1260	0.000085
126	Toxaphene	0.0001

Notes:

1. For constituents not shown italicized, the values shown in the Table are fifty percent of the most stringent applicable receiving water objectives (freshwater or human health (consumption of water and organisms) as specified for that pollutant in 40 CFR 131.38[1]).
2. For constituents shown bold and italicized, the values shown in the Table are based on the California Department of Public Health maximum contaminant levels (MCLs) or Notification Level. Notification Level based trigger is underlined.
3. For hardness dependent metals, the hardness value used is 122 mg/L as 5th percentile of effluent flows and for pentachlorophenol, the pH value used is 7.5 standard units.

[1] *See Federal Register/ Vol. 65, No. 97 / Thursday, May 18, 2000 / Rules and Regulations.*

Table I-1. For DP003

	CONSTITUENT	µg/L
1	Antimony	2150
2	Arsenic	75
3	Beryllium	--
4	Cadmium	4.4
5a	Chromium III	143
5b	Chromium VI	5.5
6	Copper	17
7	Lead	16
8	Mercury	0.026
9	Nickel	36
10	Selenium	2.5
11	Silver	4.0
12	Thallium	3.2
13	Zinc	84
14	Cyanide	2.6
15	Asbestos	--
16	2,3,7,8-TCDD (Dioxin)	0.000000007
17	Acrolein	390
18	Acrylonitrile	0.33
19	***Benzene***	***1***
20	Bromoform	180
21	***Carbon Tetrachloride***	***0.5***
22	Chlorobenzene	10500
23	Chlorodibromomethane	17
24	Chloroethane	--
25	2-Chloroethyl vinyl ether	--
26	Chloroform	--
27	Dichlorobromomethane	23
28	***1,1-Dichloroethane***	***5***
29	***1,2-Dichloroethane***	***0.5***
30	1,1-Dichloroethylene	1.6
31	***1,2-Dichloropropane***	***5***
32	***1,3-Dichloropropylene***	***0.5***
33	***Ethylbenzene***	***300***
34	Methyl Bromide	2000
35	Methyl Chloride	--
36	Methylene Chloride	800
37	***1,1,2,2-Tetratchloroethane***	***1***
38	Tetratchloroethylene	4.43
39	***Toluene***	***150***
40	***1,2,-Trans-dichloroethylene***	***10***
41	***1,1,1-Trichloroethane***	***200***
42	***1,1,2-Trichloroethane***	***5***
43	***Trichloroethylene***	***5***
44	***Vinyl Chloride***	***0.5***
45	2-Chlorophenol	200
46	2,4-Dichlorophenol	395
47	2,4-Dimethylphenol	1150
48	2-Methy-4,6-Dinitrophenol	383
49	2,4-Dinitrophenol	7000
50	2-Nitrophenol	--
51	4-Nitrophenol	--
52	3-Methyl-4-Chlorophenol	--
53	***Pentachlorophenol***	***1***
54	Phenol	2,300,000
55	2,4,6-Trichlorophenol	3.3
56	Acenapthene	1,350
57	Acenapthylene	--
58	Anthracene	55,000
59	Benzidine	0.00027
60	Benzo (a) anthracene	0.025
61	Benzo (a) pyrene	0.025
62	Benzo (b) fluoranthene	0.025
63	Benzo (g,h,i) pyrylene	--
64	Benzo (k) fluorantene	0.025
65	Bis (2-Chloroethoxy) methane	--
66	Bis (2-Chloroethyl) ether	0.7
67	Bis (2-Chloroisopropyl) ether	85,000
68	Bis (2-ethyhexyl) phthalate	3.0
69	4-Bromophenyl phenyl ether	--
70	Butyl benzyl phthalate	2600
71	2- Chloronapthalene	2150
72	4-Chlrorphenyl phenyl ether	--
73	Chrysene	0.025
74	Dibenzo (a,h) anthracene	0.025
75	***1,2-Dichlorobenzene***	***600***

Table I-1. For DP003--Continued

	CONSTITUENT	µg/L
76	1,3-Dichlorobenzene	1,300
77	***1,4-Dichlorobenzene***	***5***
78	3,3-Dichlorobenzidine	0.039
79	Diethyl phthalate	60,000
80	Dimethyl phthalate	1,450,000
81	Di-N-butyl phthalate	6,000
82	2,4-Dinitrotoluene	4.6
83	2,6-Dinitrotoluene	--
84	Di-N-octyl phthalate	--
85	1,2-Diphenylhydrazine	0.27
86	Fluoranthene	185
87	Fluorene	7,000
88	Hexachlorobenzene	0.00039
89	Hexachlorobutadiene	25
90	***Hexachlorocyclopentadiene***	***50***
91	Hexachloroethane	4.5
92	Indeno (1,2,3-cd) pyrene	0.025
93	Isophorone	300
94	***Naphthalene***	***17***
95	Nitrobenzene	950
96	***N-Nitrosodimethylamine***	***0.01***
97	***N-Nitrosodi-N-propylamine***	***0.01***
98	N-Nitrosodiphenylamine	8
99	Phenantrene	--

	CONSTITUENT	µg/L
100	Pyrene	5,500
101	***1,2,4 -Trichlorobenzene***	***5***
102	Aldrin	0.00007
103	BHC Alpha	0.0065
104	BHC Beta	0.023
105	BHC Gamma	0.032
106	BHC Delta	--
107	Chlordane	0.0003
108	4,4-DDT	0.0003
109	4,4-DDE	0.0003
110	4,4-DDD	0.00042
111	Dieldrin	0.00007
112	Endosulfan Alpha	0.028
113	Endosulfan Beta	0.028
114	Endosulfan Sulfate	120
115	Endrin	0.018
116	Endrin Aldehyde	0.42
117	Heptachlor	0.00011
118	Heptachlor Epoxide	0.000055
119	PCB 1016	0.000085
120	PCB 1221	0.000085
125	PCB 1260	0.000085
126	Toxaphene	0.0001

Notes:

4. For constituents not shown italicized, the values shown in the Table are fifty percent of the most stringent applicable receiving water objectives (freshwater or human health (consumption of water and organisms) as specified for that pollutant in 40 CFR 131.38[2]).
5. For constituents shown bold and italicized, the values shown in the Table are based on the California Department of Public Health maximum contaminant levels (MCLs) or Notification Level. Notification Level based trigger is underlined.
6. For hardness dependent metals, the hardness value used is 148 mg/L as 5th percentile of effluent flows and for pentachlorophenol, the pH value used is 7.5 standard units.

[2] *See Federal Register/ Vol. 65, No. 97 / Thursday, May 18, 2000 / Rules and Regulations.*

Table I-2. For DP004

	CONSTITUENT	µg/L
1	Antimony	2150
2	Arsenic	75
3	Beryllium	--
4	Cadmium	3.9
5a	Chromium III	128
5b	Chromium VI	5.5
6	Copper	15
7	Lead	14
8	Mercury	0.026
9	Nickel	33
10	Selenium	2.5
11	Silver	3.2
12	Thallium	3.2
13	Zinc	75
14	Cyanide	2.6
15	Asbestos	--
16	2,3,7,8-TCDD (Dioxin)	0.000000007
17	Acrolein	390
18	Acrylonitrile	0.33
19	***Benzene***	***1***
20	Bromoform	180
21	***Carbon Tetrachloride***	***0.5***
22	Chlorobenzene	10500
23	Chlorodibromomethane	17
24	Chloroethane	--
25	2-Chloroethyl vinyl ether	--
26	Chloroform	--
27	Dichlorobromomethane	23
28	***1,1-Dichloroethane***	***5***
29	***1,2-Dichloroethane***	***0.5***
30	1,1-Dichloroethylene	1.6
31	***1,2-Dichloropropane***	***5***
32	***1,3-Dichloropropylene***	***0.5***
33	***Ethylbenzene***	***300***
34	Methyl Bromide	2000
35	Methyl Chloride	--
36	Methylene Chloride	800
37	***1,1,2,2-Tetratchloroethane***	***1***
38	Tetratchloroethylene	4.43
39	***Toluene***	***150***
40	***1,2,-Trans-dichloroethylene***	***10***
41	***1,1,1-Trichloroethane***	***200***
42	***1,1,2-Trichloroethane***	***5***
43	***Trichloroethylene***	***5***
44	***Vinyl Chloride***	***0.5***
45	2-Chlorophenol	200
46	2,4-Dichlorophenol	395
47	2,4-Dimethylphenol	1150
48	2-Methy-4,6-Dinitrophenol	383
49	2,4-Dinitrophenol	7000
50	2-Nitrophenol	--
51	4-Nitrophenol	--
52	3-Methyl-4-Chlorophenol	--
53	***Pentachlorophenol***	***1***
54	Phenol	2,300,000
55	2,4,6-Trichlorophenol	3.3
56	Acenapthene	1,350
57	Acenapthylene	--
58	Anthracene	55,000
59	Benzidine	0.00027
60	Benzo (a) anthracene	0.025
61	Benzo (a) pyrene	0.025
62	Benzo (b) fluoranthene	0.025
63	Benzo (g,h,i) pyrylene	--
64	Benzo (k) fluorantene	0.025
65	Bis (2-Chloroethoxy) methane	--
66	Bis (2-Chloroethyl) ether	0.7
67	Bis (2-Chloroisopropyl) ether	85,000
68	Bis (2-ethyhexyl) phthalate	3.0
69	4-Bromophenyl phenyl ether	--
70	Butyl benzyl phthalate	2600
71	2- Chloronapthalene	2150
72	4-Chlrorphenyl phenyl ether	--
73	Chrysene	0.025
74	Dibenzo (a,h) anthracene	0.025
75	***1,2-Dichlorobenzene***	***600***

Table I-1. For DP004--Continued

	CONSTITUENT	µg/L
76	1,3-Dichlorobenzene	1,300
77	***1,4-Dichlorobenzene***	***5***
78	3,3-Dichlorobenzidine	0.039
79	Diethyl phthalate	60,000
80	Dimethyl phthalate	1,450,000
81	Di-N-butyl phthalate	6,000
82	2,4-Dinitrotoluene	4.6
83	2,6-Dinitrotoluene	--
84	Di-N-octyl phthalate	--
85	1,2-Diphenylhydrazine	0.27
86	Fluoranthene	185
87	Fluorene	7,000
88	Hexachlorobenzene	0.00039
89	Hexachlorobutadiene	25
90	***Hexachlorocyclopentadiene***	***50***
91	Hexachloroethane	4.5
92	Indeno (1,2,3-cd) pyrene	0.025
93	Isophorone	300
94	***Naphthalene***	***17***
95	Nitrobenzene	950
96	***N-Nitrosodimethylamine***	***0.01***
97	***N-Nitrosodi-N-propylamine***	***0.01***
98	N-Nitrosodiphenylamine	8
99	Phenantrene	--

	CONSTITUENT	µg/L
100	Pyrene	5,500
101	***1,2,4 -Trichlorobenzene***	***5***
102	Aldrin	0.00007
103	BHC Alpha	0.0065
104	BHC Beta	0.023
105	BHC Gamma	0.032
106	BHC Delta	--
107	Chlordane	0.0003
108	4,4-DDT	0.0003
109	4,4-DDE	0.0003
110	4,4-DDD	0.00042
111	Dieldrin	0.00007
112	Endosulfan Alpha	0.028
113	Endosulfan Beta	0.028
114	Endosulfan Sulfate	120
115	Endrin	0.018
116	Endrin Aldehyde	0.42
117	Heptachlor	0.00011
118	Heptachlor Epoxide	0.000055
119	PCB 1016	0.000085
120	PCB 1221	0.000085
125	PCB 1260	0.000085
126	Toxaphene	0.0001

Notes:

7. For constituents not shown italicized, the values shown in the Table are fifty percent of the most stringent applicable receiving water objectives (freshwater or human health (consumption of water and organisms) as specified for that pollutant in 40 CFR 131.38[3]).
8. For constituents shown bold and italicized, the values shown in the Table are based on the California Department of Public Health maximum contaminant levels (MCLs) or Notification Level. Notification Level based trigger is underlined.
9. For hardness dependent metals, the hardness value used is 130 mg/L as 5th percentile of effluent flows and for pentachlorophenol, the pH value used is 7.5 standard units.

[3] *See Federal Register/ Vol. 65, No. 97 / Thursday, May 18, 2000 / Rules and Regulations.*

ATTACHMENT J – STORMWATER POLLUTION PREVENTION PLAN REQUIREMENTS

1. *Implementation Schedule*

The storm water pollution prevention plan (SWPPP) shall be updated and implemented in a timely manner, but in no case later than October 30, 2009.

2. *Objectives*

The SWPPP has two major objectives: (a) to identify and evaluate sources of pollutants associated with industrial activities that may affect the quality of storm water discharges and authorized non-storm water discharges from the facility; and (b) to identify and implement site-specific best management practices (BMPs) to reduce or prevent pollutants associated with industrial activities in storm water discharges and authorized non-storm water discharges. BMPs may include a variety of pollution prevention measures or other low-cost pollution control measures. They are generally categorized as non-structural BMPs (activity schedules, prohibitions of practices, maintenance procedures, and other low-cost measures) and as structural BMPs (treatment measures, run-off controls, over-head coverage). To achieve these objectives, dischargers should consider the five phase process for SWPPP development and implementation as shown in Table A, below.

The SWPPP requirements are designed to be sufficiently flexible to meet the various needs of the facility. SWPPP requirements that are not applicable to the facility should not be included in the SWPPP.

A facility's SWPPP is a written document that shall contain a compliance activity schedule, a description of industrial activities and pollutant sources, descriptions of BMPs, drawings, maps, and relevant copies or references of parts of other plans. The SWPPP shall be revised whenever appropriate and shall be readily available for review by facility employees or Regional Water Board inspectors.

3. *Planning and Organization*

a. Pollution Prevention Team

The SWPPP shall identify a specific individual or individuals and their positions within the facility organization as members of a storm water pollution prevention team responsible for developing the SWPPP, assisting the facility manager in SWPPP implementation and revision, and conducting all monitoring program activities required in the Stormwater monitoring program of Order No. R8-2009-0021. The SWPPP shall clearly identify the storm water pollution prevention related responsibilities, duties, and activities of each team member.

b. Review Other Requirements and Existing Facility Plans

The SWPPP may incorporate or reference the appropriate elements of other regulatory requirements. The discharger shall review all local, state, and federal requirements that impact, complement, or are consistent with the requirements of Order No. R8-2009-0021. The discharger shall identify any existing facility plans that contain storm water pollutant control measures or relate to the requirements of Order No. R8-2009-0021. As examples, dischargers whose facilities are subject to Federal Spill Prevention Control and Countermeasures' requirements should already have instituted a plan to control spills of certain hazardous materials. Similarly, the discharger whose facilities are subject to air quality related permits and regulations may already have evaluated industrial activities that generate dust or particulates.

4. *Site Map*

The SWPPP shall include a site map. The site map shall be provided on an 8-1/2 x 11 inch or larger sheet and include notes, legends, and other data as appropriate to ensure that the site map is clear and understandable. If necessary, the discharger may provide the required information on multiple site maps. The following information shall be included on the site map:

a. The facility boundaries; the outline of all storm water drainage areas within the facility boundaries; portions of the drainage area impacted by run-on from surrounding areas; and direction of flow of each drainage area, on-site surface water bodies, and areas of soil erosion. The map shall also identify nearby water bodies (such as rivers, lakes, ponds) and municipal storm drain inlets where the facility's storm water discharges and authorized non-storm water discharges may be received.

b. The location of the storm water collection and conveyance system, associated points of discharge, and direction of flow. Include any structural control measures that affect storm water discharges, authorized non-storm water discharges, and run-on. Examples of structural control measures are catch basins, berms, detention ponds, secondary containment, oil/water separators, diversion barriers, etc.

c. An outline of all impervious areas of the facility, including paved areas, buildings, covered storage areas, or other roofed structures.

d. Locations where materials are directly exposed to precipitation and the locations where significant spills or leaks identified in Section 6.a.(4)., below, have occurred.

e. Areas of industrial activity. This shall include the locations of all storage areas and storage tanks, shipping and receiving areas, fueling areas, vehicle and equipment storage/maintenance areas, material handling and processing areas, waste treatment and disposal areas, dust or particulate generating areas,

cleaning and rinsing areas, and other areas of industrial activity which are potential pollutant sources.

5. *List of Significant Materials*

The SWPPP shall include a list of significant materials handled and stored at the site. For each material on the list, describe the locations where the material is being stored, received, shipped, and handled, as well as the typical quantities and frequency. Materials shall include raw materials, intermediate products, final or finished products, recycled materials, and waste or disposed materials.

6. *Description of Potential Pollutant Sources*

a. The SWPPP shall include a narrative description of the facility's industrial activities, as identified in Section 4.e., above, associated potential pollutant sources, and potential pollutants that could be discharged in storm water discharges or authorized non-storm water discharges. At a minimum, the following items related to a facility's industrial activities shall be considered:

1) Industrial Processes

Describe each industrial process, the type, characteristics, and quantity of significant materials used in or resulting from the process, and a description of the processes (manufacturing or treatment), cleaning, rinsing, recycling, disposal, or other activities related to the process. Where applicable, areas protected by containment structures and the corresponding containment capacity shall be described.

2) Material Handling and Storage Areas

Describe each handling and storage area, type, characteristics, and quantity of significant materials handled or stored, description of the shipping, receiving, and loading procedures, and the spill or leak prevention and response procedures. Where applicable, areas protected by containment structures and the corresponding containment capacity shall be described.

3) Dust and Particulate Generating Activities

Describe all industrial activities that generate dust or particulates that may be deposited within the facility's boundaries and identify their discharge locations; the characteristics of dust and particulate pollutants; the approximate quantity of dust and particulate pollutants that may be deposited within the facility boundaries; and a description of the primary areas of the facility where dust and particulate pollutants would settle.

4) Significant Spills and Leaks

Describe materials that have spilled or leaked in significant quantities in storm water discharges or non-storm water discharges. Include toxic chemicals (listed in 40 Code of Federal Regulations [CFR] Part 302) that have been discharged to storm water as reported on U.S. Environmental Protection Agency (U.S. EPA) Form R, and oil and hazardous substances in excess of reportable quantities (see 40 CFR, Parts 110, 117, and 302).

The description shall include the type, characteristics, and approximate quantity of the material spilled or leaked, the cleanup or remedial actions that have occurred or are planned, the approximate remaining quantity of materials that may be exposed to storm water or non-storm water discharges, and the preventative measures taken to ensure spills or leaks do not reoccur. Such list shall be updated as appropriate during the term of Order No. R8-2009-0021.

5) Non-Storm Water Discharges

The discharger shall investigate the facility to identify all non-storm water discharges and their sources. As part of this investigation, all drains (inlets and outlets) shall be evaluated to identify whether they connect to the storm drain system.

All non-storm water discharges shall be described. This shall include the source, quantity, frequency, and characteristics of the non-storm water discharges and associated drainage area.

Non-storm water discharges that contain significant quantities of pollutants or that do not meet the conditions of Order No. R8-2009-0021 are prohibited. (Examples of prohibited non-storm water discharges are contact and non-contact cooling water, boiler blowdown, rinse water, wash water, etc.). The SWPPP must include BMPs to prevent or reduce contact of non-storm water discharges with significant materials or equipment.

6) Soil Erosion

Describe the facility locations where soil erosion may occur as a result of industrial activity, storm water discharges associated with industrial activity, or authorized non-storm water discharges.

b. The SWPPP shall include a summary of all areas of industrial activities, potential pollutant sources, and potential pollutants. This information should be summarized similar to Table B below. The last column of Table B, "Control Practices", should be completed in accordance with Section 8., below.

7. *Assessment of Potential Pollutant Sources*

a. The SWPPP shall include a narrative assessment of all industrial activities and potential pollutant sources as described in Section 6., above, to determine:

1) Which areas of the facility are likely sources of pollutants in storm water discharges and authorized non-storm water discharges, and

2) Which pollutants are likely to be present in storm water discharges and authorized non-storm water discharges. The discharger shall consider and evaluate various factors when performing this assessment such as current storm water BMPs; quantities of significant materials handled, produced, stored, or disposed of; likelihood of exposure to storm water or authorized non-storm water discharges; history of spill or leaks; and run-on from outside sources.

b. The discharger shall summarize the areas of the facility that are likely sources of pollutants and the corresponding pollutants that are likely to be present in storm water discharges and authorized non-storm water discharges.

The discharger is required to develop and implement additional BMPs as appropriate and necessary to prevent or reduce pollutants associated with each pollutant source. The BMPs will be narratively described in Section 8., below.

8. *Storm Water Best Management Practices*

The SWPPP shall include a narrative description of the storm water BMPs to be implemented at the facility for each potential pollutant and its source identified in the site assessment phase (Sections 6. and 7., above). The BMPs shall be developed and implemented to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Each pollutant and its source may require one or more BMPs. Some BMPs may be implemented for multiple pollutants and their sources, while other BMPs will be implemented for a very specific pollutant and its source.

The description of the BMPs shall identify the BMPs as (1) existing BMPs, (2) existing BMPs to be revised and implemented, or (3) new BMPs to be implemented. The description shall also include a discussion on the effectiveness of each BMP to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. The SWPPP shall provide a summary of all BMPs implemented for each pollutant source. This information should be summarized similar to Table B.

The discharger shall consider the following BMPs for implementation at the facility:

a. Non-Structural BMPs: Non-structural BMPs generally consist of processes, prohibitions, procedures, schedule of activities, etc., that prevent pollutants associated with industrial activity from contacting with storm water discharges and authorized non-storm water discharges. They are considered low technology, cost-effective measures. The discharger should consider all possible non-structural BMPs options before considering additional structural BMPs (see Section 8.b., below). Below is a list of non-structural BMPs that should be considered:

1) Good Housekeeping: Good housekeeping generally consist of practical procedures to maintain a clean and orderly facility.

2) Preventive Maintenance: Preventive maintenance includes the regular inspection and maintenance of structural storm water controls (catch basins, oil/water separators, etc.) as well as other facility equipment and systems.

3) Spill Response: This includes spill clean-up procedures and necessary clean-up equipment based upon the quantities and locations of significant materials that may spill or leak.

4) Material Handling and Storage: This includes all procedures to minimize the potential for spills and leaks and to minimize exposure of significant materials to storm water and authorized non-storm water discharges.

5) Employee Training: This includes training of personnel who are responsible for (a) implementing activities identified in the SWPPP, (b) conducting inspections, sampling, and visual observations, and (c) managing storm water. Training should address topics such as spill response, good housekeeping, and material handling procedures, and actions necessary to implement all BMPs identified in the SWPPP. The SWPPP shall identify periodic dates for such training. Records shall be maintained of all training sessions held.

6) Waste Handling/Recycling: This includes the procedures or processes to handle, store, or dispose of waste materials or recyclable materials.

7) Record Keeping and Internal Reporting: This includes the procedures to ensure that all records of inspections, spills, maintenance activities, corrective actions, visual observations, etc., are developed, retained, and provided, as necessary, to the appropriate facility personnel.

8) Erosion Control and Site Stabilization: This includes a description of all sediment and erosion control activities. This may include the planting and maintenance of vegetation, diversion of run-on and runoff, placement of sandbags, silt screens, or other sediment control devices, etc.

9) Inspections: This includes, in addition to the preventative maintenance inspections identified above, an inspection schedule of all potential pollutant sources. Tracking and follow-up procedures shall be described to ensure adequate corrective actions are taken and SWPPPs are made.

10) Quality Assurance: This includes the procedures to ensure that all elements of the SWPPP and Monitoring Program are adequately conducted.

b. Structural BMPs: Where non-structural BMPs as identified in Section 8.a., above, are not effective, structural BMPs shall be considered. Structural BMPs generally consist of structural devices that reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Below is a list of structural BMPs that should be considered:

1) Overhead Coverage: This includes structures that provide horizontal coverage of materials, chemicals, and pollutant sources from contact with storm water and authorized non-storm water discharges.

2) Retention Ponds: This includes basins, ponds, surface impoundments, bermed areas, etc., that do not allow storm water to discharge from the facility.

3) Control Devices: This includes berms or other devices that channel or route run-on and runoff away from pollutant sources.

4) Secondary Containment Structures: This generally includes containment structures around storage tanks and other areas for the purpose of collecting any leaks or spills.

5) Treatment: This includes inlet controls, infiltration devices, oil/water separators, detention ponds, vegetative swales, etc., that reduce the pollutants in storm water discharges and authorized non-storm water discharges.

9. *Annual Comprehensive Site Compliance Evaluation*

The discharger shall conduct one comprehensive site compliance evaluation in each reporting period (July 1-June 30). Evaluations shall be conducted within 8-16 months of each other. The SWPPP shall be revised, as appropriate, and the revisions implemented within 90 days of the evaluation. Evaluations shall include the following:

a. A review of all visual observation records, inspection records, and sampling and analysis results.

b. A visual inspection of all potential pollutant sources for evidence of, or the potential for, pollutants entering the drainage system.

c. A review and evaluation of all BMPs (both structural and non-structural) to determine whether the BMPs are adequate, properly implemented and maintained, or whether additional BMPs are needed. A visual inspection of equipment needed to implement the SWPPP, such as spill response equipment, shall be included.

d. An evaluation report that includes, (1) identification of personnel performing the evaluation, (2) the date(s) of the evaluation, (3) necessary SWPPP revisions, (4) schedule, as required in Section 10.e, below, for implementing SWPPP revisions, (5) any incidents of non-compliance and the corrective actions taken, and (6) a certification that the discharger is in compliance with Order No. R8-2009-0021. If the above certification cannot be provided, explain in the evaluation report why the discharger is not in compliance with this order. The evaluation report shall be submitted as part of the annual report, retained for at least five years, and signed and certified in accordance with Attachment D, Standard Provision, Section V Reporting, Subsection B. Signatory and Certification Requirements of Order No. R8-2009-0021.

10. *SWPPP General Requirements*

a. The SWPPP shall be retained on site and made available upon request by a representative of the Regional Water Board and/or local storm water management agency (local agency) which receives the storm water discharges.

b. The Regional Water Board and/or local agency may notify the discharger when the SWPPP does not meet one or more of the minimum requirements of this section. As requested by the Regional Water Board and/or local agency, the discharger shall submit a SWPPP revision and implementation schedule that meets the minimum requirements of this section to the Regional Water Board and/or local agency that requested the SWPPP revisions. Within 14 days after implementing the required SWPPP revisions, the discharger shall provide written certification to the Regional Water Board and/or local agency that the revisions have been implemented.

c. The SWPPP shall be revised, as appropriate, and implemented prior to changes in industrial activities which (1) may significantly increase the quantities of pollutants in storm water discharge, (2) cause a new area of industrial activity at the facility to be exposed to storm water, or (3) begin an industrial activity which would introduce a new pollutant source at the facility.

d. The SWPPP shall be revised and implemented in a timely manner, but in no case more than 90 days after a discharger determines that the SWPPP is in violation of any requirement(s) of Order No. R8-2009-0021.

e. When any part of the SWPPP is infeasible to implement by the deadlines specified in Order No. R8-2009-0021, due to proposed significant structural changes, the discharger shall submit a report to the Regional Water Board prior to the applicable deadline that (1) describes the portion of the SWPPP that is infeasible to implement by the deadline, (2) provides justification for a time extension, (3) provides a schedule for completing and implementing that portion of the SWPPP, and (4) describes the BMPs that will be implemented in the interim period to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Such reports are subject to Regional Water Board approval and/or modifications. The discharger shall provide written notification to the Regional Water Board within 14 days after the SWPPP revisions are implemented.

f. The SWPPP shall be provided, upon request, to the Regional Water Board. The SWPPP is considered a report that shall be available to the public by the Regional Water Board under Section 308(b) of the Clean Water Act.

TABLE A

FIVE PHASES FOR DEVELOPING AND IMPLEMENTING INDUSTRIAL STORM WATER POLLUTION PREVENTION PLANS

PLANNING AND ORGANIZATION

*Form pollution prevention team
*Review other plans

ASSESSMENT PHASE

*Develop a site map
*Identify potential pollutant sources
*Inventory of materials and chemicals
*List significant spills and leaks
*Identify non-storm water discharges
*Assess pollutant risks

BEST MANAGEMENT PRACTICES IDENTIFICATION PHASE

*Non-structural BMPs
*Structural BMPs
*Select activity and site-specific BMPs

IMPLEMENTATION PHASE

*Train employees
*Implement BMPs
*Conduct record keeping and reporting

EVALUATION / MONITORING

*Conduct annual site evaluation
*Review monitoring information
*Evaluate BMPs
*Review and revise SWPPP

TABLE B

EXAMPLE

ASSESSMENT OF POTENTIAL POLLUTION SOURCES AND CORRESPONDING BEST MANAGEMENT PRACTICES SUMMARY

AREA	ACTIVITY	POLLUTANT SOURCE	POLLUTANT	BEST MANAGEMENT PRACTICES
Vehicle & equipment fueling	Fueling	Spills and leaks during delivery	Fuel oil	- Use spill and overflow protection - Minimize run-on of storm water into the fueling area - Cover fueling area - Use dry cleanup methods rather than hosing down area - Implement proper spill prevention control program - Implement adequate preventative maintenance program to prevent tank and line leaks - Inspect fueling areas regularly to detect problems before they occur - Train employees on proper fueling, cleanup, and spill response techniques.
		Spills caused by topping off fuel oil	Fuel oil	
		Hosing or washing down fuel area	Fuel oil	
		Leaking storage tanks	Fuel oil	
		Rainfall running off fueling areas, and rainfall running onto and off fueling area	Fuel oil	

ATTACHMENT K – STORMWATER MONITORING AND REPORTING REQUIREMENTS

1. *Implementation Schedule*

The discharger shall continue to implement their existing Stormwater monitoring program and implement any necessary revisions to their Stormwater monitoring program in a timely manner, but in no case later than December 30, 2009. The discharger may use the monitoring results conducted in accordance with their existing Stormwater monitoring program to satisfy the pollutant/parameter reduction requirements in Section 5.c., below, and Sampling and Analysis Exemptions and Reduction Certifications in Section 10, below.

2. Objectives

The objectives of the monitoring program are to:

a. Ensure that storm water discharges are in compliance with waste discharge requirements specified in Order No. R8-2009-0021.

b. Ensure practices at the facility to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges are evaluated and revised to meet changing conditions.

c. Aid in the implementation and revision of the SWPPP required by Attachment "J" Stormwater Pollution Prevention Plan of Order No. R8-2009-0021.

d. Measure the effectiveness of best management practices (BMPs) to prevent or reduce pollutants in storm water discharges and authorized non-storm water discharges. Much of the information necessary to develop the monitoring program, such as discharge locations, drainage areas, pollutant sources, etc., should be found in the Storm Water Pollution Prevention Plan (SWPPP). The facility's monitoring program shall be a written, site-specific document that shall be revised whenever appropriate and be readily available for review by employees or Regional Water Board inspectors.

3. *Non-Storm Water Discharge Visual Observations*

a. The discharger shall visually observe all drainage areas within their facility for the presence of unauthorized non-storm water discharges;

b. The discharger shall visually observe the facility's authorized non-storm water discharges and their sources;

c. The visual observations required above shall occur quarterly, during daylight hours, on days with no storm water discharges, and during scheduled facility operating hours[1]. Quarterly visual observations shall be conducted in each of the following periods: January-March, April-June, July-September, and October-December. The discharger shall conduct quarterly visual observations within 6-18 weeks of each other.

d. Visual observations shall document the presence of any discolorations, stains, odors, floating materials, etc., as well as the source of any discharge. Records shall be maintained of the visual observation dates, locations observed, observations, and response taken to eliminate unauthorized non-storm water discharges and to reduce or prevent pollutants from contacting non-storm water discharges. The SWPPP shall be revised, as necessary, and implemented in accordance with Attachment "J" Stormwater Pollution Prevention Plan Requirements of Order No. R8-2009-0021.

4. *Storm Water Discharge Visual Observations*

a. With the exception of those facilities described in Section 4.d., below, the discharger shall visually observe storm water discharges from one storm event per month during the wet season (October 1-May 30). These visual observations shall occur during the first hour of discharge and at all discharge locations. Visual observations of stored or contained storm water shall occur at the time of release.

b. Visual observations are only required of storm water discharges that occur during daylight hours that are preceded by at least three (3) working days[2] without storm water discharges and that occur during scheduled facility operating hours.

c. Visual observations shall document the presence of any floating and suspended material, oil and grease, discolorations, turbidity, odor, and source of any pollutants. Records shall be maintained of observation dates, locations observed, observations, and response taken to reduce or prevent pollutants in storm water discharges. The SWPPP shall be revised, as necessary, and implemented in accordance with Attachment "J" Stormwater Pollution Prevention Plan Requirements of Order No. R8-2009-0021.

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1 *"Scheduled facility operating hours" are the time periods when the facility is staffed to conduct any function related to industrial activity, but excluding time periods where only routine maintenance, emergency response, security, and/or janitorial services are performed.*

2 *Three (3) working days may be separated by non-working days such as weekends and holidays provided that no storm water discharges occur during the three (3) working days and the non-working days.*

d. The discharger with storm water containment facilities shall conduct monthly inspections of their containment areas to detect leaks and ensure maintenance of adequate freeboard. Records shall be maintained of the inspection dates, observations, and any response taken to eliminate leaks and to maintain adequate freeboard.

5. *Sampling and Analysis*

a. The discharger shall collect storm water samples during the first hour of discharge from (1) the first storm event of the wet season, and (2) at least one other storm event in the wet season. All storm water discharge locations shall be sampled. Sampling of stored or contained storm water shall occur at the time the stored or contained storm water is released. The discharger that does not collect samples from the first storm event of the wet season are still required to collect samples from two other storm events of the wet season and shall explain in the "Annual Stormwater Report" (see Section 12, below) why the first storm event was not sampled.

b. Sample collection is only required of storm water discharges that occur during scheduled facility operating hours and that are preceded by at least (3) three working days without storm water discharge.

c. The samples shall be analyzed for:

1) Total suspended solids (TSS) pH, specific conductance, and total organic carbon (TOC). Oil and grease (O&G) may be substituted for TOC;

2) Toxic chemicals and other pollutants that are likely to be present in storm water discharges in significant quantities. If these pollutants are not detected in significant quantities after two consecutive sampling events, the discharger may eliminate the pollutant from future sample analysis until the pollutant is likely to be present again;

3) The discharger is not required to analyze a parameter when either of the two following conditions are met: (a) the parameter has not been detected in significant quantities from the last two consecutive sampling events, or (b) the parameter is not likely to be present in storm water discharges and authorized non-storm water discharges in significant quantities based upon the discharger's evaluation of the facilities industrial activities, potential pollutant sources, and SWPPP; and

4) Other parameters as required by the Regional Water Board.

6. *Sample Storm Water Discharge Locations*

a. The discharger shall visually observe and collect samples of storm water discharges from all drainage areas that represent the quality and quantity of the facility's storm water discharges from the storm event.

b. If the facility's storm water discharges are commingled with run-on from surrounding areas, the discharger should identify other visual observation and sample collection locations that have not been commingled by run-on and that represent the quality and quantity of the facility's storm water discharges from the storm event.

c. If visual observation and sample collection locations are difficult to observe or sample (e.g., sheet flow, submerged outfalls), the discharger shall identify and collect samples from other locations that represent the quality and quantity of the facility's storm water discharges from the storm event.

d. The discharger that determines that the industrial activities and BMPs within two or more drainage areas are substantially identical may either (1) collect samples from a reduced number of substantially identical drainage areas, or (2) collect samples from each substantially identical drainage area and analyze a combined sample from each substantially identical drainage area. The discharger must document such a determination in the annual Stormwater report.

7. Visual Observation and Sample Collection Exceptions

The discharger is required to be prepared to collect samples and conduct visual observations at the beginning of the wet season (October 1) and throughout the wet season until the minimum requirements of Sections 4. and 5., above, are completed with the following exceptions:

a. The discharger is not required to collect a sample and conduct visual observations in accordance with Section 4 and Section 5, above, due to dangerous weather conditions, such as flooding, electrical storm, etc., when storm water discharges begin after scheduled facility operating hours or when storm water discharges are not preceded by three working days without discharge. Visual observations are only required during daylight hours. The discharger that does not collect the required samples or visual observations during a wet season due to these exceptions shall include an explanation in the "Annual Stormwater Report" why the sampling or visual observations could not be conducted.

b. The discharger may conduct visual observations and sample collection more than one hour after discharge begins if the discharger determines that the objectives of this section will be better satisfied. The discharger shall include an explanation in the "Annual Stormwater Report" why the visual observations and sample collection should be conducted after the first hour of discharge.

8. *Alternative Monitoring Procedures*

The discharger may propose an alternative monitoring program that meets Section 2, above, monitoring program objectives for approval by the Regional Water Board's Executive Officer. The discharger shall continue to comply with the monitoring requirements of this section and may not implement an alternative monitoring plan until the alternative monitoring plan is approved by the Regional Water Board's Executive Officer. Alternative monitoring plans are subject to modification by the Regional Water Board's Executive Officer.

9. Monitoring Methods

a. The discharger shall explain how the facility's monitoring program will satisfy the monitoring program objectives of Section 2., above. This shall include:

1) Rationale and description of the visual observation methods, location, and frequency;

2) Rationale and description of the sampling methods, location, and frequency; and

3) Identification of the analytical methods and corresponding method detection limits used to detect pollutants in storm water discharges. This shall include justification that the method detection limits are adequate to satisfy the objectives of the monitoring program.

b. All sampling and sample preservation shall be in accordance with the current edition of "Standard Methods for the Examination of Water and Wastewater" (American Public Health Association). All monitoring instruments and equipment (including the discharger's own field instruments for measuring pH and Electro-conductivity) shall be calibrated and maintained in accordance with manufacturers' specifications to ensure accurate measurements. All laboratory analyses must be conducted according to test procedures under 40 CFR Part 136, unless other test procedures have been specified in Order No. R8-2009-0021 or by the Regional Water Board's Executive Officer. All metals shall be reported as total recoverable metals or unless otherwise specified in Order No. R8-2009-0021. With the exception of analysis conducted by the discharger, all laboratory analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. The discharger may conduct their own sample analyses if the discharger has sufficient capability (qualified employees, laboratory equipment, etc.) to adequately perform the test procedures.

10. *Sampling and Analysis Exemptions and Reductions*

A discharger who qualifies for sampling and analysis exemptions, as described below in Section 10.a.(1) or who qualifies for reduced sampling and analysis, as described below in Section 10.b., must submit the appropriate certifications and required documentation to the Regional Water Board prior to the wet season (October 1) and certify as part of the annual Stormwater report submittal. A discharger that qualifies for either the Regional Water Board or local agency certification programs, as described below in Section 10.a.(2) and (3), shall submit certification and documentation in accordance with the requirements of those programs. The discharger who provides certification(s) in accordance with this section are still required to comply with all other monitoring program and reporting requirements. The discharger shall prepare and submit their certification(s) using forms and instructions provided by the State Water Board, Regional Water Board, or local agency or shall submit their information on a form that contains equivalent information. The discharger whose facility no longer meets the certification conditions must notify the Regional Water Board's Executive Officer (and local agency) within 30 days and immediately comply with Section 5., Sampling and Analysis requirements. Should a Regional Water Board (or local agency) determine that a certification does not meet the conditions set forth below, the discharger must immediately comply with the Section 5., Sampling and Analysis requirements.

a. Sampling and Analysis Exemptions

A discharger is not required to collect and analyze samples in accordance with Section 5., above, if the discharger meets all of the conditions of one of the following certification programs:

1) No Exposure Certification (NEC)

This exemption is designed primarily for those facilities where all industrial activities are conducted inside buildings and where all materials stored and handled are not exposed to storm water. To qualify for this exemption, the discharger must certify that their facilities meet all of the following conditions:

a) All prohibited non-storm water discharges have been eliminated or otherwise permitted.

b) All authorized non-storm water discharges have been identified and addressed in the SWPPP.

c) All areas of past exposure have been inspected and cleaned, as appropriate.

d) All significant materials related to industrial activity (including waste materials) are not exposed to storm water or authorized non-storm water discharges.

e) All industrial activities and industrial equipment are not exposed to storm water or authorized non-storm water discharges.

f) There is no exposure of storm water to significant materials associated with industrial activity through other direct or indirect pathways such as from industrial activities that generate dust and particulates.

g) There is periodic re-evaluation of the facility to ensure conditions (a), (b), (d), (e), and (f) above are continuously met. At a minimum, re-evaluation shall be conducted once a year.

2) Regional Water Board Certification Programs

The Regional Water Board may grant an exemption to the Section 5. Sampling and Analysis requirements if it determines a discharger has met the conditions set forth in a Regional Water Board certification program. Regional Water Board certification programs may include conditions to (a) exempt the discharger whose facilities infrequently discharge storm water to waters of the United States, and (b) exempt the discharger that demonstrate compliance with the terms and conditions of Order No. R8-2009-0021.

3) Local Agency Certifications

A local agency may develop a local agency certification program. Such programs must be approved by the Regional Water Board. An approved local agency program may either grant an exemption from Section 5. Sampling and Analysis requirements or reduce the frequency of sampling if it determines that a discharger has demonstrated compliance with the terms and conditions of the Industrial Activities Storm Water General Permit Order No. 97-03-DWQ which was adopted by the State Water Resources Control Board on April 17, 1997.

b. Sampling and Analysis Reduction

1) A discharger may reduce the number of sampling events required to be sampled for the remaining term of Order No. R8-2009-0021 if the discharger provides certification that the following conditions have been met:

a) The discharger has collected and analyzed samples from a minimum of six storm events from all required drainage areas;

b) All prohibited non-storm water discharges have been eliminated or otherwise permitted;

c) The discharger demonstrates compliance with the terms and conditions of the Order No. R8-2009-0021 for the previous two years (i.e., completed Annual Stormwater Reports, performed visual observations, implemented appropriate BMPs, etc.);

d) The discharger demonstrates that the facility's storm water discharges and authorized non-storm water discharges do not contain significant quantities of pollutants; and

e) Conditions (b), (c), and (d) above are expected to remain in effect for a minimum of one year after filing the certification.

2) Unless otherwise instructed by the Regional Water Board, the discharger shall collect and analyze samples from two additional storm events during the remaining term of Order No. R8-2009-0021 in accordance with Table A, below. The discharger shall collect samples of the first storm event of the wet season. The discharger that does not collect samples from the first storm event of the wet season shall collect samples from another storm event during the same wet season. The discharger that does not collect a sample in a required wet season shall collect the sample from another storm event in the next wet season. The discharger shall explain in the "Annual Stormwater Report" why the first storm event of a wet season was not sampled or a sample was not taken from any storm event in accordance with the Table A schedule, below.

Table A. REDUCED MONITORING SAMPLING SCHEDULE

Discharger Filing Sampling Reduction Certification By	Samples Shall be Collected and Analyzed in these wet seasons	
	Sample 1	Sample 2
Sept. 1, 2008	Oct. 1, 2008-May 31, 2009	Oct. 1, 2008-May 31, 2009
Sept. 1, 2009	Oct. 1, 2009-May 31, 2010	Oct. 1, 2009-May 31, 2010
Sept. 1, 2010	Oct. 1, 2010-May 31, 2011	Oct. 1, 2010-May 31, 2011
Sept. 1, 2011	Oct. 1, 2011-May 31, 2012	Oct. 1, 2011-May 31, 2012
Sept. 1, 2012	Oct. 1, 2012-May 31, 2013	Oct. 1, 2012-May 31, 2013
Sept. 1, 2013	Oct. 1, 2013-May 31, 2014	Oct. 1, 2013-May 31, 2014

11. Records

Records of all storm water monitoring information and copies of all reports (including the Annual Stormwater Reports) required by Order No. R8-2009-0021 shall be retained for a period of at least five years. These records shall include:

a. The date, place, and time of site inspections, sampling, visual observations, and/or measurements;

b. The individual(s) who performed the site inspections, sampling, visual observations, and or measurements;

c. Flow measurements or estimates;

d. The date and approximate time of analyses;

e. The individual(s) who performed the analyses;

f. Analytical results, method detection limits, and the analytical techniques or methods used;

g. Quality assurance/quality control records and results;

h. Non-storm water discharge inspections and visual observations and storm water discharge visual observation records (see Sections 3. and 4., above);

i. Visual observation and sample collection exception records (see Section 5.a, 6.d, 7, and 10.b.(2), above;

j. All calibration and maintenance records of on-site instruments used;

k. All Sampling and Analysis Exemption and Reduction certifications and supporting documentation (see Section 10);

l. The records of any corrective actions and follow-up activities that resulted from the visual observations.

12. Annual Report

The discharger shall submit an Annual Stormwater Report by July 1 of each year to the Executive Officer of the Regional Water Board and to the local agency (if requested). The report shall include a summary of visual observations and sampling results, an evaluation of the visual observation and sampling and analysis results, laboratory reports, the Annual Comprehensive Site Compliance Evaluation Report required in Section 9. of Attachment "J" of Order No. R8-2009-0021, an explanation of why a facility did not implement any activities required by Order No. R8-2009-0021 (if not already included in the Evaluation Report), and records specified in Section 11., above. The method detection limit of each analytical parameter shall be included. Analytical results that are less than the method detection limit shall be reported as "less than the method detection limit". The Annual Stormwater Report shall be signed and certified in accordance with Attachment D. Federal Standard Provisions, Section V-Reporting, Subsection B. Signatory and Certification requirements of Order No. R8-2009-0021. The discharger shall prepare and submit their Annual Stormwater Reports using the annual report forms provided by the State Water Board or Regional Water Board or shall submit their information on a form that contains equivalent information.

13. Watershed Monitoring Option

Regional Water Boards may approve proposals to substitute watershed monitoring for some or all of the requirements of this section if the Regional Water Board finds that the watershed monitoring will provide substantially similar monitoring information in evaluating discharger compliance with the requirements of Order No. R8-2009-0021.

ATTACHMENT L – CHINO BASIN MAXIMUM BENEFIT COMMITMENTS

Table 5-8a of Resolution No. R8-2004-0001

Chino Basin Maximum Benefit Commitments

Description of Commitment	Compliance Date – as soon as possible, but no later than
1. Surface Water Monitoring Program	
a. Submit Draft Monitoring Program to Regional Board	a. January 23, 2005 (complied)
b. Implement Monitoring Program	b. Within 30 days from date of Regional Board approval of monitoring plan
c. Quarterly data report submittal	c. April 15, July 15, October 15, January 15
d. Annual data report submittal	d. February 15th
2. Groundwater Monitoring Program	
a. Submit Draft Monitoring Program to Regional Board	a. January 23, 2005(complied)
b. Implement Monitoring Program	b. Within 30 days from date of Regional Board approval of monitoring plan
c. Annual data report submittal	c. February 15th
3. Chino Desalters	
a. Chino 1 desalter expansion to 10 MGD	a. Prior to recharge of recycled water
b. Chino 2 desalter at 10 MGD design	b. Recharge of recycled water allowed once award of contract and notice to proceed issued for construction of desalter treatment plant
4. Future desalters plan and schedule submittal	October 1, 2005 Implement plan and schedule upon Regional Board approval
5. Recharge facilities (17) built and in operation	June 30, 2005 (Partially complied)
6. IEUA wastewater quality improvement plan and schedule submittal	60 days after agency-wide 12 month running average effluent TDS quality equals or exceeds 545 mg/L for 3 consecutive months or agency-wide 12 month running average TIN equals or exceeds 8 mg/L in any month. Implement plan and schedule upon approval by Regional Board

Table 5-8a of Resolution No. R8-2004-0001

Chino Basin Maximum Benefit Commitments (cont.)

Description of Commitment	Compliance Date – as soon as possible, but no later than
7. Recycled water will be blended with other recharge sources so that the 5-year running average TDS and nitrate-nitrogen concentrations of water recharged are equal to or less than the "maximum benefit" water quality objectives for the affected Management Zone (Chino North or Cucamonga).	Compliance must be achieved by end of 5th year after initiation of recycled water recharge operations.
a. Submit a report that documents the location, amount of recharge, and TDS and nitrogen quality of stormwater recharge before the OBMP recharge improvements were constructed and what is projected to occur after the recharge improvements are completed	a. Prior to initiation of recycled water recharge
b. Submit documentation of amount, TDS and nitrogen quality of all sources of recharge and recharge locations. For stormwater recharge used for blending, submit documentation that the recharge is the result of CBW/IEUA enhanced recharge facilities.	b. Annually, by February 15th, after initiation of construction of basins/other facilities to support enhanced stormwater recharge.
8. Hydraulic Control Failure	
a. Plan and schedule to correct loss of hydraulic control	a. 60 days from Regional Board finding that hydraulic control is not being maintained
b. Achievement and maintenance of hydraulic control	b. In accordance with plan and schedule approved by Regional Board. The schedule shall assure that hydraulic control is achieved as soon as possible but no later than 180 days after loss of hydraulic control is identified.
c. Mitigation plan for temporary failure to achieve/maintain hydraulic control	c. By January 23, 2005(complied). Implement plan upon Regional Board determination that hydraulic control is not being maintained.
9. Ambient groundwater quality determination	July 1, 2005 and every 3 years thereafter

Appendix B

INLAND EMPIRE UTILITIES AGENCY

RECYCLED WATER AND REUSE ORDINANCES

ORDINANCE No. 69

AN ORDINANCE OF THE BOARD OF DIRECTORS OF INLAND EMPIRE UTILITIES AGENCY*, A MUNICIPAL WATER DISTRICT, REGULATING THE AVAILABILITY AND USE OF RECYCLED WATER FROM THE REGIONAL RECYCLED WATER DISTRIBUTION SYSTEM

WHEREAS, The California State Legislature adopted the Recycled Water Act of 1991 with the intent of promoting the implementation of recycled water projects throughout the State of California;

WHEREAS, The Recycled Water Act of 1991 has been amended from time to time to strengthen the level of cooperation and coordination among and between the recycled water producers, the recycled water retailers, and the recycled water customers within the State of California;

WHEREAS, The Regional Sewage Service Contract, (Section 15, paragraph B) provides each Contracting Agency with the right of first purchase, for that volume of recycled water, up to the quantity of its base entitlement, that is tributary to the Regional Wastewater Treatment System from its service area;

WHEREAS, Inland Empire Utilities Agency* (IEUA*) has maintained its National Pollution Discharge Elimination Permit (a Master Recycling Permit, pursuant to Water Code Section 13523.1) and continues to own and operate the Regional Wastewater Treatment System which produces high-quality recycled water for distribution to its Contracting Agencies and certain retail customers;

WHEREAS, IEUA* has developed a Regional Recycled Water Distribution System for the delivery of recycled water to its Contracting Agencies and other customers within the IEUA* service area;

WHEREAS, The Regional Sewage Service Contract defines and declares that a wastewater collection sewer serving two or more Contracting Agencies is a regional asset, so too shall recycled water distribution pipelines serving two or more Contracting Agencies be defined as regional assets controlled and operated by IEUA*;

WHEREAS, The Regional Sewage Service Contract has made provisions for the annual review and establishment of the Regional Wholesale Recycled Water Rate associated with the ongoing operation and maintenance of both the Regional Wastewater Treatment System and the Regional Recycled Water Distribution System;

WHEREAS, The staff of IEUA*, together with the review of the Regional Advisory Committees, have committed to performing the necessary annual calculations for the preparation of such rates and adopt them as a routine task of annual budget preparation; and

WHEREAS, The Wholesale Recycled Water Rate determined annually shall be a wholesale rate. The actual retail recycled water rates are adopted by the local agency based on the cost of service.

BE IT ORDAINED by the Board of Directors of the Inland Empire Utilities Agency* as follows:

INDEX

PART I - INTRODUCTION

SECTION 101 - AUTHORIZATION

This Ordinance is enacted pursuant to the authority contained in the Municipal Water District Law of 1911; California Water Code, Section 71000 et. seq., as amended; and pursuant to the Recycled Water Act of 1991, California Water Code, commencing with Section 13575; as these documents now exist and as they may be amended from time to time.

SECTION 102 - PURPOSE

The purpose of this Ordinance is to promote the conservation of all water resources and to provide for the maximum public benefit from the use of recycled water supplies made available from the wastewater treatment facilities owned and operated by IEUA*. The use of recycled water will be encouraged and provided for uses including, but not limited to: landscape irrigation, commercial and/or industrial process, construction, groundwater recharge, wildlife habitat, recreational impoundment, agriculture, and any additional uses permitted under Title 22, Division 4, Chapter 3, Water Recycling Criteria, Section 60301 et. seq., of the California Code of Regulations.

SECTION 103 - INTENT

The Ordinance is intended to incorporate retail utility specific requirements as approved and adopted by the Contracting Agencies, water districts, and other local agencies.

This Ordinance shall also provide for the establishment of certain rules, requirements, and responsibilities, under which, recycled water service is provided and shall supplement local municipal requirements and standards.

SECTION 104 - EXTENSION OF MASTER RECLAMATION PERMIT AUTHORITY

Section 13523.1 of the California Water Code states that a recycled water supplier or distributor may be issued either waste discharge requirements or a master reclamation permit. IEUA* is a supplier of recycled water as a result of the operation of the wastewater treatment plant owned and operated under the terms of the Regional Sewage Service Contract. The IEUA* National Pollution Discharge Elimination System Permit also serves as a master reclamation permit. The Contracting Agencies, as signatories to the Regional Sewage Service Contract, shall enjoy all of the privileges and responsibilities of the master reclamation permittee. Accordingly, permittee shall be responsible for compliance with the terms and condition of the IEUA National Pollution Discharge Elimination System permit and shall indemnify and hold IEUA harmless for any fines, penalties and/or assessments arising from a violation of said permit by permittee.

SECTION 105 - DEFINITION OF TERMS

(A) APPLICANT: any person, firm, corporation, association, or agency that applies for recycled water service as provided in accordance with this Ordinance.

(B) AUTHORIZED REPRESENTATIVE: A person, group, firm, partnership, corporation, association, or agency that, pursuant to written permission, from the owner of a property, has the responsibility for establishing recycled water service for a given property.

(C) BOARD OF DIRECTORS: the Board of Directors of Inland Empire Utilities Agency* (IEUA*).

(D) CHIEF EXECUTIVE OFFICER/GENERAL MANAGER: shall mean the Chief Executive Officer/General Manager, or a duly Authorized Representative, of IEUA*.

(E) CONTRACTING AGENCY: a Public Agency that has, by due process, become a signatory to the IEUA* Regional Sewage Service Contract.

(F) DIRECT RECYCLED WATER USER: any person, group, firm, partnership, corporation, association, or agency that, pursuant to an approved Recycled Water Use Permit, directly purchases recycled water from the IEUA* Regional Recycled Water Distribution System.

(G) DOHS: State of California Department of Health Services.

(H) INDIRECT RECYCLED WATER USER: any person, group, firm, partnership, corporation, association, or agency that, pursuant to an approved Recycled Water Use Permit, purchases recycled water from the IEUA* Regional Recycled Water Distribution System by contract with a Retail Water Agency.

(I) LOCAL RECYCLED WATER DISTRIBUTION SYSTEM: a recycled water distribution system which is owned and/or operated by a Retail Water Agency; the local recycled water distribution system is generally an approved extension of the Regional Recycled Water Distribution System.

(J) NPDES PERMIT: National Pollutant Discharge Elimination System Permit issued to regulate the operation of a wastewater treatment plant, the quality of recycled water produced, and to provide a master recycling permit.

(K) OWNER: the owner of a property that is anticipated to receive or is currently receiving recycled water service.

(L) PERSON: shall mean any individual or entity including but not limited to any person, firm, company, or corporation, partnership, association, any public corporation, political subdivision, city, county, district, the State of California, the United States of America or any department or agency thereof. The singular in each case shall include the plural.

(M) RECYCLED WATER: as defined in Title 22, Division 4, Chapter 3, Water Recycling Criteria, Section 60301 et. seq., of the California Code of Regulations; water which is available as a result of the treatment of wastewater. Also as described in subdivision (n) of Section 13050 of the Water Code of the State of California, treated wastewater that is suitable for direct beneficial use or a controlled use that otherwise would not occur.

(N) RECYCLED WATER PRODUCER: any local entity that produces recycled water.

(O) RECYCLED WATER USE PERMIT: a document evidencing that an application for connection to the Regional Recycled Water Distribution System has been prepared by a Retailer and examined by IEUA* staff.

(P) RECYCLED WATER WHOLESALER: any local entity that distributes recycled water to a Retailer and which has constructed, or is constructing, a wholesale recycled water distribution system.

(Q) REGIONAL RECYCLED WATER DISTRIBUTION SYSTEM: the equipment, structures, controls, etc., used in the preparation, pumping, transmission, storage, and distribution of recycled water; owned and operated by IEUA*.

(R) RETAIL WATER AGENCY: any local entity, a public agency, or a private water company in whose service area is located the property to which a customer requests the delivery of recycled water.

(S) SERVICE: the delivery of recycled water.

(T) SERVICE CONNECTION: the IEUA* facilities or the Retailer's facilities, including but not limited to, a service valve, a meter box, a meter, and piping; between the Regional Recycled Water Distribution System and the Customer's on-site facilities, or between the Retail Water Agency's facilities and the Customers on-site facilities.

(U) WHOLESALE OF RECYCLED WATER: the transfer/sale of recycled water, from IEUA* to a Retail Water Agency.

(V) WHOLESALE RECYCLED WATER RATE: the rate for a unit of recycled water that will be set annually, by resolution of the IEUA* Board of Directors.

SECTION 106 - SEVERABILITY

If any section, subsection, sentence, clause or phrase of these rules, regulations, or requirements is for any reason found to be invalid or unconstitutional, such decision shall not affect the remaining portions of this Ordinance. The Board of Directors of IEUA* declares that it would have approved these rules, regulations, and requirements individually by section, subsection, sentence, clause, or phrase irrespective of the fact that any one or more of the sections, subsections, sentences, clauses or phrases may be declared invalid or unconstitutional.

SECTION 107 - RECYCLED WATER SERVICE AREA

This Ordinance shall pertain to the implementation and the on-going operation of the Regional Recycled Water Distribution System within the legal boundaries of IEUA's* service area, unless otherwise stated. With the expressed approval of the Board of Directors, recycled water service shall also be extended to lands, uses, and/or improvements lying outside the legal boundaries of IEUA's* service area.

PART II - RECYCLED WATER SERVICE

Part II establishes the process for the application for recycled water service. An applicant, at IEUA's discretion, may be connected directly to the Regional Recycled Water Distribution System, or may be connected indirectly to the Regional Recycled Water Distribution System via laterals that may be owned and operated by Contracting Agencies, or other Retail Water Agencies within the IEUA* service area. Records for each connection, direct or indirect, shall be consistent for all applicants.*

SECTION 201 - GENERAL

IEUA* may provide Recycled Water Service for applicants whose property falls outside of a Retail Water Agency's service area. If the applicant's property falls within a Retail Water Agency's service area the applicant shall be prepared to enter into a contact with the Retail Water Agency to apply for Recycled Water Service. Depending on the location of a given property, the lowest cost Recycled Water Service could be provided through a direct connection to the Regional Recycled Water System within the Retail Water Agency's service area or through a connection to the Retail Water Agency's local distribution system. To execute such a connection the Applicant and the Retail Water Agency shall enter a Recycled Water Service Agreement with IEUA* for Recycled Water Service on a case-by-case basis.

Whether IEUA* provides the direct delivery of Recycled Water or delivery through a local Retail Water Agency, IEUA* assumes the primary responsibility to assure that recycled water quality distributed to and utilized, in accordance with the provisions of this Ordinance, and in compliance with applicable Federal, State, and Local statutes. The Retail Water Agency shall, from the point of connection to the Regional Recycled Water Distribution System, be responsible for the recycled water quality distributed to and utilized by all subsequent connections, in accordance with the provisions of this Ordinance, and in compliance with applicable Federal, State, and Local statutes.

SECTION 202 - RECYCLED WATER USE PERMIT

To receive Recycled Water Service, a property owner or an authorized representative, of the property, that is intended to be served with recycled water, must submit a completed application for Recycled Water Service. A Recycled Water Use Permit shall be required and on file at the Retail Water Agency.

The service-area wide design criteria, for the on-going development and implementation of the recycled water systems, will be regularly scheduled for discussion at the Regional Technical Committee meetings. The design criteria will be incorporated into the Regional Recycled Water Distribution System Connection Permit.

SECTION 203 - APPLICANT'S RESPONSIBILITY

A Recycled Water Service Application must be made in writing, signed by the Applicant. In the event that the Applicant and the property owner are not one and the same, the Applicant shall have the written authorization of the property owner. By signing the Application, the

owner/applicant shall agree to comply with the requirements of any and all applicable Federal, State, and Local statutes, ordinances, regulations, and all other requirements including this Ordinance. The applicant shall, as evidenced by their signature on the application form, agree to comply with this Ordinance and any and all other applicable governing documents.

SECTION 204 - PROTECTION FROM DAMAGE

No Person shall maliciously, willfully, or negligently break, damage, destroy, impair the usefulness, uncover, deface, or tamper with any structure, appurtenance, or equipment which is a part of the Regional Recycled Water Distribution System. Similarly, no Person shall maliciously, willfully, or negligently break, damage, destroy, impair the usefulness, uncover, deface, or tamper with any structure, appurtenance, or equipment which is a part of either On-site Facilities or Off-site Facilities that could prevent the full function of the Regional Recycled Water Distribution System.

PART III - RATES

SECTION 301 - RECYCLED WATER USE CHARGE

The rate for a unit of recycled water will be set, annually, by resolution of the IEUA* Board of Directors. Said recycled water rate shall be based on the actual costs of operation of the Regional Wastewater Treatment System, the actual costs of operation of the Regional Recycled Water Distribution System, any associated administrative expenses, and anticipated costs for the next fiscal year.

SECTION 302 - BILLING AND PAYMENT

(A) IEUA* shall invoice Retail Water Agencies for actual monthly volumetric usage. Retail Water Agencies shall pay to IEUA*, within thirty (30) calendar days of the date of the postmark on the envelope within which the invoice was delivered, an amount determined by multiplying the actual quantity of recycled water delivered, by the applicable Wholesale Recycled Water Rate, as calculated on the invoice.

(B) IEUA* shall invoice a Customer, which is directly connected to the Regional Recycled Water Distribution System, for actual monthly volumetric usage. The Customer shall pay to IEUA*, within thirty (30) calendar days of the date of the postmark on the envelope within which the invoice was delivered, an amount determined by multiplying the actual quantity of recycled water delivered, by the applicable Recycled Water Rate, as calculated on the invoice.

(C) In the event the payment of an invoice for Recycled Water deliveries remains unpaid, for any reason, more than thirty (30) calendar days, it will become delinquent and a penalty of two percent (2%) of the original unpaid invoice amount shall be added to original invoice amount. The 30-day interval will be determined by either the postmark on the payment envelope or, in the case of a hand delivered payment, the date the payment is received and date stamped by the IEUA* main office receptionist (see Appendix D for

directions to the IEUA* main office). After a second 30-day period, a second penalty will be accessed, etc.

(D) Additionally, interest, at the maximum rate provided by California Government Code Section 54348 as may be amended from time to time, shall accrue commencing at the end of the 30th day after the postmark of the invoice. Interest shall accrue on the total outstanding balance: the original invoice amount plus applicable penalties.

SECTION 303 - APPEAL OF PENALTY AND/OR INTEREST CHARGES

(A) The penalty amount(s) and the interest amount(s) provided in Section 302 may be waived by the Board of Directors. To obtain such a wavier, a Customer will provide a written request for a wavier to the Board of Directors. In the written request, the Customer shall document the reasons for the delinquency of a specific invoice. After the Board of Directors makes a finding that the delinquency was caused by excusable neglect or circumstances beyond the control of the Customer, the penalty amount(s) and/or the interest amount(s) may be reduced or waived. Such a waiver will be contingent upon the reimbursement of IEUA* for any and all actual costs that may have been incurred as a result of the delinquent payment, as determined by the Board of Directors.

SECTION 304 - ERRORS

In the event an error is discovered in any Recycled Water Sales record or invoice, the Chief Executive Officer/General Manager shall initiate appropriate corrective action. If a record from a Customer is submitted, or an invoice is issued based on such a record, contains an error; then the Chief Executive Officer/General Manager shall notify the affected Customer of any adjustment and the manner of making any required credit or additional charge. Neither of which shall be subject to an interest calculation. Errors made or recorded more than three (3) years prior to discovery shall not be corrected with adjustments to amounts owed or paid; Customer files shall be updated to reflect the correction.

PART IV - ON-SITE CONTROLS

SECTION 401 - IMPLEMENTATION

To protect the health of the public and any (potential) employees of the Customer, the DOHS has promulgated guidelines and regulations. The minimum necessary on-site controls are contained in Title 22, Division 4, Chapter 3, Water Recycling Criteria, Sections 60301 et. seq., and Title 17; both of the California Code of Regulations, and in the County Public Health Code.

SECTION 402 - STATE /LOCAL REGULATIONS

Recycled water system on-site controls shall meet all of the requirements established by IEUA* and the applicable State and local regulatory agencies to protect the public health.

Plans and specifications for all proposed recycled water operations, distribution, and on-site systems shall be submitted to the applicable State and local health agencies for review and approvals before the systems are constructed.

SECTION 403 - OPERATIONAL CONTROLS

The operational controls for the use of recycled water shall be appropriate for the beneficial use as approved in the Recycled Water Use Permit. Appendix D shall be maintained with the recommended equipment and procedures to achieve the control objectives necessary for the safe and reliable delivery of recycled water.

SECTION 404 - IDENTIFICATION

(A) All recycled water valves, outlets, quick couplers, and sprinkler heads should be of a type, or secured in a manner that only permits operation by personnel authorized by the Customer.

(B) All recycled water valves and outlets should be appropriately tagged to warn the public and employees that the water is not intended nor allowed for drinking.

(C) All piping, valves and outlets should be color-coded or otherwise marked to differentiate recycled water from non-recycled water facilities.

(D) Hose bibs shall not be used in the recycled water system; quick couplers or comparable connection devices shall be used instead.

SECTION 405 - POSTING OF ON-SITE NOTIFICATIONS

Adequate means of notification shall be provided to inform the public, employees and others that recycled water is being used. Such notification shall include the posting of conspicuous Recycled Water information signage with proper wording of sufficient size to be clearly read, which shall be posted at adequate intervals around the use area. In some locations, especially at crop irrigation use areas, the Recycled Water information signs shall be in the primary language of the workers (i.e., Spanish), as well as English. Signs and means of notification shall be in compliance with DOHS regulations.

Signs shall be placed around the perimeter of the site and at such other locations on-site as deemed appropriate by the Retailer during the Recycled Water Use Permit application review.

SECTION 406 - CROSS CONNECTION PREVENTION

The Customer is responsible for following their Potable Water Purveyor's rules, regulations and/or Ordinance regarding cross connection prevention.

PART V - EFFECTIVE DATE

Upon adoption, the effective date of all provisions of this Ordinance No. 69, shall be May 18, 2000.

ADOPTED this 18th day of May, 2000.

John L. Anderson
President of the Inland Empire Utilities Agency* and of the Board of Directors thereof

ATTEST:

Anne Dunihue
Secretary of the Inland Empire Utilities Agency* and of the Board of Directors thereof

* A Municipal Water District

STATE OF CALIFORNIA)
)SS
COUNTY OF)
SAN BERNARDINO)

I, Anne Dunihue, Secretary of the Inland Empire Utilities Agency* DO HEREBY CERTIFY that the foregoing Ordinance being No. 69, was adopted at an adjourned regular Board Meeting on May 18, 2000, of said Agency by the following vote:

AYES: Dunihue, Troxel, Koopman, Anderson

NOES: None

ABSTAIN: None

ABSENT: Catlin

Anne Dunihue
Secretary

*A Municipal Water District

ORDINANCE NO. 75

AN ORDINANCE OF THE BOARD OF DIRECTORS OF INLAND EMPIRE UTILITIES AGENCY*, A MUNICIPAL WATER DISTRICT, ESTABLISHING INCENTIVES AND ENCOURAGING THE USE OF RECYCLED WATER FROM THE REGIONAL RECYCLED WATER DISTRIBUTION SYSTEM

WHEREAS, The California State Legislature adopted the Recycled Water Act of 1991, and on January 10, 2000, the Legislature established in the State Water Code Section 13500, known as and may be sited as the Water Recycling Law; Section 13550. (a), declared that the use of potable domestic water for nonpotable uses is a waste or an unreasonable use of potable water within the meaning of Section 2 of Article X of the California Constitution if recycled water is available and meets all conditions of a potential user, as determined by the State Board, pursuant to Article 2 (commencing with Section 648) of Chapter 1.5 of Division 3 of Title 23 of the California Code of regulations."

WHEREAS, Inland Empire Utilities Agency* (IEUA*) has established and operates the IEUA* Regional Water Recycling Plant treatment systems and has maintained its National Pollution Discharge Elimination Permit (a Master Recycling Permit, pursuant to Water Code Section 13523.1) and produces high-quality recycled water, having unrestricted use except for direct potable uses, for distribution to its Contracting Agencies and certain other municipal and private water retail companies;

WHEREAS, IEUA* has developed and continues expand its Regional Recycled Water Distribution System for the delivery of recycled water to its Contracting Agencies and other municipal and private water retail companies within and outside the IEUA* service area as described in the Recycled Water Feasibility Study consistent with the adopted Urban Water Management Plan and the Optimum Basin Management Program;

WHEREAS, IEUA* and it's Contracting Agencies are desirous to comply with conservation of all available water resources, therefore, IEUA and it's Contracting Agencies require the maximum reuse of recycled water for beneficial uses, and thus, agree that continued use of potable water for industrial uses and irrigation of greenbelt areas, including golf courses, parks, and highway landscaped areas, and certain other non-domestic water uses may be an unreasonable use of such water where recycled water is available;

BE IT ORDAINED by the Board of Directors of the Inland Empire Utilities Agency* as follows:

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PART I - INTRODUCTION

SECTION 101 - AUTHORIZATION

This Ordinance is enacted pursuant to the authority contained in the Municipal Water District Law of 1911; California Water Code, Section 71000 et. seq., as amended; and pursuant to the Recycled Water Act of 1991, California Water Code, commencing with Section 13575; and Section 13500, known as and may be sited as the Water Recycling Law, including Section 13550.

SECTION 102 - PURPOSE

The purpose of this Ordinance is to promote the conservation of all water resources and to provide for the maximum public benefit from the reuse of recycled water supplies made available from the Regional Water Recycling Plants (RWRPs) owned and operated by IEUA*. The use of recycled water will be encouraged and provided for uses including, but not limited to: landscape irrigation, commercial and/or industrial process, construction, groundwater recharge, wildlife habitat, recreational impoundment, agriculture, and any additional uses permitted under Title 22, Division 4, Chapter 3, Water Recycling Criteria, Section 60301 et. seq., of the California Code of Regulations.

SECTION 103 - DEFINITION OF TERMS

The following terms are defined for the purposes of this Ordinance:

(A) ADEQUATE QUALITY: Means the quality which satisfies the requirements of regulatory agencies for a particular use.

(B) AGRICULTURAL PURPOSES: Agricultural purposes include the growing of field and nursery crops, row crops, trees, and vines and the feeding of fowl and livestock.

(C) ARTIFICIAL LAKE: A human-made lake, pond, lagoon, or other body of water that is used wholly or partly for landscape, scenic or direct contact recreational purposes.

(D) COST: Means the amount paid by the customer for recycled water service.

(E) BOARD OF DIRECTORS: The Board of Directors of Inland Empire Utilities Agency* (IEUA*).

(F) CHIEF EXECUTIVE OFFICER/GENERAL MANAGER: Shall mean the Chief Executive Officer/General Manager, or a duly Authorized Representative, of IEUA*.

(G) COMMERCIAL BUILDING: Any building for office or commercial uses with water requirements which include, but are not limited to, landscape irrigation, toilets, urinals and decorative fountains.

(H) CONTRACTING AGENCY: A Public Agency that has, by due process, become a signatory to the IEUA* Regional Sewage Service Contract.

(I) DOHS: State of California Department of Health Services.

(J) FEASIBLE: Means capable of completion within a reasonable period of time for a reasonable price.

(K) GREENBELT AREAS: A greenbelt area includes, but is not limited to, golf courses, cemeteries, parks and landscaping.

(L) INDUSTRIAL PROCESS WATER: water used by any industrial facility with process water requirements which include, but are not limited to, rinsing, washing, cooling and circulation, or construction, including any facility regulated by the industrial waste discharge ordinance of the Agency.

(M) LOCAL RECYCLED WATER DISTRIBUTION SYSTEM: A recycled water distribution system which is owned and/or operated by a Retail Water Agency; the local recycled water distribution system is generally an approved extension of the Regional Recycled Water Distribution System.

(N) NPDES PERMIT: National Pollutant Discharge Elimination System Permit issued to regulate the operation of a recycled water treatment plant, the quality of recycled water produced, and to provide a Master Recycling Permit.

(O) OFF-SITE FACILITIES: Water facilities from the source of supply to the point of connection with the on-site facilities. Including the water meter.

(P) ON-SITE FACILITIES: Water facilities under the control of the owner, downstream from the water meter.

(Q) OWNER: The owner of a property that is anticipated to receive or is currently receiving recycled water service.

(R) PERSON: Shall mean any individual or entity including but not limited to any person, firm, company, or corporation, partnership, association, any public corporation, political subdivision, city, county, district, the State of California, the United States of America or any department or agency thereof. The singular in each case shall include the plural.

(S) POTABLE WATER: Water which conforms to the federal, state and local standards for human consumption.

(T) RECYCLED WATER: As defined in Title 22, Division 4, Chapter 3, Water Recycling Criteria, Section 60301 et. seq., of the California Code of Regulations; water which is available as a result of the treatment of wastewater. Also as described in subdivision (n) of Section 13050 of the Water Code of the State of California, treated wastewater that is suitable for direct beneficial use or a controlled use that otherwise would not occur.

* A Municipal Water District

(U) RECYCLED WATER CUSTOMER: Existing or future properties requiring water supply which is identified as recycled water customer per Section 204-A.

(V) RECYCLED WATER PRODUCER: Any local entity that produces recycled water.

(W) RECYCLED WATER USE PERMIT: A document evidencing that an application for connection to the Regional Recycled Water Distribution System has been prepared by a Retailer, and examined and approved by IEUA* staff.

(X) RECYCLED WATER WHOLESALER: Any local entity that distributes recycled water to a Retailer and which has constructed, or is constructing, a wholesale recycled water distribution system.

(Y) REGIONAL RECYCLED WATER DISTRIBUTION SYSTEM: The pipelines, equipment, structures, controls, etc., used in the preparation, pumping, transmission, storage, and distribution of recycled water; owned and operated by IEUA*.

(Z) RETAIL WATER AGENCY (Retailer): Any local entity, a public agency, or a private water company in whose service area is located the property to which a customer requests the delivery of recycled water.

(AA) SERVICE CONNECTION: The IEUA* facilities or the Retail Water Agency's facilities, including but not limited to, a service valve, a meter box, a meter, and piping; between the Regional Recycled Water Distribution System and the Customer's on-site facilities, or between the Retail Water Agency's facilities and the Customers on-site facilities.

(BB) SUFFICIENT QUANTITY: Means an amount of water needed to satisfy requirements without interruption.

(CC) WHOLESALE OF RECYCLED WATER: The transfer/sale of recycled water, from IEUA* to a Retail Water Agency.

(DD) WHOLESALE RECYCLED WATER RATE: The rate for a unit of recycled water that will be set annually, by resolution of the IEUA* Board of Directors.

SECTION 104 - WATER RECYCLING MASTER PLAN

(A) GENERAL: The IEUA has prepared and adopted the IEUA Recycled Water System Feasibility Study (Study), January 2002, to define, encourage and develop the use of recycled water within its service area. The Study shall be updated not less often than every five years.

(B) CONTENTS OF THE WATER RECYCLING MASTER PLAN: The Study includes, but is not limited to:

a. PLANTS AND FACILITIES: Evaluation of the location and size of present and future recycling facilities, distribution pipelines, pump stations, reservoirs, and other related facilities, including cost estimates and potential financing methods.

b. RECYCLED WATER SERVICE AREAS: A designation, based on the criteria set forth in SECTION 103, and the information derived from SECTION 105, (A) and (B) a and b, of the areas within the boundaries of IEUA that can or may in the future use recycled water in lieu of potable water. Recycled water uses may include, but not be limited to the irrigation of greenbelt and agricultural areas, filling of artificial lakes, and appropriate industrial and commercial uses.

SECTION 105 - SEVERABILITY

If any section, subsection, sentence, clause or phrase of these rules, regulations, or requirements is for any reason found to be invalid or unconstitutional, such decision shall not affect the remaining portions of this Ordinance. The Board of Directors of IEUA* declares that it would have approved these rules, regulations, and requirements individually by section, subsection, sentence, clause, or phrase irrespective of the fact that any one or more of the sections, subsections, sentences, clauses or phrases may be declared invalid or unconstitutional.

SECTION 106 - RECYCLED WATER SERVICE AREA

This Ordinance shall pertain to the on-going operation, expansion and implementation of the Regional Recycled Water Distribution System within the legal boundaries of IEUA's* service area, unless otherwise stated. With the expressed approval of the IEUA* Board of Directors, recycled water service shall also be extended to lands, uses, and/or improvements lying outside the legal boundaries of IEUA's* service area.

PART II - VOLUNTARY RECYCLED WATER USE

SECTION 201 - RECYCLED WATER SERVICE FOR CUSTOMERS

IEUA* may provide recycled water service for certain other municipal agencies or private water retail companies whose service area/property falls outside of a IEUA service area. If a customer's (recycled water user) property falls within a Retail Water Agency's service area the customer shall be prepared to accept recycled water service from the Retail Water Agency. Depending on the location of a given property, IEUA and the Retail Water Agency shall determine the method for delivery of recycled water; it may be provided through a direct connection to the IEUA Regional Recycled Water System within the Retail Water Agency's service area, or through a connection to the Retail Water Agency's local distribution system.

PART III – MANDATORY RESCYCLED WATER USE

SECTION 301 – FUTURE CUSTOMERS

In the event a development application is reviewed and found to be a suitable application for use of recycled water, but recycled water is not yet available to the property, such development permit

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shall be conditioned to require an appropriate recycled water distribution system within the project to accommodate recycled water at such time as recycled water becomes available to the site.

SECTION 302– EXISTING CUSTOMERS

(A) The Retail Water Agency's engineer and the IEUA's* engineer, in consultation with the prospective recycled water customer(s), shall implement a program of review of each parcel of property within the Retail Water Agency's service area to determine which parcels would be appropriate for using recycled water for industrial processing, landscape irrigation, or other appropriate uses by the then existing customer(s).

(B) Based on the Study, addressing the designation of each recycled water service area or the commencement of the design of new recycled water facilities, IEUA and the Retail Water Agency shall make preliminary determinations as to which existing potable water customers shall be converted to the use of recycled water. Each water customer shall be notified of the basis for determining that conversion to recycled water service will be required, as well as, the proposed conditions and schedule for conversion.

(C) In making such determination, the Retail Water Agency's engineer and the IEUA's* engineer, in consultations with the prospective recycled water customer(s), shall consider, but not be limited to, the following factors:

1. Whether recycled water is or will be available to the site.
2. Whether the uses, processes or equipment used on the site can safely and effectively be operated with recycled water.
3. Whether it is feasible to modify on-site facilities to utilize recycled water.
4. Whether the use of recycled water would be cost-effective, technically feasible and cost-competitive for prospective recycled water customers.

(D) If a property is identified as being suitable for use of recycled water and recycled water is or will be available to the site, the potential customer (property owner) shall be notified. The notice provided to a potential recycled water customer of the preliminary determination, including the proposed conditions and time scheduled for compliance shall be delivered or mailed to the potential recycled water customer.

(E) Within thirty (30) days of such notification, the potential customer (property owner or the occupant) of the property must either:

1. apply for the use of recycled water and commence the necessary work to convert to recycled water, or
2. provide satisfactory evidence to the Retail Water Agency's engineer and the IEUA's* engineer, that conversion of the site to use recycled water is not technically or economically feasible, or
3. would result in the loss of diminution of an existing water right, or
4. would be harmful to the public health, safety, welfare, or to the environment.

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(F) At the time of commencing the work, the property owner shall furnish the Retail Water Agency's engineer and the IEUA's* engineer, a schedule showing the time frame of when the conversion work will be completed. The Retail Water Agency's engineer and the IEUA's* engineer may grant an extension of time for the preparation of studies, environmental review or other good reason.

(G) OBJECTIONS / APPEALS:

1. The water customer may file a notice of objection within thirty (30) days after any notice of determination to comply is delivered or mailed to the customer, and may request reconsideration of the determination or modification of the proposed conditions or schedule for conversion.
2. The objection must be in writing and specify the reasons for the objection.
3. The preliminary determination shall be final if the customer does not file a timely objection.
4. The Retail Water Agency and the IEUA staff shall review the objection and shall confirm, modify or abandon the preliminary determination.
5. Upon issuance of a final determination by staff, customer may appeal the determination as follows:
    a. The customer may appeal to the Retail Water Agency Manager; and if not satisfied,
    b. the customer may then appeal to IEUA General Manager; the IEUA General Manager's decision shall be final.

SECTION 303 – FAILURE TO COMMENCE USE OF RECYCLED WATER

The General Manager shall identify and give notice to all persons, firms, and corporations which have failed to commence the use of recycled water obligated under the general rule, and determine the reasons for said persons, firms, or corporations for failing to take recycled water, after being offered the opportunity.

SECTION 304 – PROCEDURES FOR INSTITUTING MANDATORY SERVICE

The IEUA* Board of Directors may initiate proceedings to institute mandatory service to a person, firm or corporation as follows:

(A) The potential recycled water customer shall be notified in writing why the General Manager has determined it is feasible to convert to recycled water service; initiating a 30-day period for filing protests or requesting a waiver.

(B) After the 30-day protests and waivers period has expired, findings shall be made, and the General Manager shall request of the Agency's Board to conduct a hearing to find the conditions for mandatory use exist.

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SECTION 305 – SURCHARGE FOR FAILURE TO USE RECYCLED WATER

In the event the potential recycled water customer (property owner or the occupant) fails, neglects, or refuses to convert to the use of recycled water, such potential customer shall pay to the IEUA* a surcharge on the amount of potable water used on the site in an amount of fifty percent (50%) of IEUA's highest wholesale rate for imported water.

PART IV - FUNDING AND TECHNICAL ASSISTANCE

(A) IEUA will assist recycled water customers with the preparation of the customers Preliminary Engineering Report and permits for use of recycled water.
(B) IEUA will offer to finance a loan to the recycled water customer(s) for retrofitting the recycled water facilities at the customer's site at the interest rate available to IEUA.
(C) Loans will be made for 10 years maximum.

PART V – EFFECTIVE DATE

Upon adoption, the effective date of all provisions of this Ordinance No. 75, shall be May 15, 2002.

ADOPTED this 15th day of May , 2002.

John L. Anderson

President of the Inland Empire Utilities Agency* and of the Board of Directors thereof

ATTEST:

Anne Dunihue

Secretary of the Inland Empire Utilities Agency* and of the Board of Directors thereof

* A Municipal Water District

STATE OF CALIFORNIA)
)SS
COUNTY OF)
SAN BERNARDINO)

I, Anne Dunihue, Secretary of the Inland Empire Utilities Agency* DO HEREBY CERTIFY that the foregoing Ordinance being No. 75, was adopted at an adjourned regular Board Meeting on May 15, 2002, of said Agency by the following vote:

AYES: Anderson, Catlin, Koopman

NOES: 0

ABSTAIN: 0

ABSENT: Dunlie, Tropel

Anne Dunihue
Secretary

*A Municipal Water District

NOTICE OF PUBLIC HEARING AND INTENT TO ADOPT ORDINANCE NO. 75, ESTABLISHING INCENTIVES AND ENCOURAGING THE USE OF RECYCLED WATER FROM THE REGIONAL RECYCLED WATER DISTRIBUTION SYSTEM

NOTICE IS HEREBY GIVEN THAT the Board of Directors of Inland Empire Utilities Agency, a Municipal Water District, has indicated its intent to adopt Ordinance No. 75, establishing incentives and encouraging the use of recycled water from the regional recycled water distribution system.

The Board will consider the adoption of this ordinance at its Board Meeting on Wednesday, May 15, 2002, at 9:00 a.m., at the Office of the Agency, 9400 Cherry Avenue, Building A, Fontana, CA 92335.

NOTICE IS FURTHER GIVEN that said public hearing will be for the purpose of hearing any and all public testimony on the above-stated issue. All interested persons are invited to attend the public hearing and provide comments regarding the proposed ordinance. Oral statements will be heard but, for the accuracy of the record, all important testimony should be submitted in writing.

NOTICE IS FURTHER GIVEN that the proposed ordinance is available for public review in the Office of the Secretary of the Agency. For additional information, please contact the Agency's Executive Manager of Engineering and Planning, Tom Love at (909) 357-0241, Extension 410.

Publish: **March 29, April 30 and May 8, 2002.**

INLAND EMPIRE UTILITIES AGENCY
A MUNICIPAL WATER DISTRICT
ORDINANCE NO. 75

An ordinance of the Board of Directors of Inland Empire Utilities Agency, a Municipal Water District, establishing incentives and encouraging the use of recycled water from the Regional Recycled Water Distribution System was approved at the May 15, 2002 Board of Directors Meeting. For additional information, please contact Patti Dickenson at (909) 357-0241, Ext. 211.

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Chino Hills, CA Municipal Code

Files listed below require Adobe Acrobat Reader 4.0.

Title 13 PUBLIC SERVICES

Chapter 13.32 RECLAIMED WATER REGULATIONS

13.32.010 Definitions.

In addition to the definitions set forth in Title 22, Division 4, Chapter 3, Regulations of the California Administrative Code, the following definitions shall be applicable for this chapter.

“AFY” means acre-feet per year.

“Agricultural use” means water used for the production of crops and/or livestock and the preparation of these products for market.

“Air-gap separation” means a physical break between a supply pipe and a receiving vessel. The air gap shall be at least double the diameter of the supply pipe, measured vertically above the top rim of the vessel, and in no case less than one inch.

“Applicant” means any person, firm, corporation, association, or agency who applies for reclaimed water service.

“Application rate” means the rate at which irrigation water is applied to a design or use area, expressed in inches per hour.

“Approved check valve” means a check valve that seats readily and completely. It must be carefully machined to have free moving parts and assure water tightness. The face of the closure element and valve seat must be bronze or other noncorrodible material that will seat tightly under all prevailing conditions of field use. Pins and bushings shall be of bronze or other non-corrodible, nonsticking material. The closure element (e.g., clapper) shall be internally weighted or otherwise internally equipped to promote rapid and positive closure in all sizes where this feature is obtainable. All devices shall comply with the USC Foundation of Cross-Connection Control.

“Approved double check valve assembly” is an assembly of at least two independently acting approved check valves including tightly closing shut-off valves on each side of the check valve assembly and suitable leak-detector drains plus connections available for testing the water tightness of each check valve. All devices shall comply with the USC Foundation of Cross-Connection Control.

“Approved reduced pressure principle backflow prevention device” is a device incorporating two or more check valves and an automatically operating differential relief valve located between the two checks, two shut off valves, and equipped with necessary appurtenances for testing. The device shall operate to maintain the pressure in the zone between two check valves less than the pressure on the city water supply side of the device. At cessation of normal flow, the pressure between the check valves shall be less than the supply pressure. In case of leakage of either check valve, the differential relief valve shall operate to maintain this reduced pressure by discharging to the atmosphere. When the inlet pressure is two psi or less, the relief valve shall be open to the atmosphere, thereby providing an air gap in the device. To be approved, these devices must be readily accessible for maintenance and testing, and installed in a location where no pan of the valve will be submerged. All devices shall comply with the USC Foundation of Cross-Connection Control.

“Approved use” means an application of reclaimed water in a manner, and for a purpose, designated in a user permit issued by the city and in compliance with all applicable regulatory agency requirements.

“Approved use area” means a site, with well-defined boundaries, designated in a permit for reclaimed water service issued by the city to receive reclaimed water for an approved use and acknowledged by all applicable regulatory agencies.

“As-built drawings” means record drawings that show the completed facilities as constructed or modified.

“Automatic system” means controllers, valves, and associated equipment used to program and operate irrigation systems for the efficient application of reclaimed water.

“Auxiliary water supply” means any water supply on or available to the premises other than the approved potable water or reclaimed water supplies.

“AWWA” means American Water Works Association.

“Board” means Board of Directors of the Chino Basin Municipal Water District.

“City” means city of Chino Hills.

“City Council” means City Council of the city of Chino Hills.

“Commercial/industrial use” means water used for toilets, urinals, decorative fountains; industrial processes such as rinsing, washing, cooling, flushing, circulation, or construction; and other related uses.

“Commodity charge” means a charge imposed by the city for all reclaimed water used, whether such water use is estimated or actually metered.

“Connection fee” means a fee imposed by the city for obtaining reclaimed water service from the city reclaimed water facilities.

“Cross-connection” means any unapproved and/or unprotected connection between any part of a potable water system and any source or system containing water or other substances not approved as safe and potable for human consumption.

“Customer” means any person, group, firm, partnership, corporation, association, user, or agency who legally receives reclaimed water service from the city.

“Design area” means a site, with well-defined boundaries, proposed to receive reclaimed water for an approved use, as delineated in the application for reclaimed water service.

“Direct beneficial use” means the use of reclaimed water which has been transported from the point of production to the point of use without an intervening discharge to waters of the state.

“Discharge” means any release or distribution of reclaimed water to a use area or disposal site/mechanism (e.g., outfall, live stream discharge, municipal sewage system). All discharges of reclaimed water must be approved by the regulatory agencies.

“District” means Chino Basin Municipal Water District.

“DOHS” means San Bernardino County Department of Health Services.

“Greenbelt areas” means area including, but not limited to, parkways, parks, right-of-ways, and landscaping within and/or surrounding a community.

“HCF” means hundred cubic feet, a common unit of water volume measurement.

“Industrial process water” means water used in industrial facilities for rinsing, washing, cooling, circulation, or construction.

“Infiltration rate” means rate at which water penetrates the soil surface and enters the soil profile.

“Landscape impoundment” means a body of water containing reclaimed water which is used for aesthetic or irrigation purposes and which is not intended for public contact or ingestion.

“Landscape irrigation/use” means reclaimed water used for the propagation and maintenance of trees, shrubs, ground cover and turf. This plant material is intended for erosion control and

aesthetic value, not for resale/profit purposes.

“Nonpotable water” means water that has not been treated for, or is not acceptable for, human consumption in conformance with federal, state and local water standards. Nonpotable water includes reclaimed water.

“Off-site facilities” means existing or proposed facilities under the control of the purveyor, from the source of supply to the point of connection with the customer’s on-site facilities, normally up to and including the agency’s meter and meter box.

“On-site facilities” means existing or proposed facilities within property under the control of the customer, normally downstream of the city’s meter.

“On-site reclaimed water supervisor” means a qualified person designated by a reclaimed water user and approved by the city to be responsible for the safe and efficient operation of the user’s reclaimed water system. This person shall be knowledgeable in the construction and operation of reclaimed water and irrigation systems and in the application of federal, state and local guidelines, criteria, standards and rules and regulations governing the use of reclaimed water.

“Open space” means land that has been designated to remain undeveloped. These areas may receive reclaimed water service for landscape irrigation.

“Permit” means a processed and approved application package to, and agreement with, the reclaimed water purveyor for reclaimed water service.

“POC” means point of connection.

“Ponding” means retention of piped water on the ground surface or manmade surface for a period of time following the cessation of an approved reclaimed water use activity such that potential hazard to the public health may result.

“Potable water” means water which conforms to the latest federal, state and local drinking water standards.

“PSI” means pounds per square inch. The most common unit of pressure measurement.

“Reclaimed water” as defined in Title 22, Division 4, of the California Administrative Code, means water which as a result of treatment of wastewater, is suitable for direct beneficial use or a controlled use that otherwise would not occur. The treatment of wastewater is accomplished in accordance with the criteria set forth in that code.

“Reclaimed water facilities” means systems, structures, etc., used in the treatment, storage, pumping, transmission and distribution of reclaimed water.

“Recreational impoundment” means a body of reclaimed water used for recreational activities including, but not limited to, fishing, boating, and/or swimming. Allowable uses will depend on treatment level of the reclaimed water.

“Regulatory agency” means those public entities legally constituted by federal, state and local statutes to protect health and water quality.

“Runoff” means flow of water along the either natural or manmade surfaces of the ground off of the designated use area.

“RWQCB” means Santa Ana Regional Water Quality Control Board.

“Secondary effluent” means wastewater which has been treated by gravity sedimentation to remove settleable solids remaining after the primary biological treatment process.

“Service” means the delivery of reclaimed water to a user.

“Service connection” means city of Chino Hills facilities between the city reclaimed water distribution system and the customer’s reclaimed water service valve, including, but not limited to, the meter, meter box, valves, and piping equipment.

“Standard specifications” means specifications adopted by the city for construction of water facilities.

“Tertiary effluent” means secondary effluent which has been disinfected and filtered. Allowable uses include body contact and irrigation of human food crops.

“Unauthorized discharge” means any release of reclaimed water that violates these rules and regulations or any applicable federal, state, or local statutes, regulations, ordinances, contracts or other requirements.

“Use area” means the specific area designated to be served with reclaimed water through on-site reclaimed water facilities.

“User” means any person, group, firm, partnership, corporation, association or agency accepting reclaimed water from the city of Chino Hills reclaimed water facilities for use in accordance with this chapter.

“Windblown spray” means dispersed, airborne particles of water capable of being transmitted through the air to a location other than that for which the direct application of reclaimed water is approved. (Ord. 101 § 1 (part), 1998)

13.32.020 Introduction.

A. The city is partially dependent on imported water for domestic, agricultural, irrigation, commercial and industrial uses. This imposed supply is considered limited and its future is reliability uncertain. It is in the best interests of the city to promote and implement innovative water management strategies to conserve water resources while still satisfying water needs of the city’s customers. The city operates and maintains portions of a region-wide reclaimed water distribution network within the city’s potable water service area enabling it to provide tertiary treated reclaimed water from the district for a variety of beneficial uses. This alternate supply allows large quantities of higher quality potable water to be made available for domestic use.

B. The use of reclaimed water from domestic sewage is regulated by the California Regional Water Quality Control Board Santa Ana Region (RWQCB). California Water Code Section 13551 establishes a state policy to encourage the use of reclaimed water. Permission to use reclaimed water is based on the district’s ability to adequately treat domestic wastewater to the point that the reclaimed water (effluent) meets the requirements of existing Title 22, Division 4, Chapter 3 Regulations of the California Administrative Code. Title 22, Division 4 was promulgated by the State Department of Health Services to ensure proper health protection and specify the treatment degree to match the intended applications.

C. In accordance with waste discharge requirements for water reclamation projects, the RWQCB requires regulation measures for facilities distributing reclaimed water.

1. Purpose. The purpose of this chapter is to establish rules and regulations including procedures, specifications, and limitations for the safe and orderly development and operation of reclaimed water facilities and systems within the city’s service area.

2. Goals.

a. Achieve conservation of potable water supplies by using reclaimed water for current and future demands. Reclaimed water uses shall be for the maximum public benefit and may include, upon City Council approval and compliance with all applicable regulations:

i. Agricultural irrigation;

ii. Commercial uses;

iii. Construction use;

iv. Groundwater recharge;

v. Industrial processes;

vi. Landscape irrigation;

vii. Landscape and/or recreational impoundment;

viii. Wildlife habitat.

b. Maintain reclaimed water quality through a stringent pretreatment program for commercial and industrial wastes and by restricting brine discharges from water softeners, evaporative coolers, and other sources.

c. Prevent direct human consumption of reclaimed water through:

i. Adherence to all applicable rules and regulations;

ii. Posting of warning signs by the user;

iii. Cross-connection/backflow prevention pro-gram.

d. Control runoff of reclaimed water through monitoring of the installation and operation of all reclaimed water facilities and use areas.

e. Monitor reclaimed water quality.

3. Policy. It is the policy of the city that reclaimed water be used for any purpose approved for reclaimed water use, when it is economically, financially, technically, and institutionally feasible. Use of potable water for nondomestic uses shall be contrary to the city policy and shall not be considered the most beneficial use of a natural resource and shall be avoided to the maximum extent possible.

4. Priority. Reclaimed water shall be provided on a first-come, first-served basis, as long as reclaimed water is available. (Ord. 101 § 1 (part), 1998)

13.32.030 Right of revision.

The city reserves the right to amend this chapter as it deems appropriate. (Ord. 101 § 1 (part), 1998)

13.32.040 Administrator.

Except as otherwise provided in this chapter, the City Manager shall administer, implement, and enforce the provisions of this chapter. The City Manager may at his or her discretion, delegate any or all of these powers and duties. (Ord. 101 § 1 (part), 1998)

13.32.050 Service area.

This chapter pertains to reclaimed water service to lands and/or improvements lying within the legal boundaries of the city unless otherwise stated. The city shall provide reclaimed water service in accordance with this chapter to all areas identified in the city's Water Reclamation Master Plan including all subsequent revisions for the use of reclaimed water. Reclaimed water service shall be provided to the service area when related distribution facilities are completed and

service becomes available. (Ord. 101 § 1 (part), 1998)

13.32.060 Determination of reclaimed water use area.

A. General.

1. The city may adopt a water reclamation master plan (“Master Plan”) designated current and potential areas for reclaimed water use. The Master Plan shall be in accordance with all regulatory agency’s requirements and shall encourage reclaimed water use. The Master Plan may be reviewed and updated as needed.

2. The city may review its Master Plan and determine where water service shall be made with reclaimed water in place of potable water. Where it is determined reclaimed water is, or will be available, the city may require modifications to existing on-site water facilities and require construction of reclaimed water systems in all new developments.

3. The city may enter into agreements with surrounding cities and/or other water agencies to determine reclaimed water use areas within the service area/jurisdiction of those entities.

B. Existing Potable Water Service.

1. Upon adoption of this chapter, and each update of the city’s Master Plan, the city may make determinations of areas where existing potable water use shall be made with reclaimed water.

2. A notice of the determination to use reclaimed water shall be sent to the current owner explaining the city’s reasons for use and resultant procedures needed to facilitate reclaimed water use. The owner shall have one hundred eighty (180) days to comply with the city’s determination. The city may allow for an extension if warranted.

C. New Reclaimed Water Service. Upon submittal by applicant of a tentative map, land use permit, or request for reclaimed water service, the city shall review the Master Plan and make preliminary determinations if reclaimed water service should be provided to the area in question. (Ord. 101 § 1 (part), 1998)

13.32.070 Authorized uses.

In accordance with the goals of the city, as stated in this chapter, the uses of reclaimed water shall include only uses approved by the California State Department of Health Services (DOHS) and for which Title 22, Division 4, Chapter 3, “Wastewater Reclamation Criteria” of the California Code of Regulations provides treatment requirements. Each such use will be considered for approval on a case-by-case basis. Prior to approval and at its discretion, the city may set forth specific requirements as conditions to providing service, which may require specific prior approval from the CBMWD and/or other appropriate regulatory agencies. (Ord. 101 § 1 (part), 1998)

13.32.080 Conditions of service.

Reclaimed water service shall be provided by the city only if a permit for such service is obtained in the manner provided in this chapter. Reclaimed water service shall be available, provided, and used in accordance with other applicable codes, rules, and regulations. If any of the following conditions of service are not satisfied at all times, the permit for reclaimed water service may be revoked by the city after which all reclaimed water service shall cease in the manner described in this section. Connection to a potable water system will not be allowed.

A. Financial. Conditions relating to service fees and billing shall be the same as established for the potable water system. Rates for reclaimed water service shall be established by resolution of the City Council of the city.

B. Operational.

1. Liability. The city shall not be liable for any damage by reclaimed water use or resulting from:

a. Defective plumbing;

b. On-site facilities failures;

c. High or low pressure conditions;

d. Interruptions of service.

2. Service Basis. All reclaimed water will be provided to the user in the conditions and quantity specified in the permit for reclaimed water service. Reclaimed water use will not be subject to the same restrictions as potable water during drought conditions.

C. Regulatory. Reclaimed water service may be terminated whenever the quality of the reclaimed water does not comply with the requirements of the regulatory agencies, this chapter or other applicable codes. (Ord. 101 § 1 (part), 1998)

13.32.090 Other applicable codes and conditions.

A. For regulations that are the same between potable and reclaimed water, use applicable federal, state, and local regulations or sections of such regulations, already adopted for potable water systems by the city.

B. Other applicable guidelines, rules and regulations, ordinances, specifications that govern the use of reclaimed water:

Agency/ Organization	Document Number	Document Title
Chino Basin MWD	Ordinance No. XX	Regional Reclamation Ordinance For Reclaimed Water Service
Calif. DOHS	Title 22 Div. 4	Water Reclamation Criteria
Calif. DOHS	Title 17	Regulations Relating to Cross-Connections
California-Nevada Section, AWWA	--	Guidelines For Distribution Of Non-potable Water
Foundation For Cross-Connection Control	--	Manual Of Cross-Connection and Hydraulic Research, University of Southern California, School of Engineering

(Ord. 101 § 1 (part), 1998)

13.32.100 Permit application process.

A. A completed application for reclaimed water service must be submitted to the city by the owner, or authorized representative of the property which is intended to be served with reclaimed water. Approval for service shall be indicated by the city issuing a permit for reclaimed water service. This permit shall be in addition to permits and conditions required by the city and all other regulatory agencies.

B. The city shall furnish the application form upon request by prospective users. The application shall supply information concerning:

1. Applicant's relationship to the subject property as legal owner, tenant, or lessee;

2. Description of reclaimed water use on the property;

3. Legal description of property;

4. Technical information (listed on the application form);

5. Total irrigated acres;

6. Special conditions (items that could be of concern when using reclaimed water);

7. A drawing of the property on one eight and one-half inches by eleven (11) inches paper sheet. Include/show:

a. Location of service connection, reclaimed and potable water main line,

b. Size of service connection,

c. Use area location,

d. Areas served with reclaimed water and areas excluded from reclaimed water service,

e. A brief description of all special construction requirements.

C. The applicant shall state by signature on the application form that he or she agrees to comply with this chapter and any and all other applicable governing documents.

D. The following items are to be included in an application package:

1. Completed application form;

2. Required drawing(s);

3. Required fees and deposits;

4. Special conditions.

E. Upon receipt of a completed application package, the city shall review the material, respond, and forward the application to the CBMWD's General Manager or designated representative within forty-five (45) calendar days of receipt of the application package. The city may research any additional information it deems necessary. The city shall determine if the property to be served is in a suitable area for reclaimed water use and if the necessary quantity and quality of reclaimed water can be made available to the applicant. The city may prescribe specific requirements of the applicant for service which may concern:

1. Additional facilities to be constructed;

2. Manner of construction;

3. Financial responsibility;

4. Use of reclaimed water.

F. Upon successful completion of its review, the District shall submit the application package to the Santa Ana Regional Water Quality Control Board (RWQCB) and the San Bernardino County DOHS for their approval. Upon approval of the application package by the RWQCB and the San Bernardino County DOHS, the applicant will be requested to submit detailed construction plans

(blueprints), construction schedule, and pay required fees to the city.

G. The city will issue a permit for reclaimed water service. The permit shall be a binding agreement between the city and the user. A new application must be submitted to reinstate a permit that has been canceled. (Ord. 101 § 1 (part), 1998)

13.32.110 Permits.

A city permit for reclaimed water service must be obtained by the user to receive reclaimed water on any property. Permits to receive reclaimed water service or any connection for service issued under this chapter pursuant to receipt of an application for such service shall be subject to the following conditions:

A. The applicant shall adhere to requirements prescribed by this chapter and to all additional requirements prescribed by all governing agencies pertaining to reclaimed water service.

B. The applicant shall pay specified connection fees, service line charges, and other charges prior to issuance of the permit.

C. The city may schedule reclaimed water use. Such scheduling may involve programming deliveries to different users and/or to various portions of a single user on-site system. Any scheduling shall consider applicable constraints of all involved regulatory agencies, this chapter, and the operating constraints of the affected users.

D. The city may temporarily terminate reclaimed water service at any time water at the terminal point of the District's reclamation plant does not meet the requirements of the regulatory agencies. Reclaimed water service would, in such case, be restored when the reclaimed water meets the governing requirements at the terminal point of the treatment plant. The city and the District may provide reclaimed water service from other approved sources. In addition, approved air gap separations may be used to provide potable water to the reclaimed water system to ensure water service.

E. The city may apply for and process all applicable regulatory agency permits. The cost and preparation of any study or report necessary to comply with California Environmental Quality Act (CEQA) or other regulatory requirements shall be the responsibility of the applicant.

F. The use permit shall become valid only after the project has been completely constructed, tested, and approved by the involved agencies.

G. A copy of the current permit must be available for review at all times, clearly visible at the site and on file at the user's office.

H. The use permit shall include the following:

1. Name and address of owner and user;

2. A statement that no changes in the proposed system will be undertaken without application and issuance of an amended city permit;

3. A statement that the applicant recognizes potential penalties for violation of this chapter and/or regulations of any regulatory agencies;

4. Specific quantity of reclaimed water to be used. Identify the following:

a. Average annual hundred cubic feet (HCF) used,

b. Maximum gallons per minute (GPM) needed at the point of connection (POC) as shown on the plans;

5. Permitted/approved uses;

6. Property location and estimated irrigated acres.

I. The use permit shall stay in effect indefinitely, but shall be canceled if:

1. A change of ownership occurs;

2. A change of user occurs;

3. A change of reclaimed water use occurs;

4. A violation of this chapter and/or other regulatory agencies occurs, which results in a system turn-off. (Ord. 101 § 1 (part), 1998)

13.32.120 Rates, fees, charges, and deposits.

A. General. All rates and charges relating to reclaimed water service shall be established by resolution of the City Council. Applicants for reclaimed water service shall pay their fair share for the construction of facilities needed to deliver reclaimed water to the applicant's property. All fees and estimated construction costs shall be paid prior to construction; however, the city may reimburse the applicant for a portion of the cost of such facilities as set in subsection D of this section.

B. Change of Rates or Charges. The city reserves the right to change the schedule of reclaimed water rates, service charges, and any other charges, deposits, or fees at any time. These charges are subject to the terms of any existing reclaimed water service permits (and/or agreements) and will be made by appropriate action of the city.

C. Temporary Service. The reclaimed water rate for all water sold through temporary meters shall be established by resolution of the City Council.

D. Financial Participation By City. Under certain circumstances, the city may contribute to the cost of constructing the facilities needed to deliver reclaimed water to an applicant's property. Subject to the availability of funds, the city may:

1. Reimburse an applicant for costs incurred to install oversized facilities;

2. Elect to participate in or construct supply lines, main lines, reservoirs, pumping stations or other facilities, as it determines necessary, and/or as funds are available. (Ord. 101 § 1 (part), 1998)

13.32.130 Size, location and installation of service line.

A. The city reserves the right to determine the size and location and/or type of:

1. Reclaimed water service lines;

2. Service connections;

3. Meters;

4. Backflow protection devices and other appurtenances in the service area.

B. The reclaimed water service lines shall be extended to an area abutting upon a public street, highway, road or city easement in which reclaimed water mains are installed. (Ord. 101 § 1 (part), 1998)

13.32.140 Service connection limitations.

Permits for reclaimed water service shall be issued under the following conditions:

A. The city reserves the right to limit the area of land under one ownership or homeowner's association to be supplied by one reclaimed water service connection and one reclaimed water meter.

B. A reclaimed water service connection and its corresponding meter shall not be used to supply adjoining property of a different owner.

C. A service connection shall not be used to supply adjoining property of a different owner or to supply property of the same owner across a road, street or other public right-of-way. When a property which is provided with a reclaimed water connection and corresponding meter is subdivided, such connection and meter shall be considered as serving the lot or parcel of land on which the meter is located. Additional reclaimed water mains and/or reclaimed water service lines will be required for all subdivided areas in accordance with this chapter.

D. Irrigation systems in homeowner's asso-ciations and other developments where landscaping around homes and in common areas are served with one meter shall be allowed to cross under roads, streets, or other right-of-ways within the association's or developer's property.

E. All reclaimed water used on any property where a meter is installed must pass through the meter. Customers shall be held responsible and charged for all reclaimed water passing through their meters.

F. Every reclaimed water service line installed shall be equipped with a curb stop or wheel valve on the inlet side of the meter. The valve or curb stop is to be used only by city personnel to control the reclaimed water supply through the water service line. If the wheel valve or curb stop is damaged by the customer, then the customer shall bear full financial responsibility for replacement.

G. When a reasonable service pressure would not be available to on-site facilities not previously served from the potable water system, the user shall be responsible for correcting this situation upon conversion to the reclaimed water system. If available service pressure is too high, the user shall utilize pressure regulator(s) downstream of the meter to obtain the correct pressure. If available pressure is too low, the user shall provide booster pumping to increase the pressure. When a reasonable service pressure would not be available to on-site facilities previously served from the potable water system, correcting this situation upon conversion to the reclaimed system shall be handled as follows:

1. If user-provided booster pumping or pressure regulation was required for on-site facilities when service was provided from the potable system then any booster pumping or pressure regulation required for reclaimed water service shall be provided by the user.

2. If reasonable service pressure was available for the on-site facilities when service was provided from the potable system, then any action needed to provide reclaimed water service shall be considered on a case-by-case basis in conjunction with the city.

H. Service is commenced after issuance of a permit for reclaimed water service by the city. (Ord. 101 § 1 (part), 1998)

13.32.150 Relocation of reclaimed water service lines.

Should a reclaimed water service line installed according to the directions of the applicant, owner, or customer (user) be of the wrong size or installed at a wrong location or depth, the cost of relocation or removal shall be paid for by the user where the error was that of the user or the user's representative. All services provided prior to final street improvements shall be considered temporary and the costs for any repairs or changes to on-site facilities required to be performed by the city shall be paid by the user. (Ord. 101 § 1 (part), 1998)

13.32.160 Protective measures.

A. The following provisions are to protect the city's potable and reclaimed water supplies against actual, undiscovered, unauthorized, or potential cross-connections to the user's reclaimed water system. These provisions are in addition to, not in lieu of, the controls and requirements of other regulatory agencies. These provisions are in accordance with Title 17 (Public Health) of the California Administrative Code. These regulations are intended to protect the city water supplies and are not intended to provide regulatory measures for protection of users from the hazards of cross-connections within their own property.

B. Approved backflow prevention devices on the city's potable and reclaimed water services to the property, as required in these provisions, shall be provided, installed, tested, and maintained at user expense. These devices shall be located on the property served immediately downstream of the meter and shall not be on the city's facilities. All devices shall be readily accessible for testing and maintenance.

C. When reclaimed water service is initiated, the applicant must provide sufficient information, including plumbing and building plans, to enable the city and other regulatory agencies to determine the level of backflow protection required. The proper backflow protection as determined by the city and other regulatory agencies shall then be installed and inspected before reclaimed water service is provided. Each time there is a change of customer (either owner or tenant) on any commercial or industrial premise, the user shall notify the city immediately. The city will then reassess the level of protection required. Also, any alterations to existing on-site facilities that may affect required protection level must be reported immediately to the city.

D. At their discretion, representatives of any health agency having jurisdiction, the city, and CBMWD may conduct surveys of any property where water service is provided by the city. These surveys are to determine if any actual or potential cross-connections exist. The applicant, owner, or user shall provide full cooperation in facilitating these surveys.

1. Where Protection is Required. Approved backflow protection for potable water supplies shall be provided as follows:

a. Each city water service connection that supplies potable water to a premises having an auxiliary water supply that is not accepted as a potable source by the city and is approved for such use by the San Bernardino County DOHS shall be protected against backflow from the premises into the city water systems.

b. Each city water service connection for supplying potable water to a premises on which any substance is handled in a fashion as to permit entry into the city water system from the premises shall be protected against backflow from the premises into the city water system. This shall include, but not be limited to, the handling of process waters, waters originating from any of the city water systems that have been subject to deterioration in quality, and agricultural use.

c. Backflow devices shall be installed where premises have intricate plumbing and piping arrangements or where not all portions of the premises are readily accessible for inspection.

d. Backflow protection may be required at premises where there has been a history of cross-connections being reestablished.

2. Other Measures.

a. Whenever possible the city will operate the reclaimed water system at a lower pressure than potable water systems. This will cause potable water to flow to the reclaimed water system in the event of a cross-connection.

b. Water meters and backflow devices used for reclaimed water service shall be tagged or color-coded purple, color pantone 512 or 522, or otherwise distinguished as such. These meters shall not be interchanged or used for potable water service after repairs and/or meter testing have been performed.

c. Periodic inspection of the reclaimed water facilities will determine if all identifying items are still clearly discernible. If not, they will be replaced, repaired or refurbished as needed. These items include:

i. Warning tags;

ii. Painted surfaces;

iii. Warning tape;

iv. Identification tape;

v. Covers, caps, signs;

vi. Other items that indicate reclaimed water is being used.

d. Acceptable tracer dyes may periodically be introduced into the reclaimed water system by the city, CBMWD or local health agency, to determine the existence of any cross-connections or backflow conditions into the potable water system.

e. In the event of contamination or pollution of a city potable water system due to a cross-connection or other failure, the San Bernardino County DOHS and the city shall be promptly notified so that appropriate measures will be taken to correct the problem.

f. The state and county health departments and the city shall be kept informed by written document of the identity of the person responsible for the user's reclaimed water system on all premises concerned with these rules and regulations. At each authorized use area, an on-site Reclaimed Water Supervisors shall be designated and responsible for including, but not limited to, the following:

i. The installation and use of all components of the on-site reclaimed water system(s);

ii. Prevention of cross-connections;

iii. Change in use of reclaimed water.

3. Water Service Termination. When the city determines that reclaimed water uses or conditions encountered by the city represent a clear and immediate hazard to the city's potable and/or reclaimed water supply that cannot be immediately removed or corrected, the city shall reserve the right to terminate reclaimed water use. Conditions or uses that create a basis for termination include, but are not limited to:

a. Refusal to install a required backflow prevention device;

b. Refusal to test a backflow prevention device;

c. Refusal to repair or replace a faulty backflow prevention device;

d. Direct or indirect connection between the potable and reclaimed water systems;

e. Direct or indirect connection between the reclaimed water system and a system or equipment containing contaminants;

f. A situation which presents an immediate health hazard to the city potable and/or reclaimed water system, as determined by the city, CBMWD, or other regulatory agency. (Ord. 101 § 1 (part), 1998)

13.32.170 Type of protection.

The level of protection required is related to the degree of hazard that exists on the premises served. Listed in increasing levels of protection, the following protective backflow devices may be required: double check valve (DC), reduced pressure principle device (RPPD), and an air gap separation (AG). The user may choose a higher level of protection than required by the city or other regulatory agencies. Minimum types required, relative to various situations, are listed below. Situations not listed will be evaluated on a case-by-case basis and the appropriate level of protection required shall be determined by the city or the San Bernardino County Department of Health Service. These shall include situations where on-site conditions could impact the reclaimed water quality.

Degree of Hazard	Required Minimum Backflow Prevention
A. Sewage and Hazardous Substances	
Premises where the on-site potable water supply system is used to supplement reclaimed water supply.	AG
Premises where there are wastewater pumping and/or treatment plants and there is no interconnection with the potable water system. This does not include a single-family residence that has a sewage lift pump. An RPPD may be provided in lieu of an AG if approved by the health agency, and city.	AG
Premises where hazardous substances are handled in any manner in which the substance may enter the potable water system. This does not include a single-family residence that has a sewage lift pump. An RPPD may be provided in lieu of an AG if approved by the health agency, and city premises where there are irrigation systems into which fertilizers, herbicides, or pesticides are, or can be, injected.	
B. Premises where entry is restricted so that cross-connection inspections cannot be made with sufficient frequency or at sufficiently short notice to assure that cross-connections do not exist.	RPPD
C. Premises where there is a repeated history of cross-connections being established or reestablished.	RPPD
D. Premises where the fire system is supplied from the city water system and there is an unapproved auxiliary water supply on or to the premises.	DC
E. Premises where the fire system is supplied from the city water system and interconnected with an unapproved auxiliary water supply. An RPPD may be substituted for an AG if approved by the San Bernardino County DOHS.	AG
F. Premises where the fire system is supplied from the city water system and where either elevated storage tanks or fire pumps which take suction from private reservoirs or tanks are used.	DC

(Ord. 101 § 1 (part), 1998)

13.32.180 Inspection and maintenance of protective devices.

The user is responsible for inspection and testing of all backflow prevention devices at least once a year, or more often in those instances where successive inspections indicate repeated failure.

All inspections shall be performed at the user's expense by a tester certified by the County Health Department. These devices shall be repaired, overhauled, and/or replaced at the expense of the user whenever they are found to be defective. These devices shall also be tested immediately after they are installed, relocated, or repaired. The user shall maintain records of all such tests, repairs, and overhauls. These records shall be made available to the Department of Health Services upon request and sent to the city annually. (Ord. 101 § 1 (part), 1998)

13.32.190 Facilities design.

A. The design of off-site facilities including the preparation of plans and construction specifications shall be the responsibility of a civil engineer registered in the state of California. The design of customer (on-site) facilities that will use reclaimed water, and preparations of plans and construction specifications, shall be the responsibility of a landscape architect or civil engineer registered in the state of California.

B. Before the city grants final acceptance of any system using reclaimed water, as-built drawings shall be provided. The installed system shall be tested in accordance with the city standard specifications to ensure that the system is in full compliance with these rules and regulations.

1. General.

a. All off-site and on-site reclaimed water facilities shall be designed and constructed according to the requirements, conditions, and standards as adopted in the city standard specifications to ensure that the system is in full compliance with this chapter. Reclaimed water systems, both on-site and off-site, shall be separate and independent of any potable water systems.

b. Where the premises contain dual or multiple water systems, the exposed portions of pipelines shall be identified at sufficient intervals to distinguish clearly which water is safe for drinking purposes and which is not safe.

c. Areas irrigated with reclaimed water must be completely separate from domestic water wells and reservoirs. Reclaimed water shall not be allowed to migrate to within fifty (50) feet and no impoundment of reclaimed water within one hundred (100) feet of any domestic water supply well.

d. Adequate means of notification should be provided to inform the public, employees, and others that reclaimed water is being used. Conspicuous signs with appropriate wording that can be clearly read should be placed at adequate intervals around the authorized use area.

i. Golf courses should print messages on score cards in a different color indicating reclaimed water is being used. Water hazards containing reclaimed water should be posted with appropriate signs.

ii. Languages, other than English, should be used on signs when appropriate.

2. Off-Site Facilities.

a. Any off-site reclaimed water distribution facilities required to serve development, shall be provided by the applicant, owner, or user at their expense, unless the city determines it is a city benefit to construct these capital facilities.

b. Plans and specifications for all reclaimed water distribution facilities shall be submitted to and approved by the city, and other regulatory agencies in advance of construction. The city will assume responsibility for providing reclaimed water service to the point of connection of such development upon transfer to the city of title to all off-site reclaimed water systems and any necessary easements. All easements shall be in a form acceptable to the city, not subject to outstanding obligations to relocate such facilities or any deeds of trust, except in instances where such is determined by the city to be in the best interest of the city.

c. The property owner, proponent, or developer may request that the city enter into a

reimbursement agreement for the portions of a system which are required to be oversized with capacity to supply more reclaimed water than the property owner, proponent or developer requires. The decision to enter into a reimbursement agreement shall be made by the city.

3. On-Site Facilities. Any on-site reclaimed water facility shall be provided by the applicant, owner, or user at his or her expense. Applicant, owner or user shall retain title to all on-site facilities. When the city standard specifications require a higher quality of material, equipment, design or construction method than that required by other governing codes, rules and regulations, the city standard specifications shall take precedence. On-site reclaimed water facilities shall conform to local governing codes, rules and regulations.

4. Interim Service. In areas where reclaimed water is not immediately available, when the use area is ready for construction and if the city has determined that reclaimed water will be supplied in the future, on-site facilities shall be designed to use reclaimed water. Provisions shall be made and this chapter followed to allow for connection to the city off-site reclaimed water facilities. In the interim, potable or other suitable water may be supplied to the on-site facilities through an interim service connection.

a. Conditions of interim service are:

i. The city anticipates reclaimed water will be available to the site in which interim service is initiated.

ii. The applicant must obtain a city permit for reclaimed water service.

iii. The applicant must agree to perform all work necessary to make connections to the permanent reclaimed water system(s) once it is installed.

b. An approved backflow prevention device is required on the interim service. The backflow preventer shall be at the POC with the interim supply system. The city will remove the interim connection at the user's expense and will make the connection to the on-site facilities when reclaimed water becomes available.

c. Future reclaimed water customers will pay for the following:

i. Cost of constructing and abandoning the interim service;

ii. Applicable reclaimed water fees at the time service becomes available;

iii. Applicable interim water rates for the type of water delivered through the interim service.

d. When reclaimed water is available to the site, an inspection of the on-site facilities will be conducted by the city to verify that the facilities have been adequately maintained and are in compliance with the reclaimed water use permit. Reclaimed water service shall be provided upon verification of compliance. If the facilities are not in compliance, the city shall notify the user to correct the situation. (Ord. 101 § 1 (part), 1998)

13.32.200 Construction.

A. New. Construction of all new reclaimed water systems, both on-site and off-site, shall follow the city standard specifications.

B. Conversion to Reclaimed Water Use. Where it is planned that an existing nonreclaimed water system be converted to a reclaimed water facility, the facilities to be converted to reclaimed water shall be investigated in detail at the user's expense. On a case-by-case basis, the city shall review the as-built drawings, prepare required reports for the user, and determine the measures necessary to bring the system into full compliance with this chapter. The San Bernardino County DOHS shall also review and approve all conversions. No existing potable water facilities shall be connected to or incorporated into the reclaimed water system without city and other regulatory agency testing and approval.

C. Conversion From Reclaimed Water Use. If the city determines it necessary to convert on-site facilities from a reclaimed water supply to a potable or other water supply, due to on-site failure of the reclaimed water system or use violations, it shall be the responsibility of the user to pay all costs for such conversion, unless determined otherwise by the city. Conversion costs shall include, but not be limited to the following:

1. Isolation of the Reclaimed Water Supply. Service shall be removed and plugged by the city, at the city main, or abandoned in a manner approved by the city;

2. Installation of Approved Backflow Prevention Devices. The user shall install approved backflow devices on all potable or other water meter connections;

3. Removal of Any/All Special Reclaimed Water Quick Couplers. The user shall be responsible for replacement with quick couplers approved for potable water systems;

4. Notification to all on-site personnel involved;

5. Removal of all warning labels/signs;

6. Distribution system flushing with approved water quality analysis as required by the San Bernardino County DOHS;

7. Installation of all potable water lines and facilities and payment of any fees. (Ord. 101 § 1 (part), 1998)

13.32.210 Emergency connection to reclaimed water system.

A. If the city determines an emergency exists where all or parts of the reclaimed water system are unable to provide reclaimed water, the city may approve a temporary connection to the potable water system. Before such temporary connection is made, the portion without reclaimed water shall be isolated by an air gap separation from the remainder of the reclaimed water system. This isolation shall occur at either individual services or on the off-site system, as determined by the city. An approved backflow prevention device or other devices as directed shall be installed on the potable water lines in accordance with this chapter and all other applicable regulations of the governing agencies. The emergency connection shall be removed before connection is reestablished to the reminder of the reclaimed water system.

B. Reestablishment of reclaimed water service must be inspected and approved by the city prior to resuming delivery of reclaimed water.

C. Supplemental emergency supplies will be delivered at the rate then in effect for the type of alternate water used. (Ord. 101 § 1 (part), 1998)

13.32.220 Off-site facilities.

Operation, maintenance and surveillance of all city off-site reclaimed water systems including but not limited to, reclaimed water pipelines, valves, connections, storage facilities, and other related equipment and property up to and including the meter, shall be under the management and control of the city. No other persons except authorized representatives of the city or CBMWD shall have the right to enter upon any of the city or CBMWD off-site facilities. Only city personnel and their representatives shall operate, adjust, change, alter, move or relocate any portion of the off-site reclaimed water systems. (Ord. 101 § 1 (part), 1998)

13.32.230 On-site facilities.

A. General. The operation, surveillance, repair, and maintenance of all customer reclaimed water facilities are the responsibility of the user. The user’s designated on-site Reclaimed Water

Supervisor shall bear this responsibility. The city and/or regulatory agencies shall monitor in inspect all on-site reclaimed water facilities, and for these purposes shall have the right to enter upon the user's premises. When necessary, keys and/or lock combinations shall be issued to the city to provide such access upon a request during normal business hours of operation.

B. The user shall have the following responsibilities pertaining to operation of on-site facilities:

1. To ensure that all operations personnel are trained and knowledgeable regarding the use of reclaimed water;

2. To furnish all operations personnel with maintenance instructions, irrigation schedules, controller charts, and as-built drawings to ensure proper operation in accordance with the on-site facilities design and the rules and regulations of all regulatory agencies;

3. To prepare and submit to the city one reproducible set of as-built drawings;

4. To notify the city of all updates or proposed changes, modifications, or additions to the on-site facilities. All updates and proposed changes shall be approved by the city prior to construction in accordance with city procedures. All updates and proposed changes shall comply with this chapter and governing documents of all other regulatory agencies;

5. To ensure that the operation and maintenance of all reclaimed water facilities remain in accordance with this chapter and other documents governing reclaimed water systems within the city;

6. To operate and control the system in order to prevent direct human consumption of reclaimed water and to control and limit runoff. The applicant, owner, or user shall be responsible for any and all subsequent uses of the reclaimed water. Operation and control measures to be utilized in this regard shall include, but not be limited to:

a. On-site reclaimed water facilities shall be operated to prevent or minimize discharge onto areas not under control of the user so as to minimize public contact. Full circle sprinklers shall not be used adjacent to sidewalks, roadways, and property lines in order to confine the discharge to the use area,

b. The operation of the on-site reclaimed water facilities shall be during periods of minimal human use of the service area. Consideration shall be given to allow a maximum dry-out time before the irrigated area will be used by the public. For agricultural operations, the soil moisture reservoir shall be depleted (dried) by at least thirty (30) percent before harvest,

c. Adequate first aid kits shall be available on the premises. All cuts and abrasions shall be promptly treated to prevent infection,

d. Reclaimed water shall be applied at a rate that does not exceed the infiltration rate of the soil. Where varying soil types are present, the design and operation of the reclaimed water facilities shall be compatible with the lowest infiltration rate of the soils present,

e. When the application rate exceeds the soil infiltration rate, automatic controller systems shall be utilized to minimize ponding and runoff of reclaimed water. Total sprinkler run times shall not be greater than the time needed to supply the landscape's water requirements. If runoff occurs before the landscape's water requirements are met, the automatic controllers shall be reprogrammed with additional watering cycles of shorter duration to meet the requirements. This method of operation is intended to control and limit runoff,

f. The user shall report to the city any and all failures in the reclaimed water system(s) that cause an unauthorized discharge of reclaimed water,

g. All drinking fountains located within the approved use area, designated by the user permit, shall be protected from contact with reclaimed water to the maximum extent possible. Windblown spray, direct application through irrigation, or other approved uses are considered sources of reclaimed water. Protection shall be by design, construction practice, or system operation,

h. Facilities that may be used by the public, including but not limited to, eating surfaces, playground equipment, and located within the approved use areas designated by the use permit, shall be protected from contact with reclaimed water to the maximum extent possible. Windblown spray, direct contact by irrigation application, or other approved use are considered sources of reclaimed water. Protection shall be by design, construction practice, or system operation.

C. The user shall enforce the following prohibitions:

1. Cross-Connections. Cross-connections, as defined by the California Administrative Code, Title 17, resulting from the use of reclaimed water or from the physical presence of a reclaimed water service, whether by design, construction practice, or system operation, are prohibited.

2. Disposal in Unapproved Areas. Disposal of reclaimed water for any purposes, including approved uses, in areas other than those specifically approved in the currently effective user permit issued by the city, and without the prior knowledge and approval of the governing regulatory agencies is prohibited.

3. Fire Hydrants. Use or installation of fire hydrants on any user water system that presently operates or is designed to operate with reclaimed water, regardless of the fire hydrant construction or identification, is prohibited.

4. Hose Bibs. Use or installation of permanent hose bibs on any user water system that presently operates or is designed to operate with reclaimed water, regardless of the hose bib construction or identification is prohibited. Hose bibs may be used only on quick couplers.

5. Ponding. Conditions that directly or indirectly cause reclaimed water to pond either within or outside of the approved use area, whether by design, construction practice, or system operation are prohibited.

6. Runoff. Conditions that directly or indirectly cause runoff of reclaimed water onto areas outside of approved use areas, whether by design, construction practice, or system operation are prohibited.

7. Unapproved Uses. Uses of reclaimed water for any purposes other than those specifically approved, in the currently effective user permit issued by the city, and without the prior knowledge and approval of the governing regulatory agencies is prohibited.

8. Windblown Spray. Conditions that directly or indirectly permit windblown spray to pass outside of the approved use area, whether by design, construction practice, or system operation are prohibited. (Ord. 101 § 1 (part), 1998)

13.32.240 Monitoring and inspection.

The manager or authorized representatives of the city shall monitor and inspect the entire reclaimed distribution facility, including both off-site and on-site facilities. The city shall conduct monitoring programs, maintain records as deemed necessary, inspect on-site facilities for compliance with these rules and regulations, and provide reports as requested by the regulating agencies. For these purposes, the manager or authorized representatives of the city shall have the right to enter upon the user's premises during reasonable hours to inspect on-site reclaimed water facilities and approved use areas. Reasonable hours shall include hours when irrigation is occurring. The city, CBMWD, RWQCB, and San Bernardino County DOHS shall have the right to enter upon the user's premises during reasonable hours, from time to time, to verify that the user's irrigation practices conform with this chapter and its rules and regulations. (Ord. 101 § 1 (part). 1998)

13.32.250 Maintenance responsibility.

A. Reclaimed Water System. The applicant, owner, or user is responsible for maintaining all on-

site facilities that are under the ownership of parties other than the city.

B. Obstruction in Meter Boxes. No person shall place, dispose, deposit or permit the placement, disposal, deposit of oil, toxic, hazardous or contaminated liquid or waste, trash, soil, building materials or other substances, objects, or obstructions in, on, or around meter boxes or other city facilities. No person shall allow or permit meter boxes or other city facilities from becoming obstructed or obscured by trees, shrubs, plants or in any other manner so as to impede their use or access to them or make their location difficult to determine. If such substances, objects, or obstructions are not cleaned and removed or are permitted to obscure or impede use or access to such facilities, the city may accomplish the cleaning and removal at the user's expense. The city must provide reasonable notice to the user before assessing the charge. (Ord. 101 § 1 (part), 1998)

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CHAPTER 8C: RECYCLED WATER USE

Sec. 6-8.700. Authority.

Recycled water use is regulated by the California Regional Water Quality Control Board, Santa Ana Region (RWQCB). In accordance with waste discharge requirements for water reclamation projects, the RWQCB requires control mechanisms to regulate facilities distributing recycled water. Article 2 of Chapter 7 of Division 7 of the Cal. Water Code establishes a State policy to encourage the use of recycled water. Permission to use recycled water is based on Inland Empire Utilities Agency's ability to adequately treat domestic wastewater to the point that the recycled water (effluent) meets the requirements of existing Title 22, Chapter 3 regulations of the California Code of Regulations. These regulations were adopted to ensure proper health protection and specify the treatment degree to meet the needs of the intended applications.

(§ 1, Ord. 2689, eff. June 17, 1999)

Sec. 6-8.701. Purpose.

The purpose of this chapter is to establish procedures, specifications, and limitations for the safe and orderly development and operation of recycled water facilities and systems within the City's service area, and adopt rules and regulations controlling such use.

(§ 1, Ord. 2689, eff. June 17, 1999)

Sec. 6-8.702. Goals.

The goals of this chapter are as follows:

(a) Achieve conservation of potable water supplies by using recycled water for current and future demands. Recycled water uses may include:

(1) Agricultural irrigation.

(2) Commercial uses (including flushing toilets and urinals).

(3) Construction use.

(4) Industrial processes.

(5) Landscape irrigation.

(6) Landscape and/or recreational impound- ments.

(7) Wildlife habitat.

(b) Maintain recycled water quality through a stringent pretreatment program for industrial wastewater.

(c) Prevent direct human consumption of recycled water through:

(1) Adherence to all applicable rules and regulations.

(2) Posting of warning signs by the user.

(3) Cross-connection/backflow prevention program.

(d) Control runoff of recycled water through monitoring of the installation and operation of all recycled water facilities and use areas.

(e) Monitor recycled water quality.

(§ 1, Ord. 2689, eff. June 17, 1999)

Sec. 6-8.703. Policy.

It is the policy of the City that recycled water be used for any purposes approved for recycled water use, when it is economically, technically, and institutionally feasible. Recycled water shall be the primary source of supply for commercial and industrial uses, whenever available and/or feasible. Use of potable water for commercial and industrial uses shall be contrary to City policy; shall not be considered the most beneficial use of a natural resource; and shall be avoided to the maximum extent feasible.

(§ 1, Ord. 2689, eff. June 17, 1999)

Sec. 6-8.704. Priority.

Connection to the Recycled Water System shall be provided on a first-come, first-served basis, as long as infrastructure and recycled water supplies are available.

(§ 1, Ord. 2689, eff. June 17, 1999)

Sec. 6-8.705. Definitions.

Unless the context specifically indicates otherwise, the following terms and phrases, as used in this Chapter, in addition to the definitions set forth in Title 22, Division 4, Chapter 3, Regulations of the California Code of Regulations, shall have the meanings hereinafter designated.

(a) "Agency" shall mean the Inland Empire Utilities Agency (IEUA).

(b) "Agricultural Use" shall mean water used for the production of crops and/or livestock.

(c) "Air-Gap Separation" shall mean a physical break between a supply pipe and a receiving vessel. The air gap shall be at least double the diameter of the supply pipe, measured vertically from the flood rim of the receiving vessel to the supply pipe; however, in no case shall this separation be less than one (1) inch.

(d) "Applicant" shall mean any person, group, firm, partnership, corporation, association, or agency that applies for recycled water service.

(e) "Application Rate" shall mean the rate at which irrigation water is applied to a design or use area, expressed in gallons per minute.

(f) "Approved Use" shall mean an application of recycled water in a manner, and for a purpose, designated in a Recycled Water Use Agreement in compliance with applicable State and local rules and regulations.

(g) "Approved Use Area" shall mean a site with well-defined boundaries designated in a Recycled Water Use Agreement in compliance with applicable rules and regulations.

(h) "As-built Drawings" shall mean the record drawings that show the completed facilities as constructed or modified.

(i) "Automatic System" shall mean the electronically actuated controllers, valves, and associated equipment used to program and operate irrigation systems for the efficient application of recycled water.

(j) "Auxiliary Water Supply" shall mean any water supply on or available to the premises other than the City's potable water.

(k) "AWWA" shall mean the American Water Works Association.

(l) "City Council" shall mean the City Council of the City of Ontario.

(m) "Commercial/Industrial Use" shall mean the water used for toilets, urinals, decorative fountains, decorative indoor and outdoor landscape, industrial process such as rinsing, washing, cooling, flushing, circulation, or construction; and other uses approved by the City.

(n) "Commodity Charge" shall mean a charge imposed by the City for all metered, recycled water used.

(o) "Cross-Connection" shall mean any unapproved and/or unprotected, actual or potential, connection between any part of a potable water system and any equipment, source, or system containing water or other substances not approved as safe and potable for human consumption.

(p) “Direct Beneficial Use” shall mean the use of recycled water 'which has been transported from the point of production to the point of use, without an intervening discharge to waters of the State.

(q) “Administrator” shall mean the City Manager of the City of Ontario or his or her authorized representative.

(r) “Discharge” shall mean any release or distribution of recycled water to a use area or disposal site/mechanism. Such discharges are subject to approval by the City.

(s) “DHS” shall mean the California Department of Health Services.

(t) “Double Check Valve Assembly” shall mean a double check valve (DC) that as a minimum, conform to the AWWA Standard C506-78 (R83) adopted on January 28, 1978 for Double Check Valve Type Backflow Prevention Devices which is herein incorporated by reference.

(u) “Greenbelt Areas” shall mean those areas including, but not limited to, parkways, parks, right-of-ways, and landscaping within and/or surrounding a community.

(v) “HCF” shall mean a unit of measure equaling one hundred (100) cubic feet or 748 gallons.

(w) “Industrial Process Water” shall mean the water used in industrial facilities for blending, rinsing, washing, or cooling.

(x) “Infiltration Rate” shall mean the rate at which water penetrates the soil surface and enters the soil profile.

(y) “Landscape Impoundment” shall mean a body of water containing recycled water, which is used for aesthetic or irrigation purposes and which is not intended for public contact or ingestion.

(z) “Landscape Irrigation/Use” shall mean recycled water used for the propagation and maintenance of trees, shrubs, ground cover and turf used for erosion control and aesthetic value, not for resale/profit purposes.

(aa) “Non-potable Water” shall mean water that has not been treated for, or is not acceptable for human consumption, in conformance with Federal, State and local water standards. Non-potable water includes recycled water.

(ab) “Off-site Facilities” shall mean all existing or proposed facilities under the control of the IEUA or the City, from the source of supply to the point of connection with the customer's on-site facilities, up to and including the City's recycled water meter and meter box.

(ac) “On-site Facilities” shall mean all existing or proposed facilities within property under the control of the customer, normally downstream of the City's recycled water meter and meter box.

(ad) “On-site Recycled Water Supervisor” shall mean a qualified person designated by a recycled water user and approved by the City to be responsible for the safe and efficient operation of the user's recycled water system. This person shall be knowledgeable in the operation of the recycled water system and in the application of Federal, State and local guidelines, criteria, standards, and rules and regulations governing the use of recycled water.

(ae) “Open Space” shall mean land that has been designated to remain undeveloped. These areas may receive recycled water service for agricultural or landscape irrigation, or other approved uses.

(af) “POC” shall mean the point of connection at the recycled water service meter.

(ag) “Ponding” shall mean the retention of recycled water on the ground surface or human- made surface for a period of time following the cessation of an approved recycled water use activity, such that potential hazard to the public health may result, as determined by regulatory agencies.

(ah) “Potable Water” shall mean water which conforms to the latest Federal, State and local drinking water standards.

(ai) “PSI” shall mean pounds per square inch. This is a common unit expression of pressure measurement.

(aj) “Recycled Water” shall mean water, which as a result of treatment of wastewater, is suitable for direct beneficial use or a controlled use that otherwise would not occur. The treatment of wastewater is accomplished in accordance with the criteria set forth in Title 22, Division 4 of the California Code of Regulations.

(ak) “Recycled Water Facilities” shall mean the systems; structures, and the like, used in the treatment, storage, pumping, transmission and distribution of recycled water.

(al) “Recycled Water Use Agreement” shall mean an agreement between the user and the City to use recycled water in compliance with all applicable rules and regulations.

(am) “Recreational Impoundment” shall mean a body of recycled water used for recreational activities including, but not limited to, fishing, boating, and/or swimming. Allowable uses will depend on treatment level of the recycled water.

(an) “Reduced Pressure Principle Backflow Prevention Device” shall mean a reduced pressure principle backflow prevention device (RP) that as a minimum, conform to the AWWA Standard C506-78 (R83) adopted on January 28, 1978 for Reduced Pressure Principle Type Backflow Prevention Devices which is herein incorporated by reference.

(ao) “Regulatory Agency” shall mean any public entity legally constituted by Federal, State and local statutes to protect health and water quality.

(ap) “Runoff' shall mean the flow of water along natural or manmade surfaces away from the designated use area.

(aq) “RWQCB” shall mean the California Regional Water Quality Control Board, Santa Ana Region.

(ar) “Secondary Effluent” shall mean any oxidized wastewater that has been treated by gravity sedimentation to remove settled solids remaining after the primary biological treatment process.

(as) “Service” shall mean the delivery of recycled water to a user.

(at) “Service Connection” shall mean City facilities between the City recycled water distribution

system and the customer's meter, including, but not limited to, the meter, meter box, valves, and piping equipment.

(au) "Standard Specifications" shall mean the specifications approved by the City for construction of recycled water facilities.

(av) "Tertiary Effluent" shall mean any secondary effluent which has been filtered and disinfected, and meets all applicable requirements under Title 22. Allowable uses for tertiary effluent shall include body contact and irrigation of human food crops.

(aw) "Unauthorized Discharge" shall mean any release of recycled water that violates any applicable Federal, State, or local statutes, regulations, chapters, contracts or other requirements.

(ax) "Use Area" shall mean the specific area designated to be served with recycled water through on-site recycled water facilities.

(ay) "User" shall mean any person, group, firm, partnership, corporation, association or agency accepting recycled water from the City's recycled water facilities for use in accordance with this chapter. "Applicant," "Owner," or "Customer" are terms that are to be considered as users.

(az) "Windblown Spray" shall mean any dispersed, airborne particles of recycled water capable of being transmitted through the air to a location other than that for which the direct application of recycled water is approved.

(§ 1, Ord. 2689, eff. June 17, 1999)

Sec. 6-8.706. Administrator.

Except as otherwise provided herein, the City Manager shall administer, implement, and enforce the provisions of this Chapter. The City Manager may, at his or her discretion, delegate any or all of these powers and duties.

(§ 1, Ord. 2689, eff. June 17, 1999)

Sec. 6-8.707. Validity.

If any section, subsection, sentence, clause or phrase of this chapter establishing rules and regulations for the use of recycled water is for any reason found to be invalid or unconstitutional, such decision shall not affect the remaining portions of this chapter. The City Council declares that it would have approved this chapter by section, subsection, sentence, clause, or phrase irrespective of the fact that any one or more of the sections, subsections, sentences, clauses or phrases be declared invalid or unconstitutional.

(§ 1, Ord. 2689, eff. June 17, 1999)

Sec. 6-8.708. Service area.

The rules and regulations contained in this chapter apply to recycled water service to lands and/or improvements lying within the legal boundaries of the City, to properties contiguous to the City under the same ownership as abutting lands within the City or its designated service boundary. Recycled water service shall be provided to a specific service area when related distribution facilities are completed and

service becomes available.

(§ 1, Ord. 2689, eff. June 17, 1999)

Sec. 6-8.709. Determination of recycled use area.

(a) General

(1) The City Council may adopt a Recycled Water Master Plan or utilize the Inland Empire Utilities Agency Recycled Water Master Plan designating current and potential areas for recycled water use. The Master Plan shall be in accordance with all of the requirements of DHS and RWQCB, and shall encourage recycled water use. The Master Plan shall be reviewed and updated as needed.

(2) The City Council may review the Recycled Water Master Plan and recommend where water service should be made with recycled water in place of potable water. Where it is determined recycled water is, or will be available within five (5) years, the City may request modifications to existing on-site water facilities and require construction of recycled water systems in new developments.

(3) The City Council may enter into agreements with surrounding cities and/or other agencies to determine recycled water use service areas within the City and jurisdiction of those entities.

(b) Existing potable water service.

(1) The City Council may make determinations of areas where existing potable water use should be replaced with recycled water use.

(2) A notice of the determination to use recycled water shall be mailed to the current owner, explaining the reasons for use and resultant procedures needed to facilitate recycled water use.

(c) New recycled water service.

(1) On submittal by applicant of a tentative map, land use permit, other proposed land development/land use, or request for recycled water service, the Administrator shall make preliminary determinations if recycled water service can be provided to the area in question.

(2) The Administrator may require the use of recycled water for approved uses, and refuse or otherwise restrict potable water service when recycled water is available and approved for use.

(§ 1, Ord. 2689, eff. June 17, 1999, as amended by § 28, Ord. 2816, eff. December 1, 2005)

Sec. 6-8.710. Authorized uses.

Uses of recycled water include only those uses approved by the California State Department of Health Services (DHS) and for which Title 22 of the California Code of Regulations provides treatment requirements. Each such use will be considered for approval on case-by-case basis. Prior to approval, the user must comply with the requirements established by this chapter and any other requirements imposed by the Inland Empire Utilities Agency, DHS, or any other regulatory agencies that have jurisdiction over such use.

(§ 1, Ord. 2689, eff. June 17, 1999)

Sec. 6-8.711. Conditions of service.

(a) Prior to obtaining recycled water service, the user must enter into a Recycled Water Use Agreement with the City. Recycled water use shall be subject to terms and conditions established in the agreement, and in accordance with this chapter, and other applicable codes, rules, and regulations. If any of the conditions of service are not satisfied at all times, the Recycled Water Use Agreement may be revoked by the Administrator after which all recycled water service shall cease:

(b) The City shall not be liable for any damage by recycled water or resulting from:

(1) Defective plumbing.

(2) Broken or faulty services or recycled water mains.

(3) On-site facilities failures.

(4) High or low pressure conditions.

(5) Interruptions of service.

(6) Any inappropriate or illegal use or management practices.

(c) All recycled water will be provided to the user in the conditions and quantity specified in the Recycled Water Use Agreement.

(d) Recycled water use will not be subject to the same restrictions as potable water during drought conditions and will be supplied as available.

(e) Recycled water service may be terminated whenever the quality of the recycled water does not comply with the requirements of the regulatory agencies, or at any time the provisions of this Chapter, or the conditions specified in the Recycled Water Use Agreement are violated.

(§ 1, Ord. 2689, eff. June 17, 1999)

Sec. 6-8.712. Other applicable rules and codes.

Other guidelines, rules and regulations, ordinances, specifications that may be applied by the City Manager to govern the use of recycled water within the City include:

(a) Regulations that deal with backflow prevention, billing, deposits, penalties, delinquencies, and metering for potable water as established in §§ 6-8.50 to 6-8.64 of the Municipal Code.

(b) Regional Recycled Water Distribution System Ordinance (Ordinance No. 63, Inland Empire Utilities Agency.)

(c) Water Reclamation (Title 22, Division 4 of the California Code of Regulations.)

(d) Regulations Relating to Cross-Connections (Title 17 of the California Code of Regulations.)

(e) Guidelines for Distribution of Non-potable Water (California-Nevada Section AWWA.)

(§ 1, Ord. 2689, eff. June 17, 1999)

Sec. 6-8.713. Recycled water service application.

The steps for obtaining recycled water service are as follows:

(a) The user completes and submits a recycled water service application, including existing facility "as-built" drawings or proposed facility plans as appropriate, description of where and how recycled water use is proposed, and any other information pertinent to the use of recycled water as requested by the Administrator.

(b) The user prepares an Engineering Report describing proposed/requested recycled water use(s). The City may prepare the report on behalf of the user, provided that the user pays all costs associated with the preparation of the report. The Engineering Report shall be consistent with DHS guidelines.

(c) The completed Engineering Report will be forwarded to the State Department of Health Services (DHS) for review and approval.

(d) The user and the City will address any concerns that the DHS may have regarding the Engineering Report and revise the report accordingly.

(e) Once the DHS approves the Engineering Report, the applicant will enter into a Recycled Water Use Agreement with the City, and pay any applicable fees.

(f) The Administrator will schedule a start-up test of on-site recycled water system to ensure that cross-connections do not exist.

(g) Upon the successful completion of the test, the Administrator may authorize recycled water service to begin.

(§ 1, Ord. 2689, eff. June 17, 1999)

Sec. 6-8.714. Recycled Water Use Agreement.

Recycled Water Use Agreement shall be subject to the following conditions:

(a) The applicant shall pay any specified connection fees, service line charges and other charges, and adhere to the requirements prescribed by this chapter and to any additional requirements required by other agencies governing recycled water use.

(b) In order to maintain acceptable operating conditions throughout the recycled water system, the Administrator may schedule recycled water use for specific applications. Such scheduling may involve programming deliveries to different users and/or to various portions of a single users on-site system. Any scheduling shall consider the operating constraints of the affected users.

(c) The Administrator may temporarily terminate recycled water service at any time recycled water produced by the Inland Empire Utilities Agency reclamation plant does not meet the requirements of the regulatory agencies. Recycled water service would, in such case, be restored when the recycled water meets the governing requirements.

(d) At a minimum, the Recycled Water Use Agreement shall include the following:

(1) Names and addresses of owner the property and user of the recycled water.

(2) A statement that no changes in the proposed system will be undertaken without amending the Agreement.

(3) A statement that the applicant recognizes potential penalties for violation of this Chapter and any regulatory agencies.

(4) A copy of the DHS approved Engineering Report.

(5) Specific quantity of recycled water to be used, including estimated average annual use in acre-feet, and the maximum gallons per minutes (GPM) needed at the point of connection (POC) as shown on the plans.

(6) Approved uses.

(7) A statement that the Agreement shall be canceled or amended if:

(i) A change of recycled water use occurs.

(ii) A change in the piping system has been implemented without prior approval.

(iii) A violation of these rules and regulations occurs and results in a system turn-off.

(§ 1, Ord. 2689, eff. June 17, 1999)

Sec. 6-8.715. Rates, fees, charges and deposits.

(a) All rates and fees regarding recycled water service and their administrative costs shall be established by the City Council and incorporated into OMC Title 6, Chapter 8B. Any changes in fee and rate schedules shall be automatically adopted into this chapter.

(b) Applicants for recycled water service shall pay their fair share for the construction of facilities needed to deliver recycled water to the applicant's properly. All fees and estimated construction costs shall be paid prior to construction; however, the City may reimburse the applicant for a portion of the cost of such facilities as described in subsection (c) of this section.

(c) Under certain circumstances, the City may contribute to the cost of designing and/or constructing the facilities needed to deliver recycled water to an applicant's property. Subject to the availability of funds, the City may:

(1) Reimburse an applicant for costs incurred to install oversized facilities in the public right-of-way.

(2) Elect to participate in or construct pipelines, reservoirs, pumping stations or other facilities, as it determines necessary, and/or as funds are available.

(3) Elect to fund or construct recycled water facilities, necessary for converting existing

customers from potable to recycled water, with customer reimbursement to the City in the form of an increased recycled water rate, not to exceed the potable rate, until such time as reimbursement is complete under the terms of the Recycled Water Use Agreement.

(§ 1, Ord. 2689, eff. June 17, 1999, as amended by § 29, Ord. 2816, eff. December 1, 2005)

Sec. 6-8.716. Size, location, and installation of service line.

Recycled water service lines shall be extended by the property owner/developer to a curb line or property line of the customer's property, abutting on a public street, highway, road or City easement in which recycled water mains are installed. The size and location and/or type of recycled water service lines, service connections, meters, backflow protection devices, and any/all other appurtenances are subject to review and approval by the City.

(§ 1, Ord. 2689, eff. June 17, 1999)

Sec. 6-8.717. Service connection limitations.

Recycled water service shall be subject to the following conditions:

(a) A recycled water service connection and its corresponding meter shall not be used to supply adjoining property of a different owner, or to supply property of the same owner across a road, street or other public right-of-way. When a property provided with a recycled water connection and corresponding meter is subdivided, such connection and meter shall be considered as serving the lot or parcel of land on which the meter is located. Additional recycled water mains and/or recycled water service lines will be required for all subdivided areas in accordance with this chapter.

(b) Private irrigation systems for homeowner's associations and other developments where landscaping around homes and in common areas are served with one meter, shall not be allowed to cross public roads, easements, or other public rights-of-way without City approval.

(c) All recycled water used on any property where a meter is installed must pass through the meter. Customers shall be held responsible and charged for all recycled water passing through their meters.

(§ 1, Ord. 2689, eff. June 17, 1999)

Sec. 6-8.718. Service pressure.

Whenever possible, the recycled water system will operate at a slightly lower pressure than the potable water system. This will cause potable water to flow in the recycled water system in the event of a cross-connection.

(§ 1, Ord. 2689, eff. June 17, 1999, as amended by § 30, Ord. 2816, eff. December 1, 2005)

Sec. 6-8.719. Relocation of recycled water service lines.

Should a recycled water service line installed according to the directions of the owner or user be of the wrong size, or installed at a wrong location or depth, the cost of relocation or removal shall be paid for by the user.

(§ 1, Ord. 2689, eff. June 17, 1999)

Sec. 6-8.720. Protective measures.

The following provisions are intended to protect the City's potable water supplies against actual, undiscovered, unauthorized, or potential cross- connections to the user's recycled water system. These provisions are in addition to, not in lieu of, the controls and requirements of other regulatory agencies. These provisions are in accordance with Title 17 (Public Health) of the California Code of Regulations.

(a) Approved backflow prevention devices on the City's potable water services to the property as required in these provisions, shall be provided, installed, tested, and maintained according to § 6-8.722. These devices shall be located on the property served immediately downstream of the potable water meter. All devices shall be readily accessible for testing and maintenance and no device shall be submerged at any time.

(b) When a request for recycled water service is initiated, the applicant must provide sufficient information, including plumbing and building plans, to enable the Administrator and other regulatory agencies to determine the level of backflow protection required. The proper backflow protection, as determined by the Administrator and other regulatory agencies, shall then be installed and tested according to § 6-8.722 before recycled water service is provided.

(c) Each time there is a change of tenant on any commercial or industrial premise, the owner or user shall notify the Administrator immediately. The Administrator will then reassess the level of protection required. In addition, any alterations to existing on-site facilities that may affect required protection level must be reported immediately to the Administrator.

(d) At their discretion, representatives of any health agency having jurisdiction, and the Administrator, may inspect any property provided recycled water service by the City. The inspection shall serve to determine if any actual or potential cross-connections exist. The owner or user shall provide full cooperation in facilitating the inspection.

(e) Where protection is required, an approved backflow protection device for potable water supplies shall be provided as follows:

(1) Each City water service connection that supplies potable water to a premises having an auxiliary water supply (including recycled water) that is not accepted as a potable source by the Administrator, and/or is not approved for potable use by the DHS, shall be protected against backflow from the premises into the City potable water system.

(2) Each City water service connection supplying potable or recycled water to a premises on which any substance is handled in such a fashion as to permit entry into the City water systems (potable or recycled) from the premises shall be protected against backflow. This shall include, but not limited to, the handling of fertilizers, process waters, waters originating from any of the City water systems that have been subject to deterioration in quality, and agricultural use.

(3) Approved backflow devices shall be installed where premises have intricate plumbing and piping arrangements or where not all portions of the premises are readily accessible for inspection.

(4) Appropriate backflow protection may be required at premises where there has been a history of cross-connections being re-established.

(f) Other measures.

(1) Water meters used for recycled water service shall be tagged or color-coded purple, color pantone 512 or 522, or otherwise distinguished as such per AWWA standards. These meters shall not be interchanged or used for potable water service after repairs and/or meter testing have been performed.

(2) Periodic inspection by the City of the recycled water facilities will determine if all identifying items are still clearly discernable. If not, they shall be immediately replaced, repaired or refurbished as needed, by the user. These items include:

(i) Warning tags.

(ii) Painted surfaces.

(iii) Warning tape.

(iv) Identification tape.

(v) Covers, caps, signs.

(vi) Other items that indicate recycled water is being used.

(3) To determine the existence of any cross-connections or backflow conditions into the potable water system, periodic testing by DHS approved methods will be performed by the Administrator and/or other regulatory agencies.

(4) In the event of contamination or pollution of a City potable water system due to a cross-connection or other failure, the DHS, the Administrator, and the IEUA shall be promptly notified by telephone so that appropriate and immediate measures may be taken to correct the problem.

(5) The state and county health departments, the Administrator, and the IEUA shall be kept informed by written document of the identity of the person responsible for the user's recycled water system on all premises concerned with these rules and regulations. At each authorized use area, an 'On-site' Recycled Water Supervisor shall be designated. This supervisor shall be responsible for:

(i) The installation and use of all components of the on-site recycled water system(s).

(ii) Prevention of cross-connections.

(iii) Change in use of recycled water.

(g) When the recycled water uses or conditions, as determined by the Administrator or other regulatory agency, represent a clear and immediate hazard to the City potable and/or recycled water supply that cannot be immediately removed or corrected, the Administrator shall terminate recycled water use. Conditions or uses that create a basis for termination include, but are not limited to, refusal to install, test or repair a required backflow prevention device.

(§ 1, Ord. 2689, eff. June 17, 1999, as amended by § 31, Ord. 2816, eff. December 1, 2005)

Sec. 6-8.721. Types of protection.

The level of protection required shall be related to the degree of potential hazard that exists on the premises served, and will be determined by the Administrator.

(§ 1, Ord. 2689, eff. June 17, 1999)

Sec. 6-8.722. Testing and maintenance of backflow prevention devices.

The user is responsible for testing all backflow prevention devices and maintaining these devices in a satisfactory operating condition. Testing shall be done at least once a year by a San Bernardino County certified backflow prevention tester. More frequent testing may be required if successive inspections indicate repeated failures. The backflow prevention devices shall be repaired, overhauled and/or replaced whenever they are found to be defective. These devices shall also be tested immediately after they are installed, relocated or repaired. All inspections, tests and repairs shall be performed at the user's expense. The user shall maintain records of all such tests, repairs and overhauls. These records shall be submitted to the Administrator, annually, and made available to the DHS, on request.

(§ 1, Ord. 2689, eff. June 17, 1999)

Sec. 6-8.723. Facilities design.

(a) The design of off-site facilities, including the preparation of plans and construction specifications shall be under the responsibility of an engineer registered in the State of California. The design of customer (on-site) facilities that will use recycled water, and preparations of plans and construction specifications, shall be stamped and signed by a State of California Registered Landscape Architect or Civil Engineer, unless otherwise approved by the Administrator.

(b) Before the Administrator grants final acceptance of any system using recycled water, as- built drawings of the system shall be provided. The installed system shall be tested in accordance with the City Standard Specifications to ensure that the system is in full compliance with these rules and regulations.

(c) All off-site and on-site recycled water facilities shall be designed and constructed according to the requirements, conditions, and standards as adopted in the City Standard Specifications to ensure that this system is in full compliance with this chapter. Recycled water systems, both on-site and off-site, shall be separate and independent of any potable water systems.

(d) Where the premises contain dual or multiple water systems, the exposed portions of pipelines shall be identified at sufficient intervals.

(e) Areas irrigated with recycled water must be kept completely separated from domestic water wells and reservoirs. Recycled water shall not be applied or allowed to migrate to within fifty (50) feet of any well used for domestic supply. No impoundment of recycled water shall be located within hundred (100) feet of any domestic water well, unless it can be demonstrated that special circumstances justify lesser distances to be acceptable.

(f) Adequate means of notification should be provided to inform the public, employees and others that recycled water is being used. Conspicuous signs with appropriate wording that can be clearly read should be placed at adequate intervals around the authorized use area.

(1) Golf courses should print messages on score cards in a different color indicating recycled

water is being used. Water hazards containing recycled water should be posted with appropriate signs.

(2) Languages in addition to English should be used on signs where appropriate.

(g) Off-site Facilities.

(1) Any off-site recycled water distribution facilities required to serve existing or new developments of the property within the City, as determined by the Administrator, shall be provided by the applicant, owner, or customer at their expense, unless the Administrator determines it is a City benefit to construct these capital facilities.

(2) Plans and specifications for all recycled water distribution facilities shall be submitted to and approved by the Administrator, and other regulatory agencies, in advance of construction.

(3) The City will assume responsibility for providing recycled water service to the point of connection of such development on transfer, to the City, title to all off-site recycled water systems and any necessary easements. All easements shall be in a form acceptable to the Administrator, and not subject to outstanding obligations to relocate such facilities or any deeds of trust, except in instances where such is determined by the Administrator to be in the best interest of the City.

(4) The City and the property owner or developer may enter into a reimbursement agreement for the portions of a recycled water system that are required to be oversized with capacity to supply more recycled water than the property owner or developer requires. The determination to enter into a reimbursement agreement, and the specific items that are the subject of reimbursement, will be made by the City.

(h) On-site facilities

(1) The user or the owner of the property shall be responsible for all costs associated with on-site recycled water facilities.

(2) When City Standards and Specifications require a higher quality material, equipment, design or construction method than that required by other governing codes, rules and regulations, the City Standards and Specifications shall take precedence.

(i) In areas where recycled water is not immediately available when the use area is ready for construction, and if the City has determined that recycled water will be supplied in the future, on-site facilities shall be designed to use recycled water. Provisions shall be made to allow for connection to the City off-site recycled water facilities, when available. In the interim, potable or other suitable water may be supplied to the on-site facilities through an “interim service connection.”

(j) Conditions of interim service are:

(1) The City anticipates recycled water will be available to the site within five (5) years of the time interim service is initiated.

(2) The user or the owner of the property must sign a Recycled Water Use Agreement.

(3) The user or the owner of the property must agree to perform or pay for all work necessary to remove the interim connection and make connections to the permanent recycled water system at the time

the recycled water system is installed.

(4) An approved backflow prevention device is required on the interim service. The backflow prevention device shall be at the point of connection with the interim supply system and a part of the on-site recycled water facilities.

(5) Future recycled water users will pay for the following:

(i) Cost of constructing and abandoning the interim service and cost of constructing the recycled water service.

(ii) Applicable recycled water fees at the time service becomes available.

(iii) Applicable interim water rates for the type of water delivered through the interim service.

(6) When recycled water is available to the site, an inspection of the on-site facilities will be conducted by the Administrator to verify that the facilities are still in compliance with the Recycled Water Use Agreement. Recycled water service shall be provided on verification of compliance. If the facilities are not in compliance, the Administrator shall notify the user to make any necessary corrections.

(§ 1, Ord. 2689, eff. June 17, 1999, as amended by § 32, Ord. 2816, eff. December 1, 2005)

Sec. 6-8.724. Construction.

(a) Construction of all new recycled water facilities will follow City Standards and Specifications and the American Water Works Association Construction Guidelines for Recycled Water Facilities.

(b) Where it is planned that an existing non- recycled water system shall be converted to a recycled water facility, the facilities to be converted to recycled water shall be investigated in detail at the user's expense, to determine the measures required to bring the system into full compliance with this Chapter. No existing potable water facilities shall be connected to or incorporated into the recycled water system without City and DHS approvals.

(c) If, due to on-site failure of the recycled water system, the Administrator determines that it is necessary to convert on-site facilities from a recycled water supply to a potable water supply, it shall be the responsibility of the user to pay all costs for such conversion. Conversion costs may include, but not be limited to, the following:

(1) Isolation of the recycled water supply. Service shall be removed and plugged at the City main or abandoned in a manner approved by the Administrator.

(2) Installation of approved backflow prevention devices, as determined by the Administrator, on all potable, and/or other water meter connections.

(3) Removal of any/all special recycled water quick couplers. The user shall be responsible for replacement with quick couplers approved for potable water systems.

(4) Notification to all on-site personnel involved.

(5) Removal of all warning labels/signs.

(6) Installation of any/all potable water facilities and payment of any associated capacity fees, as established in Title 6, Chapter 8B, of the Municipal Code.

(7) System flushing, disinfecting, decontamination, and water quality analyses, as required by the City and/or other regulatory agencies.

(§ 1, Ord. 2689, eff. June 17, 1999)

Sec. 6-8.725. Emergency connection of the recycled water system to the potable water system.

If the Administrator determines an emergency exists where all or parts of the recycled water system are unable to provide recycled water, the Administrator may approve an emergency temporary connection to the potable water system. Before such emergency temporary connection is made, the portion without recycled water shall be isolated by an air gap separation from the remainder of the recycled water system. This isolation shall occur at either individual services or on the off-site system, as determined by the Administrator. An approved backflow prevention device shall be installed on the potable water lines in accordance with this chapter. The emergency temporary connection shall be removed before connection to the recycled water system is re-established. Re-establishment of recycled water service must be inspected and approved by the Administrator prior to resuming delivery of recycled water.

(§ 1, Ord. 2689, eff. June 17, 1999)

Sec. 6-8.726. Off-site facilities.

The City and/or the Inland Empire Utilities Agency shall be responsible for the operation, maintenance and surveillance of all off-site recycled water systems. This includes but is not limited to recycled water pipelines, valves, connections, storage facilities, and other related equipment and property up to and including the meter. Only City and/or the Inland Empire Utilities Agency personnel and their representatives shall operate, adjust, change, alter, move or relocate any portion of their respective off-site recycled water facilities.

(§ 1, Ord. 2689, eff. June 17, 1999)

Sec. 6-8.727. On-site facilities.

(a) General.

(1) The operation, surveillance, repair, and maintenance of all customer recycled water facilities are the responsibility of the user and his designated “On-site” Recycled Water Supervisor.

(2) The Administrator shall have the right to enter the user's premises to monitor and inspect all on-site recycled water facilities. Where necessary, keys and/or lock combinations shall be issued to the Administrator to provide such access during hours of recycled water system operation.

(b) The user shall have the following responsibilities pertaining to operation of on-site facilities:

(1) Ensure that all operations personnel are trained and familiarized with the use of recycled

water.

(2) Furnish their operations personnel with maintenance instructions, irrigation schedules, controller charts, and as-built drawings to ensure proper operation in accordance with the on-site facilities design and these rules and regulations.

(3) Prepare and submit to the Administrator one reproducible set of as-built drawings.

(4) Notify the Administrator of all updates or proposed changes, modifications, or additions to the on-site facilities and operations for review and approval prior to construction or implementation. All updates and proposed changes shall comply with this chapter, the Recycled Water Use Agreement and any other applicable rules and regulations.

(5) Ensure that the operation and maintenance of all recycled water facilities remain in accordance with this chapter, the Recycled Water Use Agreement and any other applicable rules and regulations.

(6) Operate and control the system in order to prevent direct human consumption of recycled water and to control and limit runoff. The user or the owner of the property shall be responsible for any and all subsequent uses of the recycled water. Operation and control measures to be utilized in this regard shall include where appropriate, but not limited to:

(i) Minimizing discharge onto areas not under control of the user so as to minimize public contact. Full circle sprinklers shall not be used adjacent to sidewalks, roadways, and property lines in order to confine the discharge to the use area.

(ii) Operating the on-site recycled water facilities during periods of minimal human use of the service area, and allowing a maximum dry-out time before the irrigated area will be used by the public.

(iii) Providing adequate first aid kits on the premises, and promptly treating all cuts and abrasions to prevent infection. If infection is likely, a physician should be consulted.

(iv) Taking any other precautionary measures to minimize direct contact with recycled water. User's employees, residents, and the public should not be subjected to recycled water sprays.

(v) Applying recycled water at a rate that does not exceed the infiltration rate of the soil. Where varying soil types are present, the design and operation of the recycled water facilities shall be compatible with the lowest infiltration rate of the soils present.

(vi) Reporting to the Administrator any/all failures in the recycled water system that cause an unauthorized discharge of recycled water.

(vii) Protecting all drinking fountains located within the approved use area, by location and/or a structure from contact with recycled water to the maximum extent possible. Windblown spray, direct application through irrigation or other approved uses are considered sources of recycled water. Protection shall be by design, construction practice, or system operation.

(viii) Protecting facilities that may be used by the public, including but not limited to, eating surfaces and playground equipment located within the approved use areas, by seating and/or structure

from contact with recycled water to the maximum extent possible. Windblown spray, direct contact by irrigation application, or other approved uses are considered sources of recycled water. Protection shall be by design, construction practice, or system operation.

(c) The user shall enforce the following prohibitions:

(1) Cross-connections, as defined by the California Code of Regulations, Title 17, resulting from the use of recycled water or from the physical presence of a recycled water service, whether by design, construction practice, or system operation, are prohibited.

(2) Discharge of recycled water for any purposes, in areas other than those specifically approved in the Recycled Water Use Agreement, and without the prior approval of the Administrator, is prohibited.

(3) Use or installation of permanent hose bibs on any customer water system that presently operates or is designed to operate with recycled water is prohibited.

(4) Conditions that directly or indirectly cause recycled water to pond either within or outside of the approved use area, whether by design, construction practice, or system operation are prohibited, unless designed specifically for ponding and approved by Administrator.

(5) Conditions that directly or indirectly cause runoff of recycled water onto areas outside of approved use areas, whether by design, construction practice, or system operation, are prohibited.

(6) Use of recycled water for any purposes other than those specifically approved in the Recycled Water Use Agreement, and without the prior approval of the Administrator, is prohibited.

(7) Conditions that directly or indirectly permit windblown spray to pass outside of the approved use area, whether by design, construction practice, or system operation, are prohibited.

(§ 1, Ord. 2689, eff. June 17, 1999)

Sec. 6-8.728. Monitoring and inspection.

The Administrator will monitor and inspect the entire recycled distribution facility, including both off-site and on-site facilities. The Administrator will conduct monitoring programs, maintain records as deemed necessary, inspect on-site facilities for compliance with these rules and regulations, and provide reports as requested by DHS. For these purposes, the Administrator will have the right to enter the user's premises during hours of recycled water system operation to inspect on-site recycled water facilities and approved use areas, to verify that the user's irrigation practices conform with this Chapter and the Recycled Water Use Agreement.

(§ 1, Ord. 2689, eff. June 17, 1999)

Sec. 6-8.729. Maintenance responsibility.

(a) The user or owner is responsible for maintaining all on-site facilities that are under the ownership of parties other than the City.

(b) No person shall place, dispose, deposit or permit the placement, disposal, deposit of oil, toxic,

hazardous or contaminated liquid or waste, trash, soil, building materials or any other substances, objects, or obstructions in, on, or around meter boxes or other City facilities. No person shall allow or permit meter boxes or other City facilities from becoming obstructed or obscured by trees, shrubs, plants or in any other manner so as to impede their use or access or make their location difficult to determine. If such substances, objects, or obstructions are not cleaned and removed or are permitted to obscure or impede use or access to such facilities, the City may accomplish the cleaning and removal at the user's expense. The Administrator will provide reasonable notice to the user before assessing the charge.

(§ 1, Ord. 2689, eff. June 17, 1999)

Chino Municipal Code

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13.06.010 Authority.

A. The use of water recycled from domestic sewage is regulated by the California Regional Water Quality Control Board Santa Ana Region (RWQCB). Article 2 of Chapter 7 of Division 7 of the California Water Code establishes a state policy to encourage the use of recycled water. Permission to use recycled water is based on Inland Empire Utilities Agency's ability to adequately treat domestic wastewater to the point that the recycled water (effluent) meets the requirements of existing Title 22, Chapter 3 regulations of the California Administrative Code. Title 22 was promulgated by the State Department of Health Service to ensure proper health protection and specify the treatment degree to match the intended applications.

B. In accordance with waste discharge requirements for water reclamation projects, the RWQCB requires regulation measures for facilities distributing recycled water. (Ord. 98-12 § 1 (part), 1998.)

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13.06.020 Purpose.

The purpose of this chapter is to establish rules and regulations including procedures, specifications and limitations for the safe and orderly development and operation of recycled water facilities and systems within the city's service area. (Ord. 98-12 § 1 (part), 1998.)

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13.06.030 Goals.

The goals of this chapter are as follows:

A. Achieve conservation of potable water supplies by using recycled water for current and future demands. Recycled water uses shall be for the maximum public benefit and may include:

Agricultural irrigation,

Commercial uses (including flushing toilets and urinals),

Construction use,

Groundwater recharge,

Industrial processes,

Landscape irrigation,

Landscape and/or recreational impoundments,

Wildlife habitat;

B. Maintain recycled water quality through a stringent pretreatment program for commercial and industrial wastes and by restricting brine discharges from water softeners, evaporative coolers and other sources;

C. Prevent direct human consumption of recycled water through:

1. Adherence to all applicable rules and regulations,

2. Posting of warning signs by the user,

3. Cross-connection/backflow prevention program;

D. Control runoff of recycled water through monitoring of the installation and operation of all recycled water facilities and use areas;

E. Monitor recycled water quality. (Ord. 98-12 § 1 (part), 1998.)

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13.06.040 Policy.

It is the policy of the city that recycled water be used for any purposes approved for recycled water use, when it is economically, technically and institutionally feasible. Recycled water shall be the primary source of supply for commercial and industrial uses, whenever available and/or feasible. Use of potable water for commercial and industrial uses shall be contrary to city policy; shall not be considered the most beneficial use of a natural resource; and shall be avoided to the maximum extent possible. (Ord. 98-12 § 1 (part), 1998.)

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13.06.050 Priority.

Recycled water shall be provided on a first-come, first-served basis, as long as recycled water is available. (Ord. 98-12 § 1 (part), 1998.)

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13.06.060 Definitions.*

Unless the context specifically indicates otherwise, the following terms and phrases, as used in this chapter, in addition to the definitions set forth in Title 22, Division 4, Chapter 3, Regulations, of the California Administrative Code, shall have the meanings hereinafter designated.

"AFY" means acre-feet per year.

"Agency" means the Inland Empire Utilities Agency (IEUA).

"Agricultural use" means water used for the production of crops and/or livestock.

"Air-gap separation" means a physical break between a supply pipe and a receiving vessel. The air gap shall be at least double the diameter of the supply pipe, measured vertically above the top rim of the vessel, and in no case less than one inch.

"Applicant" means any person, group, firm, partnership, corporation, association or agency that applies for recycled water service.

"Application rate" means the rate at which irrigation water is applied to a design or use area, expressed in gallons per minute.

"Approved double check valve assembly" means an assembly of at least two independently acting check valves including tightly closing resilient seated (typ.) shut-off valves on each side of the check valve assembly and suitable leak-detector drains plus connections available for testing the water tightness of each check valve. This assembly shall only be used to protect a non-health hazard.

"Approved reduced pressure principle backflow prevention device" means a device incorporating two check valves and an automatically operating differential relief valve located between the two checks, two (typ.) shut-off valves, and equipped with necessary appurtenances for testing. The device shall operate to maintain the pressure in the zone between two check valves two psi less than the pressure on the city and/or Inland Empire Utilities Agency water supply side of the device. At cessation of normal flow, the pressure between the check valves shall be less than the supply pressure. In case of leakage of either check valve, the differential relief valve shall operate to maintain this reduced pressure by discharging to the atmosphere. To be approved, these devices must be readily accessible for maintenance and testing, and installed in a location where no part of the valve will be submerged.

"Approved use" means an application of recycled water in a manner, and for a purpose, designated in a user permit issued by the city and in compliance with all applicable regulatory agency requirements.

"Approved use area" means a site, with well-defined boundaries, designated in a permit for recycled water service issued by the city to receive recycled water for an approved use as acknowledged by all applicable regulatory agencies.

"As-built drawings" means the record drawings that show the completed facilities as constructed or modified.

"Automatic system" means the electrically actuated controllers, valves and associated equipment used to program and operate irrigation systems for the efficient application of recycled water.

"Auxiliary water supply" means any water supply on or available to the premises other than the city's potable water.

"AWWA" means the American Water Works Association.

"Check valve" means a check valve that seats readily and completely. It must be carefully machined to have free moving parts and assure water tightness. The face of the closure element and valve seat must be bronze or other noncorrodible material that will seat tightly under all prevailing conditions of field use. Pins and bushings shall be of bronze or other noncorrodible, nonsticking material. The closure element (e.g., clapper) shall be internally weighted or otherwise internally equipped to promote rapid and positive closure in all sizes where this feature is obtainable.

"City council" means the city council of the city of Chino.

"Commercial/industrial use" means the water used for toilets, urinals, decorative fountains, decorative indoor and outdoor landscape, industrial process such as rinsing, washing, cooling, flushing, circulation or construction; and other uses approved by the city.

"Commodity charge" means a charge imposed by the city for all metered, recycled water used.

"Connection fee" means a fee imposed by the city for obtaining recycled water service from the city by means of its recycled water facilities, including, but not necessarily limited to, a service activation fee.

"Cross-connection" means any unapproved and/or unprotected, actual or potential, connection between any part of a potable water system and any equipment, source or system containing water or other substances not approved as safe and potable for human consumption.

"Customer" means any person, group, firm, partnership, corporation, association or agency that legally receives recycled water service from the city.

"Design area" means a site, with well-defined boundaries, proposed to receive recycled water for an approved use, as delineated in the application for recycled water service.

"Direct beneficial use" means the use of recycled water, which has been transported from the point of production to the point of use, without an intervening discharge to waters of the state.

"Discharge" means any release or distribution of recycled water to a use area or disposal site/mechanism (outfall, live stream discharge, municipal sewage system). All discharges of recycled water must be approved by the city and/or the Inland Empire Utilities Agency.

"DOHS" means the Department of Health Services (state and/or county).

"Greenbelt areas" means those areas including, but not limited to, parkways, parks, rights-of-way and landscaping within and/or surrounding a community.

"HCF" means hundred cubic feet. This is a common unit of water volume measurement used for billing purposes.

"Industrial process water" means the water used in industrial facilities for blending, rinsing, washing or cooling.

"Infiltration rate" means the rate at which water penetrates the soil surface and enters the soil profile.

"Landscape impoundment" means a body of water containing recycled water, which is used for aesthetic or irrigation purposes and which is not intended for public contact or ingestion.

"Landscape irrigation/use" means recycled water used for the propagation and maintenance of trees, shrubs, ground cover and turf used for erosion control and aesthetic value, not for

resale/profit purposes.

"Nonpotable water" means water that has not been treated for, or is not acceptable for, human consumption, in conformance with federal, state and local water standards. Nonpotable water includes recycled water.

"Off-site facilities" means all existing or proposed facilities under the control of the purveyor, from the source of supply to the point of connection with the customer's on-site facilities, normally up to and including the agency's meter and meter box.

"On-site facilities" means all existing or proposed facilities within property under the control of the customer, normally downstream of the agency's meter.

"On-site recycled water supervisor" means a qualified person designated by a recycled water user and approved by the city to be responsible for the safe and efficient operation of the user's recycled water system. This person shall be knowledgeable in the operation of the recycled water system, and in the application of federal, state and local guidelines, criteria, standards and rules and regulations governing the use of recycled water.

"Open space" means land that has been designated to remain undeveloped. These areas may receive recycled water service for agricultural or landscape irrigation, or other approved uses.

"Permit" means a processed and approved application package to, and agreement with, the city for recycled water service.

"POC" means the point of connection at the recycled water service meter.

"Ponding" means the retention of recycled water on the ground surface or manmade surface for a period of time following the cessation of an approved recycled water use activity, such that potential hazard to the public health may result, as determined by regulatory agencies.

"Potable water" means water which conforms to the latest federal, state and local drinking water standards.

"PSI" means pounds per square inch. This is a common unit expression of pressure measurement.

"Recreational impoundment" means a body of recycled water used for recreational activities including, but not limited to, fishing, boating and/or swimming. Allowable uses will depend on treatment level of the recycled water.

"Recycled water" means as defined in Title 22, Division 4, of the California Administrative Code, water, which as a result of treatment of wastewater, is suitable for direct beneficial use or a controlled use that otherwise would not occur. The treatment of wastewater is accomplished in accordance with the criteria set forth in the code.

"Recycled water facilities" means the systems, structures, etc., used in the treatment, storage, pumping, transmission and distribution of recycled water.

"Regulatory agency" means those public entities legally constituted by federal, state and local statutes to protect health and water quality.

"Runoff" means the flow of water along natural or manmade surfaces away from the designated use area.

"RWQCB" means the Regional Water Quality Control Board, Santa Ana Region.

"Secondary effluent" means any wastewater that has been treated by gravity sedimentation to remove settled solids remaining after the primary biological treatment process.

"Service" means the delivery of recycled water to a user.

"Service connection" means city facilities between the city recycled water distribution system and the customer's meter, including, but not limited to, the meter, meter box, valves and piping equipment.

"Standard specifications" means the specifications approved by the city for construction of recycled water facilities.

"Tertiary effluent" means any secondary effluent which has been disinfected and filtered. Allowable uses for tertiary effluent shall include body contact and irrigation of human food crops.

"Unauthorized discharge" means any release of recycled water that violates these rules and regulations or any applicable federal, state or local statutes, regulations, ordinances, contracts or other requirements.

"Use area" means the specific area designated to be served with recycled water through on-site recycled water facilities.

"User" means any person, group, firm, partnership, corporation, association or agency accepting recycled water from the city's recycled water facilities for use in accordance with this chapter. "Applicant," "owner" or "customer" are terms that are to be considered as users.

"Windblown spray" means any dispersed, airborne particles of recycled water capable of being transmitted through the air to a location other than that for which the direct application of recycled water is approved. (Ord. 98-12 § 1 (part), 1998.)

* NOTE: Devices used shall be included on the list of devices approved by the Foundation for Cross-Connection Control and Hydraulic Research, School of Engineering, University of Southern California.

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13.06.070 Administrator.

Except as otherwise provided in this chapter, the director of public works shall administer, implement and enforce the provisions of this chapter. The director of public works may, at his discretion, delegate any or all of these powers and duties. (Ord. 98-12 § 1 (part), 1998.)

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13.06.080 Validity.

If any section, subsection, sentence, clause or phrase of this chapter establishing rules and regulations for the use of recycled water is for any reason found to be invalid or unconstitutional, such decision shall not affect the remaining portions of this chapter. The city council declares that it would have approved this chapter by section, subsection, sentence, clause or phrase irrespective of the fact that any one or more of the sections, subsections, sentences, clauses or phrases be declared invalid or unconstitutional. (Ord. 98-12 § 1 (part), 1998.)

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13.06.090 Right of revision.

The city council reserves the right to amend this chapter, as it deems appropriate. (Ord. 98-12 § 1 (part), 1998.)

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13.06.100 Service area.

The rules and regulations contained in this chapter apply to recycled water service to lands and/or improvements lying within the legal boundaries of the city, to properties contiguous to the city under the same ownership as abutting lands within the city or its designated service boundary. Recycled water service shall be provided to a specific service area when related distribution facilities are completed and service becomes available. (Ord. 98-12 § 1 (part), 1998.)

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13.06.110 Determination of recycled use area.

A. General.

1. The city council may adopt a water reclamation master plan or utilize the Inland Empire Utilities Agency Recycled Water Master Plan designating current and potential areas for recycled water use. The master plan shall be in accordance with the requirements of all regulatory agencies and encourage recycled water use. The master plan may be reviewed and updated as needed.

2. The city council may review its master plan and recommend where water service should be made with recycled water in place of potable water. Where it is determined recycled water is, or will be available within five years, the city may request modifications to existing on-site water facilities and require construction of recycled water systems in new developments.

3. The city council may enter into agreements with surrounding cities and/or other agencies to determine recycled water use areas within the service area/jurisdiction of those entities.

B. Existing Potable Water Service.

1. On adoption of this chapter, and each update of the city master plan, the city council may make determinations of areas where existing potable water use should be with recycled water.

2. A notice of the determination to use recycled water shall be sent to the current owner, explaining the reasons for use and resultant procedures needed to facilitate recycled water use.

C. New Recycled Water Service. On submittal by applicant of a tentative map, land use permit, other proposed land development/land use, or request for recycled water service, the city engineer shall make preliminary determinations if recycled water service should be provided to the area in question. The city engineer may require the use of recycled water for approved uses, and refuse or otherwise restrict potable water service when recycled water is available and approved for use. (Ord. 98-12 § 1 (part), 1998.)

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13.06.120 Authorized uses.

In accordance with the goals as stated in this chapter, the uses of recycled water include only those uses approved by the California State Department of Health Services (DOHS) and for which Title 22 of the California Administrative Code provides treatment requirements. Each such use will be considered for approval on case-by-case basis. Prior to approval, the city engineer may set forth specific requirements as conditions to providing service, and/or require specific prior approval from the Inland Empire Utilities Agency and/or other appropriate regulatory agencies. (Ord. 98-12 § 1 (part), 1998.)

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13.06.130 Conditions of service.

A. Recycled water service shall be provided by the city engineer only if a permit for such service is obtained in the manner provided in this chapter. Recycled water service shall be available, provided, and used in accordance with other codes, rules and regulations as listed in Section 13.06.140.

B. If any of the following conditions of service are not satisfied at all times, the permit for recycled water service may be revoked by the city engineer after which all recycled water service shall cease in the manner described herein.

1. Financial. Conditions relating to service fees and billing shall be similar, but not the same, as established for the potable water system. Rates for recycled water service shall be adopted by the city council as listed in Resolution No. 98-18 (Appendix I).

2. Operational.

a. Liability. The city shall not be liable for any damage by recycled water or resulting from:

i. Defective plumbing;

ii. Broken or faulty services or recycled water mains;

iii. On-site facilities failures;

iv. High- or low-pressure conditions;

v. Interruptions of service.

b. Service Basis. All recycled water will be provided to the user in the conditions and quantity specified in the permit for recycled water service. Recycled water use will not be subject to the same restrictions as potable water during drought conditions and will be supplied as available.

3. Regulatory. Recycled water service may be terminated whenever the quality of the recycled water does not comply with the requirements of the regulatory agencies, or at any time the provisions of the chapter regarding the use of recycled water are violated, or at any time that the permit conditions, whether contained in an agreement, are violated. (Ord. 98-12 § 1 (part), 1998.)

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13.06.140 Other applicable rules and codes.

For regulations that are the same for potable and recycled water, use applicable regulations, or sections of already adopted potable water system regulations:

Item	Current Regulation
Backflow prevention	CMC 13.04.075
Billing	CMC 13.04.100
Deposits	CMC 13.04.030
Penalties	CMC 13.04.100; 13.04.120
Delinquencies	CMC 13.04.120
Metering	CMC 13.04.020; 13.04.040

Other guidelines, rules and regulations, ordinances and specifications that may be applied by the city engineer to govern the use of recycled water within the city include:

Agency/Organization	Document Number	Document Title
Inland Empire Utilities Agency	Ordinance No. 63	Regional Recycled Water Distribution System Ordinance
California DOHS	Title 22, Division 4	Water Reclamation
California DOHS	Title 17	Regulations Relating to Cross-Connections
California-Nevada Section AWWA		Guidelines for Distribution of Non-Potable Water
Foundation for Cross-Connection	Most Current Edition	Manual of Cross-Connection Control and Hydraulic Research, School of Engineering, University of Southern California

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13.06.150 Permit application process.

The steps for obtaining recycled water permits are as follows:

A. Obtain application form for recycled water service from utility billing. By signature on the application form, the applicant states that he/she agrees to comply with this chapter and any and all applicable governing documents.

B. Complete application package and submit to public works. The application package shall consist of:

1. Completed recycled water service application form;

2. Existing facility "as-built" drawings or proposed facility plans as appropriate;

3. Description of where and how recycled water use is proposed;

4. Any other information pertinent to the use of recycled water as requested by the city engineer.

C. Schedule appointment with the city engineer to review application packet. Subsequent to meeting, submit any additional information required.

D. Prepare engineering report describing proposed/requested recycled water use(s). Submit engineering report to the city engineer. As a minimum, the engineering report shall consist of the following information:

1. Applicant’s relationship to the subject property as legal owner, tenant or lessee;

2. Description of recycled water use on the property;

3. Legal description of property;

4. Technical information requested on recycled water service application form;

5. Total irrigated acres (if applicable);

6. Special conditions (other items that could be of concern when using recycled water);

7. A sketch of the property, including:

a. Locations of all service connections and waterlines (recycled, potable, any other auxiliary source),

b. Proposed size of recycled water service connection,

c. Areas to be served with recycled water and areas excluded from recycled water service;

8. A brief description of any/all special construction requirements.

E. The city engineer will review the engineering report. The city engineer will inform applicant of any needed revisions.

F. The engineering report approved by the city engineer will be forwarded to the State

Department of Health Services (DOHS) for review and approval.

G. The city engineer and applicant will address any concerns that the DOHS has regarding the engineering report and revise the report accordingly.

H. Once the DOHS has approved the engineering report, the city engineer will prepare a permit for recycled water service (see Section 13.06.160). Any auxiliary agreement between the city and the applicant, related to the permit for recycled water service, will be with the approval of the city attorney.

I. Applicant will pay any applicable fees.

J. The city engineer will schedule a start-up test of on-site recycled water system to ensure that cross-connections do not exist.

K. The city engineer will direct recycled water service valves to be turned on and service will begin. (Ord. 98-12 § 1 (part), 1998.)

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13.06.160 Permits.

A city permit for recycled water service must be obtained by the user to receive recycled water on any property. Permits to receive recycled water service, or any connection for service made as provided in the permit issued under this chapter pursuant to receipt of an application for such service, shall be subject to the following conditions:

A. The applicant shall adhere to requirements prescribed by this chapter and to all additional requirements required by all governing agencies governing recycled water use.

B. The applicant shall pay any specified connection fees, service line charges and other charges prior to issuance of the permit.

C. In order to maintain acceptable operating conditions throughout the recycled water system, the city engineer may schedule recycled water use for specific applications. Such scheduling may involve programming deliveries to different users and/or to various portions of a single user's on-site system. Any scheduling shall consider the operating constraints of the affected users.

D. The city engineer may temporarily terminate recycled water service at any time recycled water produced by the Inland Empire Utilities Agency reclamation plant does not meet the requirements of the regulatory agencies. Recycled water service would, in such case, be restored when the recycled water meets the governing requirements. The city may provide water service from other approved sources. In addition, approved air gap separations may be modified (as approved) to provide potable water to the recycled water system to ensure water service.

E. The city will apply for and process all applicable regulatory agency permits. The cost and preparation of any study or report necessary to comply with the California Environmental Quality Act (CEQA) or other regulatory requirements shall be the responsibility of the applicant, unless otherwise determined by the city council.

F. The use permit shall come into force after the project has been completely constructed, tested and been approved by the involved agencies.

G. A copy of the current permit must be available for review at all times, and on file at the user's office.

H. As a minimum, the use permit shall include the following:

1. Name and address of owner and user;

2. A statement that no changes in the proposed system will be undertaken without application for and issuance of an amended permit;

3. A statement that the applicant recognizes potential penalties for violation of this chapter and any regulatory agencies;

4. A copy of the DOHS-approved engineering report;

5. Specific quantity of recycled water to be used. The following must be identified:

a. Estimated average annual AFY used,

b. Maximum GPM needed at the POC as shown on the plans;

6. Permitted/approved uses.

I. The use permit shall stay in effect as provided in the permit or related agreement, but shall be cancelled or amended if:

1. A change of ownership occurs;

2. A change of recycled water use occurs;

3. A change in the piping system has been implemented without prior approval;

4. A violation of these rules and regulations occurs and results in a system turn-off. (Ord. 98-12 § 1 (part), 1998.)

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13.06.170 Rates, fees, charges and deposits.

A. General.

1. All rates and fees regarding recycled water service and their administrative costs shall be fixed and established by the city council. The most current fee and rate schedules shall be established by resolution of the city council and incorporated into this chapter. Any changes in fee and rate schedules shall be automatically adopted into this chapter.

2. Applicants for recycled water service shall pay their fair share for the construction of facilities needed to deliver recycled water to the applicant's property. All fees and estimated construction costs shall be paid prior to construction; however, the city may reimburse the applicant for a portion of the cost of such facilities as described in subsection D, Financial Participation by City.

B. Change of Rates or Charges. The city reserves the right to change the schedule of recycled water rates, service charges and any other charges, deposits or fees at any time. These changes are subject to the terms of any existing recycled water service permits (and/or agreements) and will be made by appropriate action of the city council.

C. Temporary Service. The recycled water rate for all water sold through temporary meters shall be established by action of the city council. The charges for recycled water sold through temporary meters shall be billed and paid on a monthly basis.

D. Financial Participation by City. Under certain circumstances, the city may contribute to the cost of designing and/or constructing the facilities needed to deliver recycled water to an applicant's property. Subject to the availability of funds, the city may:

1. Reimburse an applicant for costs incurred to install oversized facilities in the public right-of-way;

2. Elect to participate in or construct pipelines, reservoirs, pumping stations or other facilities, as it determines necessary, and/or as funds are available. (Ord. 98-12 § 1 (part), 1998.)

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13.06.180 Size, location and installation of service line.

The city reserves the right to determine the size and location and/or type of:

A. Recycled water service lines;

B. Service connections;

C. Meters;

D. Backflow protection devices and any/all other appurtenances included to the service area.

Recycled water service lines shall be extended by the property owner/developer to a curb line or property line of the customer's property, abutting on a public street, highway, road or city easement in which recycled water mains are installed. (Ord. 98-12 § 1 (part), 1998.)

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13.06.190 Service connection limitations.

Permits for recycled water service shall be subject to the following conditions:

A. A recycled water service connection and its corresponding meter shall not be used to supply adjoining property of a different owner.

B. A service connection shall not be used to supply adjoining property of a different owner, or to supply property of the same owner across a road, street or other public right-of-way. When a property provided with a recycled water connection and corresponding meter is subdivided, such connection and meter shall be considered as serving the lot or parcel of land on which the meter is located. Additional recycled water mains and/or recycled water service lines will be required for all subdivided areas in accordance with this chapter.

C. Private irrigation systems for homeowner's associations and other developments where landscaping around homes and in common areas are served with one meter, shall not be allowed to cross public roads, easements, or other public rights-of-way.

D. All recycled water used on any property where a meter is installed must pass through the meter. Customers shall be held responsible and charged for all recycled water passing through their meters.

E. Every recycled water service line installed by the city (or its agent) shall be equipped with a right angle valve (per city standard) on the inlet side of the meter. The right angle valve is to be used only by city personnel to control the recycled water supply through the water service line. If the right angle valve is damaged by the customer to an extent requiring replacement, then the customer shall bear full financial responsibility.

F. Service is commenced after issuance of a permit for recycled water service by the city. (Ord. 98-12 § 1 (part), 1998.)

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13.06.200 Service pressure.

The city will make every reasonable effort to supply recycled water at a service pressure that is nearly equal to the potable water system pressure at the location of interest. If recycled water service pressure does not meet the needs of the user, then it shall be the user's responsibility to increase or decrease the recycled water pressure on the user's side of the recycled water meter. (Ord. 98-12 § 1 (part), 1998.)

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13.06.210 Relocation of recycled water service lines.

Should a recycled water service line installed according to the directions of the applicant, owner, or customer (user) be of the wrong size, or installed at a wrong location or depth, the cost of relocation or removal shall be paid for by the user where the error was that of the user or the user's representative. (Ord. 98-12 § 1 (part), 1998.)

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13.06.220 Protective measures.

The following provisions are intended to protect the city's potable water supplies against actual, undiscovered, unauthorized or potential cross-connections to the user's recycled water system. These provisions are in addition to, not in lieu of, the controls and requirements of other regulatory agencies. These provisions are in accordance with Title 17 (Public Health) of the California Administrative Code.

A. Approved backflow prevention devices, on the city's potable water services to the property, as required in these provisions, shall be provided, installed, tested and maintained by the user at user expense, unless otherwise determined by the city engineer. These devices shall be located on the property served immediately downstream of the meter. All devices shall be readily accessible for testing and maintenance and no device shall be submerged at any time.

B. When a request for recycled water service is initiated, the applicant must provide sufficient information, including plumbing and building plans, to enable the city engineer and other regulatory agencies to determine the level of backflow protection required. The proper backflow protection, as determined by the city engineer and other regulatory agencies, shall then be installed, inspected and tested before recycled water service is provided.

C. Each time there is a change of customer (either owner or tenant) on any commercial or industrial premise, the owner or customer shall notify the city engineer immediately. The city engineer will then reassess the level of protection required. In addition, any alterations to existing on-site facilities that may affect required protection level must be reported immediately to the city engineer.

D. At their discretion, representatives of any health agency having jurisdiction, and the city engineer, may conduct surveys of any property where recycled water service is provided by the city. These surveys shall serve to determine if any actual or potential cross-connections exist. The applicant, owner, or customer shall provide full cooperation in facilitating these surveys.

E. Where Protection is Required. Approved backflow protection for potable water supplies shall be provided as follows:

1. Each city water service connection that supplies potable water to a premises having an auxiliary water supply (including recycled water) that is not accepted as a potable source by the city engineer, and/or is not approved for potable use by the DOHS, shall be protected against backflow from the premises into the city potable water system.

2. Each city water service connection supplying potable or recycled water to a premises on which any substance is handled in such a fashion as to permit entry into the city water systems (potable or recycled) from the premises shall be protected against backflow. This shall include, but not be limited to, the handling of fertilizers, process waters, waters originating from any of the city water systems that have been subject to deterioration in quality, and agricultural use.

3. Approved backflow devices shall be installed where premises have intricate plumbing and piping arrangements or where not all portions of the premises are readily accessible for inspection.

4. Appropriate backflow protection may be required at premises where there has been a history of cross-connections being re-established.

F. Other Measures.

1. Whenever possible, the city will operate the recycled water system at a slightly lower pressure than the potable water system. This will cause potable water to flow in the recycled water system in the event of a cross-connection.

2. Water meters used for recycled water service shall be tagged or color-coded purple, color pantone 512 or 522, or otherwise distinguished as such per AWWA standards. These meters shall not be interchanged or used for potable water service after repairs and/or meter testing have been performed.

3. Periodic inspection, by the city, of the recycled water facilities will determine if all identifying items are still clearly discernable. If not, they shall be replaced, repaired or refurbished as needed, by the user. These items include:

a. Warning tags;

b. Painted surfaces;

c. Warning tape;

d. Identification tape;

e. Covers, caps, signs;

f. Other items that indicate recycled water is being used.

4. To determine the existence of any cross-connections or backflow conditions into the potable water system, periodic testing by DOHS approved methods will be performed by the city engineer and/or other regulatory agencies.

5. In the event of contamination or pollution of a city potable water system due to a cross-connection or other failure, the DOHS, the city engineer and the IEUA shall be promptly notified, so that appropriate and immediate measures may be taken to correct the problem.

6. The state and county health departments, the city engineer and the IEUA shall be kept informed by written document of the identity of the person responsible for the user's recycled water system on all premises concerned with these rules and regulations. At each authorized use area, an on-site recycled water supervisor shall be designated. This supervisor shall be responsible for:

a. The installation and use of all components of the on-site recycled water system(s);

b. Prevention of cross-connections;

c. Change in use of recycled water.

G. Recycled Water Service Termination Due to Health and Safety Concerns. When the city engineer determines that recycled water uses or conditions encountered by the city engineer represent a clear and immediate hazard to the city potable and/or recycled water supply that cannot be immediately removed or corrected, the city engineer shall begin the procedure for terminating recycled water use. Conditions or uses that create a basis for termination include, but are not limited to:

1. Refusal to install a required backflow prevention device;

2. Refusal to test a backflow prevention device;

3. Refusal to repair or replace a faulty backflow prevention device;

4. Direct or indirect connection between the potable and recycled water systems;

5. Direct or indirect connection between the recycled water system and a system or equipment containing contaminants;

6. A situation which presents an immediate health hazard to the city potable and/or recycled water system, as determined by the city engineer, Inland Empire Utilities Agency or other regulatory agency. (Ord. 98-12 § 1 (part), 1998.)

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Title 13 WATER, SEWERS AND UTILITIES

Chapter 13.06 RECYCLED WATER REGULATIONS

13.06.230 Type of protection.

The level of protection required shall be related to the degree of potential hazard that exists on the premises served, and will be determined by the city engineer. (Ord. 98-12 § 1 (part), 1998.)

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Title 13 WATER, SEWERS AND UTILITIES

Chapter 13.06 RECYCLED WATER REGULATIONS

13.06.240 Inspection and maintenance of protective devices.

The user is responsible for inspection and testing of all backflow prevention devices at least once a year, or more often in those instances where successive inspections indicate repeated failure. All inspections and tests shall be performed at the user's expense by a city-approved testing firm. These devices shall be repaired, overhauled and/or replaced at the expense of the user whenever they are found to be defective. These devices shall also be tested immediately after they are installed, relocated or repaired. The user shall maintain records of all such tests, repairs and overhauls. These records shall be made available to the DOHS, on request, and submitted to the city engineer, annually. (Ord. 98-12 § 1 (part), 1998.)

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Title 13 WATER, SEWERS AND UTILITIES

Chapter 13.06 RECYCLED WATER REGULATIONS

13.06.250 Facilities design.

The design of off-site facilities, including the preparation of plans and construction specifications shall be under the responsibility of an engineer registered in the state of California. The design of customer (on-site) facilities that will use recycled water, and preparations of plans and construction specifications, shall be stamped and signed by a state of California Registered Landscape Architect or Civil Engineer, unless otherwise approved by the city engineer. Before the city engineer grants final acceptance of any system using recycled water, as-built drawings of the system shall be provided. The installed system shall be tested in accordance with the city standard specifications to ensure that the system is in full compliance with these rules and regulations.

A. General.

1. All off-site and on-site recycled water facilities shall be designed and constructed according to the requirements, conditions and standards as adopted in the city standard specifications to ensure that this system is in full compliance with this chapter. Recycled water systems, both on-site and off-site, shall be separate and independent of any potable water systems.

2. Where the premises contain dual or multiple water systems, the exposed portions of pipelines shall be identified at sufficient intervals to distinguish clearly which water is not safe for drinking purposes.

3. Areas irrigated with recycled water must be kept completely separated from domestic water wells and reservoirs. Recycled water shall not be applied or allowed to migrate to within fifty feet of any well used for domestic supply, and no impoundment of recycled water shall be located within one hundred feet of any domestic water well, unless it can be demonstrated that special circumstances justify lesser distances to be acceptable.

4. Adequate means of notification should be provided to inform the public, employees and others that recycled water is being used. Conspicuous signs with appropriate wording that can be clearly read, should be placed at adequate intervals around the authorized use area.

a. Golf courses should print messages on score cards in a different color indicating recycled water is being used. Water hazards containing recycled water should be posted with appropriate signs.

b. Languages in addition to English should be used on signs where appropriate.

B. Off-site Facilities.

1. Any off-site recycled water distribution facilities required to serve existing or new developments of the property within the city, as determined by the city engineer, shall be provided by the applicant, owner or customer at their expense, unless the city engineer determines it is a city benefit to construct these capital facilities.

2. Plans and specifications for all recycled water distribution facilities shall be submitted to and approved by the city engineer, and other regulatory agencies, in advance of construction.

3. The city will assume responsibility for providing recycled water service to the point of connection of such development on transfer, to the city, title to all off-site recycled water systems and any necessary easements. All easements shall be in a form acceptable to the city engineer, and not subject to outstanding obligations to relocate such facilities or any deeds of trust, except

in instances where such is determined by the city engineer to be in the best interest of the city.

4. The property owner, proponent or developer may request that the city enter into a reimbursement agreement for the portions of a recycled water system that are required to be oversized (considering standard sizes of materials and city standards) with capacity to supply more recycled water than the property owner, proponent or developer requires. Or for certain items that would not be required if potable water were to be used in place of recycled water. The determination to enter into a reimbursement agreement, and the specific items that are the subject of reimbursement, will be made by the city.

C. On-site Facilities.

1. Any on-site recycled water facility shall be provided by the applicant, owner or customer at his expense. The applicant, owner or customer shall retain title to all on-site facilities.

2. When this chapter and/or standard specifications require a higher quality material, equipment, design or construction method than that required by other governing codes, rules and regulations, the city specifications shall take precedence.

D. Interim Service. In areas where recycled water is not immediately available when the use area is ready for construction, and if the city has determined that recycled water will be supplied in the future, on-site facilities shall be designed to use recycled water. Provisions shall be made, and this chapter followed, to allow for connection to the city off-site recycled water facilities, when available. In the interim, potable or other suitable water may be supplied to the on-site facilities through an "interim service connection."

1. Conditions of interim service are:

a. The city anticipates recycled water will be available to the site within five years of the time interim service is initiated;

b. The applicant must obtain a permit for recycled water service;

c. The applicant must agree to perform or pay for all work necessary to remove the interim connection and make connections to the permanent recycled water system at the time the recycled water system is installed.

2. An approved backflow prevention device is required on the interim service. The backflow prevention device shall be at the point of connection with the interim supply system and a part of the on-site recycled water facilities.

3. Future recycled water customers will pay for the following:

a. Cost of constructing and abandoning the interim service, and cost of constructing the recycled water service;

b. Applicable recycled water fees at the time service becomes available;

c. Applicable interim water rates for the type of water delivered through the interim service.

4. When recycled water is available to the site, an inspection of the on-site facilities will be conducted by the city engineer to verify that the facilities have been adequately maintained and are still in compliance with the recycled water use permit. Recycled water service shall be provided on verification of compliance. If the facilities are not in compliance, the city engineer shall notify the user to correct the situation. (Ord. 98-12 § 1 (part), 1998.)

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Chapter 13.06 RECYCLED WATER REGULATIONS

13.06.260 Construction.

A. New. Construction of all recycled water facilities will follow the city standard specifications (i.e., American Water Works Association Construction Guidelines for Recycled Water Facilities), unless otherwise specified by the city engineer.

B. Conversion to Recycled Water Use. Where it is planned that an existing nonrecycled water system be converted to a recycled water facility, the facilities to be converted to recycled water shall be investigated in detail at the user's expense, unless otherwise determined by the city engineer. On a case-by-case basis, the city engineer and other regulatory agencies will review the materials, specified in Section 13.06.150, deemed necessary to determine the measures required to bring the system into full compliance with this chapter. No existing potable water facilities shall be connected to or incorporated into the recycled water system without city and other regulatory agency approvals.

C. Conversion from Recycled Water Use. If, due to on-site failure of the recycled water system or use violations, the city and/or other regulatory agencies determine it possible and necessary to convert on-site facilities from a recycled water supply to a potable, or other, water supply, it shall be the responsibility of the user to pay all costs for such conversion, unless determined otherwise by the city engineer. Conversion costs may include, but not be limited to, the following:

1. Isolation of the recycled water supply. Service shall be removed and plugged at the city main or abandoned in a manner approved by the city engineer;

2. Installation of approved backflow prevention devices, as determined by the city engineer and other regulatory agencies. The user shall install approved backflow devices on all potable, and/or other water meter connections;

3. Removal of any/all special recycled water quick couplers. The user shall be responsible for replacement with quick couplers approved for potable water systems;

4. Notification to all on-site personnel involved;

5. Removal of all warning labels/signs;

6. Installation of any/all potable water facilities and payment of any associated capacity fees, as provided for in the city water service code;

7. System flushing, disinfecting, decontamination and water quality analyses, as required by the city and/or other regulatory agencies. (Ord. 98-12 § 1 (part), 1998.)

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Title 13 WATER, SEWERS AND UTILITIES

Chapter 13.06 RECYCLED WATER REGULATIONS

13.06.270 Emergency connection of the recycled water system to the potable water system.

If the city engineer determines an emergency exists where all or parts of the recycled water system are unable to provide recycled water, the city engineer may approve an emergency temporary connection to the potable water system. Before such emergency temporary connection is made, the portion without recycled water shall be isolated by an air gap separation from the remainder of the recycled water system. This isolation shall occur at either individual services or on the off-site system, as determined by the city engineer or other regulatory agencies. An approved backflow prevention device shall be installed on the potable water lines in accordance with this chapter and all other applicable regulations of the governing agencies. The emergency temporary connection shall be removed before connection to the recycled water system is re-established. Re-establishment of recycled water service must be inspected and approved by the city engineer prior to resuming delivery of recycled water. (Ord. 98-12 § 1 (part), 1998.)

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Title 13 WATER, SEWERS AND UTILITIES

Chapter 13.06 RECYCLED WATER REGULATIONS

13.06.280 Off-site facilities.

Operation, maintenance and surveillance of all city and/or the Inland Empire Utilities Agency off-site recycled water systems including but not limited to, recycled water pipelines, valves, connections, storage facilities, and other related equipment and property up to and including the meter, shall be under the management and control of the city and/or the Inland Empire Utilities Agency. No other persons except authorized representatives of the city and/or the Inland Empire Utilities Agency shall have the right to enter any of the city and/or the Inland Empire Utilities Agency off-site facilities. Only city and/or the Inland Empire Utilities Agency personnel and their representatives shall operate, adjust, change, alter, move or relocate any portion of the off-site recycled water system. (Ord. 98-12 § 1 (part), 1998.)

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Title 13 WATER, SEWERS AND UTILITIES

Chapter 13.06 RECYCLED WATER REGULATIONS

13.06.290 On-site facilities.

A. General.

1. The operation, surveillance, repair and maintenance of all customer recycled water facilities are the responsibility of the user. The user's designated on-site recycled water supervisor shall bear this responsibility.

2. The city engineer will monitor and inspect all on-site recycled water facilities and associated records, and for these purposes will have the right to enter the user's premises. Where necessary, keys and/or lock combinations shall be issued to the city engineer to provide such access during hours of recycled water system operation. Monitor and inspection includes documenting inspection observations by photograph and copying of records.

B. The user shall have the following responsibilities pertaining to operation of on-site facilities:

1. To ensure that all operations personnel are trained and familiarized with the use of recycled water;

2. To furnish their operations personnel with maintenance instructions, irrigation schedules, controller charts, and as-built drawings to ensure proper operation in accordance with the on-site facilities design and these rules and regulations;

3. To prepare and submit to the city engineer one reproducible set of as-built drawings;

4. To notify the city engineer of all updates or proposed changes, modifications or additions to the on-site facilities and operations. All updates and proposed changes must be approved by the city engineer prior to construction or implementation. All updates and proposed changes shall comply with this chapter and governing documents of all other regulatory agencies;

5. To ensure that the operation and maintenance of all recycled water facilities remain in accordance with this chapter and other documents governing recycled water systems within the city;

6. To operate and control the system in order to prevent direct human consumption of recycled water and to control and limit runoff. The applicant, owner or customer shall be responsible for any and all subsequent uses of the recycled water. Operation and control measures to be utilized in this regard shall include where appropriate, but not limited to:

a. On-site recycled water facilities shall be operated to prevent or minimize discharge onto areas not under control of the customer so as to minimize public contact. Full-circle sprinklers shall not be used adjacent to sidewalks, roadways and property lines in order to confine the discharge to the use area,

b. The operation of the on-site recycled water facilities shall be during periods of minimal human use of the service area. Consideration shall be given to allow a maximum dry-out time before the irrigated area will be used by the public. For agricultural operations, the soil moisture reservoir shall be depleted (dried) by at least thirty percent before harvest,

c. Adequate first aid kits should be available on the premises. All cuts and abrasions should be promptly treated to prevent infection. If infection is likely, a physician should be consulted,

d. Other precautionary measures should be taken to minimize direct contact with recycled water.

User's employees, residents and the public should not be subjected to recycled water sprays,

e. Recycled water shall be applied at a rate that does not exceed the infiltration rate of the soil. Where varying soil types are present, the design and operation of the recycled water facilities shall be compatible with the lowest infiltration rate of the soils present,

f. When the application rate exceeds the soil infiltration rate, automatic controller systems shall be utilized to minimize ponding and runoff of recycled water. Total sprinkler run times shall not be greater than the time needed to supply the landscape's water requirement. If runoff occurs before the landscape's water requirements are met, the automatic controllers shall be reprogrammed with additional watering cycles of shorter duration to meet the requirements. This method of operation is intended to control and limit runoff,

g. The user shall report to the city engineer any/all failures in the recycled water system that cause an unauthorized discharge of recycled water,

h. All drinking fountains located within the approved use area, designated by the user permit, shall be protected by location and/or a structure from contact with recycled water to the maximum extent possible. Windblown spray, direct application through irrigation or other approved uses are considered sources of recycled water. Protection shall be by design, construction practice, or system operation,

i. Facilities that may be used by the public, including but not limited to eating surfaces and playground equipment and located within the approved use areas designated by the user permit, shall be protected by seating and/or structure from contact with recycled water to the maximum extent possible. Windblown spray, direct contact by irrigation application, or other approved uses are considered sources of recycled water. Protection shall be by design, construction practice or system operation.

C. The user shall enforce the following prohibitions:

1. Cross-connections. Cross-connections, as defined by the California Administrative Code, Title 17, resulting from the use of recycled water or from the physical presence of a recycled water service, whether by design, construction practice or system operation, are prohibited.

2. Discharge in Unapproved Areas. Discharge of recycled water for any purposes, in areas other than those specifically approved in the currently effective user permit issued by the city engineer, and without the prior knowledge and approval of the governing regulatory agencies, is prohibited.

3. Hose Bibs. Use or installation of permanent hose bibs on any customer water system that presently operates or is designed to operate with recycled water, regardless of the hose bib construction or identification is prohibited.

4. Ponding. Conditions that directly or indirectly cause recycled water to pond either within or outside of the approved use area, whether by design, construction practice or system operation are prohibited, unless designed specifically for ponding and approved by regulatory agencies.

5. Runoff. Conditions that directly or indirectly cause runoff of recycled water onto areas outside of approved use areas, whether by design, construction practice or system operation, are prohibited.

6. Unapproved Uses. Use of recycled water for any purposes other than those specifically approved, in the currently effective user permit issued by the city engineer, and without the prior knowledge and approval of the governing regulatory agencies, is prohibited.

7. Windblown Spray. Conditions that directly or indirectly permit windblown spray to pass outside of the approved use area, whether by design, construction practice or system operation, are prohibited. (Ord. 98-12 § 1 (part), 1998.)

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Title 13 WATER, SEWERS AND UTILITIES

Chapter 13.06 RECYCLED WATER REGULATIONS

13.06.300 Monitoring and inspection.

The city engineer will monitor and inspect the entire recycled distribution facility, including both off-site and on-site facilities. The city engineer will conduct monitoring programs, maintain records as deemed necessary, inspect on-site facilities for compliance with these rules and regulations, and provide reports as requested by the regulating agencies. For these purposes, the city engineer will have the right to enter the customer's premises during hours of recycled water system operation to inspect on-site recycled water facilities and approved use areas, to verify that the customer's irrigation practices conform with this chapter. (Ord. 98-12 § 1 (part), 1998.)

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Title 13 WATER, SEWERS AND UTILITIES

Chapter 13.06 RECYCLED WATER REGULATIONS

13.06.310 Maintenance responsibility.

A. Recycled Water System. The applicant, owner or customer is responsible for maintaining all on-site facilities that are under the ownership of parties other than the city.

B. Obstruction in Meter Boxes. No person shall place, dispose, deposit or permit the placement, disposal, deposit of oil, toxic, hazardous or contaminated liquid or waste, trash, soil, building materials or other substances, objects or obstructions in, on or around meter boxes or other city facilities. No person shall allow or permit meter boxes or other city facilities from becoming obstructed or obscured by trees, shrubs, plants or in any other manner so as to impede their use or access to them to make their use or access to them or make their location difficult to determine. If such substances, objects or obstructions are not cleaned and removed or are permitted to obscure or impede use or access to such facilities, the city may accomplish the cleaning and removal at the user's expense. The city engineer will provide reasonable notice to the user before assessing the charge. (Ord. 98-12 § 1 (part), 1998.)

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Appendix C

INLAND EMPIRE UTILITIES AGENCY
REGIONAL PLANT NO. 5

PLANT FACILITIES CALCULATIONS

Appendix C
Plant Facilities Calculations

C.1 Calculations follow for Tables in Section 4:

(Only those tables in Section 4 that have calculated or estimated values are shown herein. See Section 4 for other tables, references, and explanations.)

Table 4-1
Summary of RP-5 Flowrates and Peaking Factors for Title 22 Compliance[1]

Parameter	Flowrate (mgd)[2]	Peaking Factor[3]
Average Annual Day Flow (AADF)	16.3	1.00
Maximum Month Flow (MMF)	18.9	1.16
Peak Dry Weather Flow (PDWF)	28.2	1.73
Peak Wet Weather Flow (PWWF)	32.6	2.00
Typical Effluent Diurnal Flow	22.3 – 26.1	1.37 – 1.6

1. Reference: IEUA, 2008.
2. Refer to right margin for calculations.
3. Peaking factor = MMF, PDWF, PWWF, or Typical Diurnal Flow (mgd) / AADF(mgd)

Comment [BGS1]: 16.3 mgd x 1.16 peaking factor = 18.9 mgd

Comment [BGS2]: 16.3 mgd x 1.73 peaking factor = 28.2 mgd

Comment [BGS3]: 16.3 mgd x 2.0 peaking factor = 32.6 mgd

Comment [BGS4]: 16.3 mgd x 1.37 peaking factor = 22.3 mgd

16.3 mgd x 1.6 p.f. = 26.1 mgd

Table 4-2
Design Raw Wastewater Characteristics

Parameter	Units	Value
Annual Average Raw Influent Quality:[1]		
BOD-5 day	mg/L	214
TSS	mg/L	221
NH_3-N	mg/L	37.5
TKN	mg/L	43.3
pH	--	7.5
TDS	mg/L	514
Annual Average Raw Influent Loadings:[2]		
BOD-5 day	lbs/day	29,092
TSS	lbs/day	30,043

1. Reference: IEUA, 2010a.
2. Calculated values. See right margin.

Comment [BGS5]: 214 mg/L x 16.3 mgd (AADF) x 8.34 lb/mil gal/mg/L= 29,092 lbs/day

Comment [BGS6]: 221 mg/L x 16.3 mgd (AADF) x 8.34 lb/mil gal/mg/L= 30,043 lbs/day

Table 4-4
Influent Pumping Capacity[1]

Process	Peak Capacity (mgd)	Annual Average Capacity With All Units in Service (mgd)	Title 22 Reliable Annual Average Capacity (mgd)
Influent Pumping	36	18	24

1. Refer to right margin for calculations.
2. Based on two pumps in service at 12 mgd each (one pump out of service).

Comment [BGS7]: Three pumps (including standby pump) at 12.0 mgd each = 36 mgd

Comment [BGS8]: 36.0 mgd / 2.0 p.f. = 18.0 mgd

Comment [BGS9]: Two duty pumps at 12.0 mgd each = 24 mgd

Table 4-6
Preliminary Treatment Capacity[1]

Process	Peak Capacity (mgd)	Annual Average Capacity With All Units in Service (mgd)	Title 22 Reliable Annual Average Capacity (mgd)
Bar screens	90	45	30
Grit basin	30	16.3	16.3[2]

1. Refer to right margin for calculations.
2. See discussion in Section 4 regarding reliable capacity of the grit removal process.

Comment [BGS10]: Three bar screens at 30 mgd each = 90 mgd

Comment [BGS11]: 90 mgd / 2.0 peaking factor = 45 mgd

Comment [BGS12]: Two bar screens at 30 mgd = 60 mgd / 2.0 peaking factor = 30 mgd

Table 4-7
Primary Treatment Design Criteria

Parameter	Units	Value
Primary Clarifiers[1]***:***		
Number	units	2
Diameter	ft	100
Surface Area, each	sq ft	7,854
Side Water Depth	ft	12
Surface overflow rate at PWWF, all units in service[2]	gpd/sq ft	2,075
Surface overflow rate at PWWF, one unit out of service[2]	gpd/sq ft	4,151
Surface overflow rate at AADF, all units in service[2]	gpd/sq ft	1,038
Surface overflow rate at AADF, one unit out of service[2]	gpd/sq ft	2,075
Primary Sludge Pumps[1]		
Number	units	3 (2 duty, 1 standby)
Type	--	Progressive cavity, variable speed

Comment [BGS13]: 32.6 mgd * 1,000,000 gal/MG / 7,854 ft^2 * 2 units = 2,075 gpd/sq ft

Comment [BGS14]: 32.6 mgd * 1,000,000 gal/MG / 7,854 ft^2 * 1 units = 4,151 gpd/sq ft

Comment [BGS15]: 16.3 mgd * 1,000,000 gal/MG / 7,854 ft^2 * 2 units = 1,038 gpd/sq ft

Comment [BGS16]: 16.3 mgd * 1,000,000 gal/MG / 7,854 ft^2 * 1 units = 2,075 gpd/sq ft

Table 4-7
Primary Treatment Design Criteria

Parameter	Units	Value
Capacity, each	gpm @ psi	230 @ 62
Primary Scum Pumps[1]		
Number	units	2
Type	--	Progressive cavity
Capacity, each	gpm @ psi	100 @ 62
Ferric Chloride Storage and Feed System		
Number of storage tanks	units	1
Total storage volume	gal	9600
Number of pumps	units	2
Pump type	--	Diaphragm
Pump capacity, each	gph @ psi	53 @ 150
Ferric chloride dosage	mg/L	5 to 8
Total ferric chloride use	lbs/day	695
Polymer Storage and Feed System		
Number of storage tanks	units	2 Totes (as needed)
Total storage volume	gal	275 (per tote)
Number of pumps	units	2
Pump type	--	Diaphragm
Pump capacity, each	gph @ psi	4 @ 100
Polymer dosage	mg/L	0.15

1. Reference: Carollo, 2004, unless otherwise noted.
2. Refer to right margin for calculated values.

Table 4-8
Primary Treatment Capacity

Process	Peak Capacity (mgd)	Annual Average Capacity With All Units in Service (mgd)	Title 22 Reliable Annual Average Capacity (mgd)
Primary Clarifiers	32.6[1]	16.3	16.3[2]

1. For more information on calculated values, see right margin.
2. Refer to the discussion in Section 4 regarding Title 22 Reliable Annual Average Capacity.

Comment [BGS17]: 16.3 mgd * 2 units = 32.6 mgd

Table 4-9
Secondary Treatment Design Criteria[1]

Parameter	Units	Value
Aeration Basins:		
Number	units	2
Volume, each	MG	5.16
Depth	ft	19
Anoxic volume	%	17 - 58
Solids Retention Time (SRT)		
At Max Month Flow, all units in service	days	29.9
At Max Month Flow, 1 unit out of service	days	25.9
Design MLSS Concentration		
At Max Month Flow, all units in service	mg/L	3,770
At Max Month Flow, 1 unit out of service	mg/L	3,830
Hydraulic Retention Time (HRT)		
At Max Month Flow, all units in service	hrs	13.4
At Max Month Flow, 1 unit out of service	hrs	11.7
Lbs MLSS/mgd		
At Max Month Flow, all units in service	lbs MLSS/mgd	17,511
At Max Month Flow, 1 unit out of service	lbs MLSS/mgd	15,563
Nominal HRT (with 200% MLR)		
At Max Month Flow, all units in service	hrs	2.8
At Max Month Flow, 1 unit out of service	hrs	2.1
Mixed Liquor Return Pumps		
Number	per basin	1
Type	--	Propeller, variable speed
Capacity, each	gpm	6,300
Recirculation ratio	Qr/Qi (avg)	1 - 3
Secondary Clarifiers:		
Number	units	4
Diameter	ft	130
Surface area, each	sq ft	13,273
Side water depth	ft	17

Table 4-9
Secondary Treatment Design Criteria[1]

Parameter	Units	Value
Flow to secondary clarifiers based on maximum month flow conditions[2]	mgd	18.9
Surface Overflow Rate		
At Max Month Flow, all units in service[2]	gpd/sq ft	356
At Max Month Flow, 1 unit out of service[2]	gpd/sq ft	475
At Max Primary Effluent Weir Setting Flow, 23.4 mgd, all units in service[2]	gpd/sq ft	441
At Max Primary Effluent Weir Setting, 23.4 mgd, 1 unit out of service[2]	gpd/sq ft	588
Peak Capacity at Overflow 600 gpd/sq ft, all units in service[2]	mgd	31.9
Peak Capacity at Overflow 600 gpd/sq ft, 1 unit out of service[2]	mgd	23.9
Annual Average Capacity at Overflow rate 600 gpd/sq ft, all units in service[2]	mgd	22.2
Annual Average Capacity at Overflow rate 600 gpd/sq ft, 1 unit out of service[2]	mgd	16.6
Secondary Treatment Process peaking factor (flow equalized)[2]	--	1.44
Design maximum SVI	ml/g	150
Return Activated Sludge Pumps		
Number	units	5
Type	--	Screw Centrifugal, Variable Speed
Capacity, each	gpm	2,500
Return ratio	percent of ADF	70 to 170
Return sludge concentration	mg/L	3,000 – 9,000
Waste Activated Sludge Pumps (WAS)		
Number	units	2
Type	--	Positive Displacement, Variable Speed
Capacity, each	gpm	100

Comment [BGS18]: (18.9 mgd x 1,000,000) / (13,273 ft2 x 4 units) = 356 gpd/sq ft

Comment [BGS19]: 18.9 mgd x 1,000,000) / (13,273 ft2 x 3 units) = 475 gpd/sq ft

Comment [BGS20]: 23.4 mgd x 1,000,000) / (13,273 sq ft x 4 units) = 441 gpd/sq ft

Comment [BGS21]: 23.4 mgd x 1,000,000) / (13,273 sq ft x 3 units) = 588 gpd/sq ft

Comment [BGS22]: (13,273 sq ft x 4 units x 600 gpd/sq ft) / 1000000 = 31.9 mgd

Comment [BGS23]: (13,273 sq ft x 3 units x 600 gpd/sq ft) / 1000000 = 23.9 mgd

Comment [BGS24]: (13,273 sq ft x 4 units x 600 gpd/sq ft) / 1000000 = 31.9 mgd / 1.44 p.f. = 22.2 mgd

Comment [BGS25]: (13,273 sq ft x 3 units x 600 gpd/sq ft) / 1000000 = 23.9 mgd / 1.44 p.f. = 16.6 mgd

Comment [BGS26]: 23.4 mgd / 16.3 mgd = 1.44 p.f.

Table 4-9
Secondary Treatment Design Criteria[1]

Parameter	Units	Value
Secondary Scum Pumps		
Number	units	2
Type	--	Submersible
Capacity, each	gpm	600

1. Reference: Carollo, 2004, unless otherwise noted.
2. Refer to right margin for calculations.

Table 4-10
Secondary Treatment Capacity[1]

Process	Peak Capacity (mgd)	Annual Average Capacity Using Redundancy (mgd)	Title 22 Reliable Annual Average Capacity (mgd)
Aeration Basins	23.4[2]	17.1[3]	16.3
Secondary Clarifiers	31.9	22.2	16.6

1. Refer to Table 4-9 above for calculations.
2. Peak capacity with all aeration basins in service is based on the primary effluent weir setting.
3. Reference: Carollo, 2004.

Table 4-11
Filtration Design Criteria[1]

Parameter	Units	Value
Filters:		
Number of filters	units	12
Surface area per filter	sq ft	300
Design peak surface loading rate	gpm/sq ft	5.0
Length	ft	21 feet 3 inches
Width	ft	14 feet 2 inches
Filter bed depth	ft	40
Backwash flow	%	5
Maximum capacity, all units in service (at 5 gpm/sq ft)[2]	mgd	25.9
Maximum capacity, one unit out of service (at 5 gpm/sq ft)[2]	mgd	23.8
Filtration System peaking factor (flow equalized)[2]	--	1.44
Annual average capacity, all units in	mgd	18.0

Comment [BGS27]: 5 gpm/sq ft x 300 sq ft x 12 units = 18,000 gpm = 25.9 mgd

Comment [BGS28]: 5 gpm/sq ft x 300 sq ft x 11 units = 16,500 gpm = 23.8 mgd

Comment [BGS29]: 23.4 mgd / 16.3 mgd = 1.44 p.f.

Comment [BGS30]: 5 gpm/sq ft x 300 sq ft x 12 units = 18,000 gpm = 25.9 mgd / 1.44 p.f. = 18.0 mgd

Table 4-11
Filtration Design Criteria[1]

Parameter	Units	Value
service (at 5 gpm/sq ft)[2]		
Annual average capacity, one unit out of service (at 5 gpm/sq ft)[2]	mgd	16.5
Media		
Type	--	High grade silica sand (minimum 95% silica)
Effective size	mm	0.9
Uniformity coefficient	--	≤1.5
Rapid Mixer		
Horsepower	hp	10
Speed	rpm	100
Velocity gradient, G	1/seconds	300
Flocculators		
Number	units	4
Horsepower, each (listed from upstream to downstream flocculators)	hp	3.0, 2.0, 1.5, 1.0
Maximum speed, each (listed from upstream to downstream flocculators)	rpm	45, 37, 30, 25
Minimum speed	rpm	½ of maximum speed
Speed control	--	Variable frequency drive
Velocity gradient (listed from upstream to downstream flocculators)	1/seconds	40-80, 30-60, 22-44, 17-34
Filter Recycle Pumps		
Number	units	3
Capacity, each	gpm @ ft	420 @ 28
Horsepower, each	hp	7.5
Alum System		
Design average flow	mgd	15
Design peak flow	mgd	30
Design average dosage	mg/L	1
Design peak dosage	mg/L	5
Peak alum feed rate required	gph	10
Number of alum pumps	units	2 (1 duty, 1 standby)
Alum pump capacity, each	gph	12
Storage at average flow and dosage	days	14

1. Reference: Carollo, 2004, unless otherwise noted.
2. For more information on calculated values, see right margin.

Comment [BGS31]: 5 gpm/sq ft x 300 sq ft x 11 units = 16,500 gpm = 23.8 mgd / 1.44 p.f. = 16.5 mgd

Table 4-12
Chlorination and Dechlorination Design Criteria[1]

Parameter	Units	Value
Chlorine Contact Basins:		
Number	units	2
Number of channels per basin	--	5
Length	ft	125
Width, per channel	ft	12.5
Side water depth[2]	ft	15.5
Volume, per basin[3]	gal	900,000
Total volume[3]	gal	1,800,000
Required modal contact time	min	90
Ratio of modal to theoretical contact time	--	0.815
Peak capacity	mgd	23.5
Annual average capacity[3]	mgd	16.3
Sodium Hypochlorite System		
Design average flow	mgd	15
Design peak flow	mgd	30
Design average dosage	mg/L	15
Design peak dosage	mg/L	20
Peak hypochlorite feed rate required	gph	200
Number of hypochlorite pumps	units	4 (3 duty, 1 standby)
Hypochlorite pump capacity, each	gph	77
Storage at average flow and dosage	days	14
Dechlorination System:		
Average sodium bisulfite dose	mg/L	5.76
Average sodium bisulfite feed rate	lbs/day	476
Average sodium bisulfite use	gpd	282
Maximum sodium bisulfite dose	mg/L	11.5
Maximum sodium bisulfite feed rate	lbs/day	892
Maximum sodium bisulfite use	gpd	536
Sodium Bisulfite Feed Pumps		
Number of tanks	units	2
Volume per tank	gallons	5200
Total storage	gallons	10400
Sodium Bisulfite Feed Pumps		
Number of pumps	units	4
Capacity per pump	gph	53 gph @ 150psi

1. Reference: Carollo, 2004, unless otherwise noted.
2. Assuming effluent weir elevation of 568.94.
3. For more information on calculated values, see right margin.

Comment [BGS32]: 125 ft x (12.5 ft x 5 channels) x 15.5 ft = 121,094 cu ft = 900,000 gal (approximate)

Comment [BGS33]: (125 ft x (12.5 ft x 5 channels) x 15.5 ft) x 2 basins = 242,188 cu ft = 1,800,000 gal (approximate)

Comment [BGS34]: 23.5 mgd / 1.44 p.f. = 16.3 mgd

Table 4-13
Tertiary Treatment Capacity[1]

Process	Peak Capacity (mgd)	Annual Average Capacity Using Redundancy (mgd)	Title 22 Reliable Annual Average Capacity (mgd)
Filters	25.9	18.0	16.5
Chlorine Contact Basins	23.5[2]	16.3	16.3

1. For more information on calculated values, see right margin.
2. Refer to Section 4 for more information on the maximum flow allowable through the chlorine contact basins.

Comment [BGS35]: 5 gpm/sq ft x 300 sq ft x 12 units = 18,000 gpm = 25.9 mgd

Comment [BGS36]: 5 gpm/sq ft x 300 sq ft x 12 units = 18,000 gpm = 25.9 mgd / 1.44 p.f. = 18.0 mgd

Comment [BGS37]: 25.9 mgd / 12 units. = 2.16 mgd per unit x 11 units = 23.7 mgd / 1.44 p.f. = 16.5 mgd

Comment [BGS38]: 23.5 mgd / 1.44 p.f. = 16.3 mgd

Appendix D

INLAND EMPIRE UTILITIES AGENCY

REGIONAL PLANT NO. 5

CHLORINE CONTACT BASIN CONTACT TIME TESTING

City of Chino, California
CCB Contact Time Testing - Inland RP5
June 2004
SFE File #C43-03

Final Report

Submitted To:

Carollo Engineers
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Fountain Valley, California
92708
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95834
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1.0 INTRODUCTION

This report provides details of the Chlorine Contact Basin (CCB) testing conducted by SFE Global at the RP5 WWTP in the City of Chino, California. The project included the injection of concentrated salt solution into the CCB and the measurement of conductivity at the outlet of the CCB for Title 22 conformance. Testing was performed on May 15th, 2004.

Mr. Rob Larson, as Project Manager and Mr. Michael Cottle as Field Service Technician represented SFE during this project.

2.0 TESTING PROGRAM

Testing was performed according to methodology developed by Turner Designs, the manufacturer of fluorometry equipment utilized by SFE Global. Due to high chlorine residual concentration an alternative method of testing was performed with a slug injection of supersaturated salt solution. Conductivity measurements were performed at the CCB outlet with a Foxborough Digital Conductivity Meter and data logger. Logged data and manual readings were used to determine Modal contact time of the Chlorine Contact Basin, relative to the time of slug-injection at the inlet.

The methodology used for this application was as follows:

- Install conductivity meter at the outlet, approximately two feet below water surface.
- Dose granular salt into water and mix until dissolved.
- Slug inject salt solution near the CCB chlorine injection diffuser.
- Read conductivity data at outlet and record values for calculation of Modal contact time.

Conditions were excellent for this testing. Flow rate from the plant flow meter was obtained and recorded during the test. The average flow rate over the testing period is indicated on the following table of contact times. Data obtained indicated a well-defined peak conductivity.

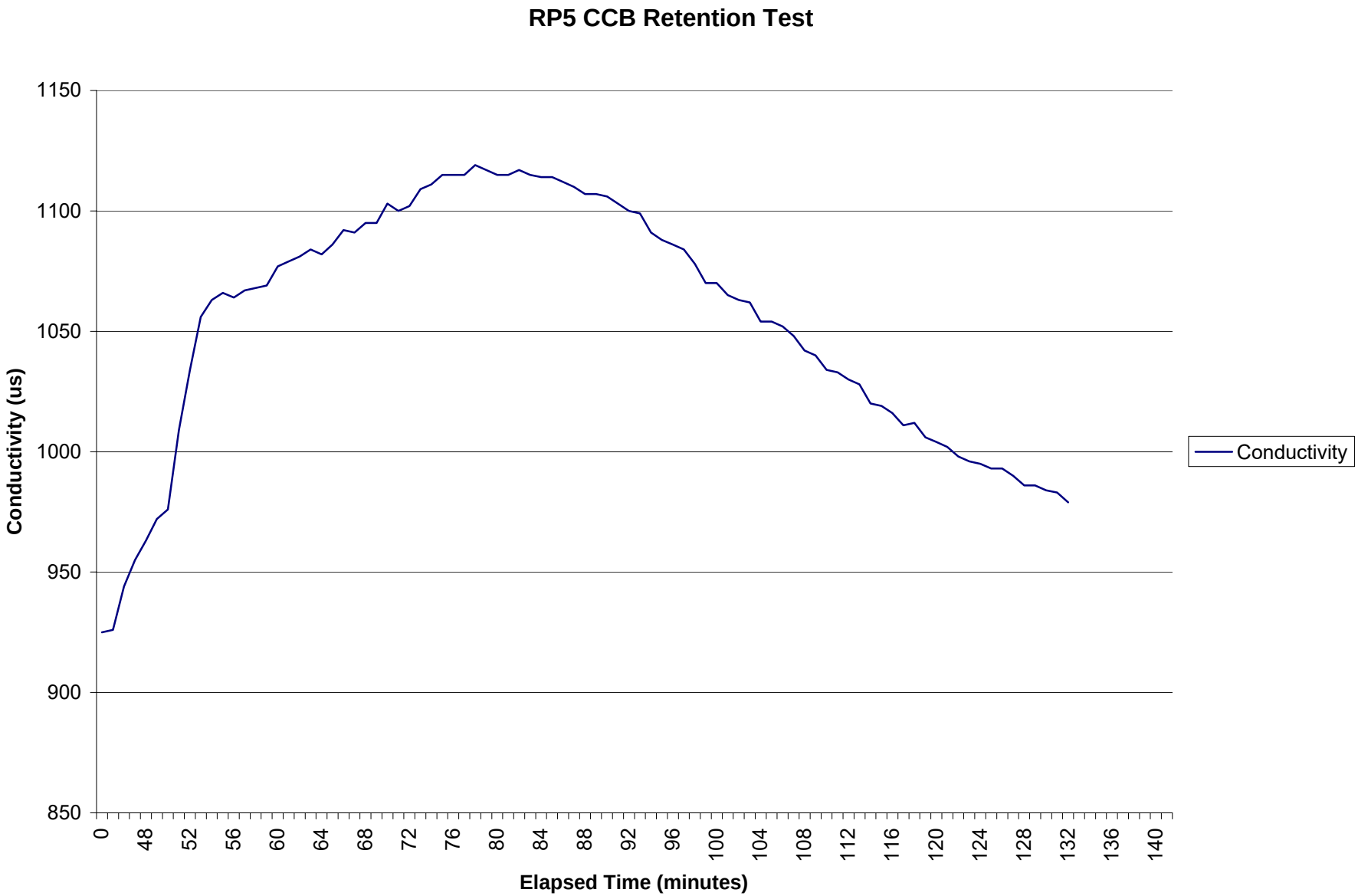
3.0 TEST RESULTS

RP5 Chlorine Contact Basin		
Parameter	**Elapsed Time (Minutes)**	**Flow Rate (Average)**
Minimum	45	13.53
Maximum	141	13.53
Modal	78	13.53

4.0 CONCLUSION

The testing performed on the Inland RP5 CCB was considered successful and a well-defined conductivity peak was observed. Plant flow rate was observed and recorded on the data spreadsheet attached.

Report End
June 2004


RP5 CCB Retention Test
Conductivity (us)
1150
1100
1050
1000
950
900
850
0
48
52
56
60
64
68
72
76
80
84
88
92
96
100
104
108
112
116
120
124
128
132
136
140
Elapsed Time (minutes)
Conductivity

Appendix E

INLAND EMPIRE UTILITIES AGENCY

REGIONAL PLANT NO. 5

ALARMS

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6053	NPDES	CL2 HIGH INDIVIDUAL EXCURSION	ACCUM	HMA	5
CP6053	NPDES	MONTHLY CL2 TOTAL TIME	ACCUM	HMA	5
CP6053	NPDES	PH HI/LO INDIVIDUAL EXCURSION	ACCUM	HMA	5
CP6053	NPDES	MONTHLY PH TOTAL TIME	ACCUM	HMA	5
CP6053	NPDES	TURB MINUTES ABOVE 5 NTU	ACCUM	HMA	5
ABST51	AB_SCRN_COMP	SCOMP NO. 1 LEVEL INDICAT	AIN	BAD	2
ABST51	AB_SCRN_COMP		AIN	OOR	2
ABST51	BLOWER1	BLWR 1A INLET VANEPOSITION	AIN	BAD	2
ABST51	BLOWER1	BLWR 1A INLET VANEPOSITION	AIN	OOR	2
ABST51	BLOWER1	BLWR 1A DIFFUSER POSITION	AIN	BAD	5
ABST51	BLOWER1	BLWR 1A DIFFUSER POSITION	AIN	OOR	5
ABST51	BLOWER1	BLWR 1A MOTOR CURRENT	AIN	HMA	2
ABST51	BLOWER1	BLWR 1A MOTOR CURRENT	AIN	OOR	2
ABST51	BLOWER1	BLWR 1A MOTOR CURRENT	AIN	BAD	2
ABST51	BLOWER1	BLWR 1A MOTOR CURRENT	AIN	HHA	2
ABST51	BLOWER1	BLOWER 1A DIFF PRESS	AIN	HHA	5
ABST51	BLOWER1	BLOWER 1A DIFF PRESS	AIN	HMA	5
ABST51	BLOWER1	BLOWER 1A DIFF PRESS	AIN	OOR	0
ABST51	BLOWER1	BLOWER 1A DIFF PRESS	AIN	BAD	0
ABST51	BLOWER1	AERATION SYSTEM HEADER PRESS	AIN	OOR	0
ABST51	BLOWER1	AERATION SYSTEM HEADER PRESS	AIN	HHA	5
ABST51	BLOWER1	AERATION SYSTEM HEADER PRESS	AIN	HMA	2
ABST51	BLOWER1	AERATION SYSTEM HEADER PRESS	AIN	BAD	0
ABST51	BLOWER1	BLOWER 1A SUC AIR TEMP	AIN	HHA	2
ABST51	BLOWER1	BLOWER 1A SUC AIR TEMP	AIN	HMA	2
ABST51	BLOWER1	BLOWER 1A SUC AIR TEMP	AIN	OOR	2
ABST51	BLOWER1	BLOWER 1A SUC AIR TEMP	AIN	BAD	2
ABST51	BLOWER1	B1A BEARING TMP LO SPD INNER	AIN	LLA	2
ABST51	BLOWER1	B1A BEARING TMP LO SPD INNER	AIN	HHA	2
ABST51	BLOWER1	B1A BEARING TMP LO SPD INNER	AIN	LMA	2
ABST51	BLOWER1	B1A BEARING TMP LO SPD INNER	AIN	HMA	2
ABST51	BLOWER1	B1A BEARING TMP LO SPD INNER	AIN	OOR	2
ABST51	BLOWER1	B1A BEARING TMP LO SPD INNER	AIN	BAD	2
ABST51	BLOWER1	B1A BEARING TMP LO SPD OUTER	AIN	LLA	2
ABST51	BLOWER1	B1A BEARING TMP LO SPD OUTER	AIN	HHA	2
ABST51	BLOWER1	B1A BEARING TMP LO SPD OUTER	AIN	LMA	2
ABST51	BLOWER1	B1A BEARING TMP LO SPD OUTER	AIN	OOR	2
ABST51	BLOWER1	B1A BEARING TMP LO SPD OUTER	AIN	BAD	2
ABST51	BLOWER1	B1A BEARING TMP LO SPD OUTER	AIN	HMA	2
ABST51	BLOWER1	B1A BEARING TMP HI SPD INNER	AIN	LMA	2
ABST51	BLOWER1	B1A BEARING TMP HI SPD INNER	AIN	HHA	2
ABST51	BLOWER1	B1A BEARING TMP HI SPD INNER	AIN	LLA	2
ABST51	BLOWER1	B1A BEARING TMP HI SPD INNER	AIN	HMA	2
ABST51	BLOWER1	B1A BEARING TMP HI SPD INNER	AIN	OOR	2
ABST51	BLOWER1	B1A BEARING TMP HI SPD INNER	AIN	BAD	2
ABST51	BLOWER1	B1A BEARING TMP HI SPD OUTER	AIN	OOR	2
ABST51	BLOWER1	B1A BEARING TMP HI SPD OUTER	AIN	LLA	2
ABST51	BLOWER1	B1A BEARING TMP HI SPD OUTER	AIN	HHA	2
ABST51	BLOWER1	B1A BEARING TMP HI SPD OUTER	AIN	LMA	2
ABST51	BLOWER1	B1A BEARING TMP HI SPD OUTER	AIN	BAD	2
ABST51	BLOWER1	B1A BEARING TMP HI SPD OUTER	AIN	HMA	2
ABST51	BLOWER1	B1A BEARING TMP HI SPD THRUST	AIN	BAD	2
ABST51	BLOWER1	B1A BEARING TMP HI SPD THRUST	AIN	OOR	2

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
ABST51	BLOWER1	B1A BEARING TMP HI SPD THRUST	AIN	HMA	2
ABST51	BLOWER1	B1A BEARING TMP HI SPD THRUST	AIN	LMA	2
ABST51	BLOWER1	B1A BEARING TMP HI SPD THRUST	AIN	HHA	2
ABST51	BLOWER1	B1A BEARING TMP HI SPD THRUST	AIN	LLA	2
ABST51	BLOWER1	B1A MOTOR TEMP WIND A	AIN	BAD	2
ABST51	BLOWER1	B1A MOTOR TEMP WIND A	AIN	LLA	2
ABST51	BLOWER1	B1A MOTOR TEMP WIND A	AIN	HHA	2
ABST51	BLOWER1	B1A MOTOR TEMP WIND A	AIN	LMA	2
ABST51	BLOWER1	B1A MOTOR TEMP WIND A	AIN	HMA	2
ABST51	BLOWER1	B1A MOTOR TEMP WIND A	AIN	OOR	2
ABST51	BLOWER1	B1A MOTOR TEMP WIND B	AIN	LLA	2
ABST51	BLOWER1	B1A MOTOR TEMP WIND B	AIN	HHA	2
ABST51	BLOWER1	B1A MOTOR TEMP WIND B	AIN	OOR	2
ABST51	BLOWER1	B1A MOTOR TEMP WIND B	AIN	BAD	2
ABST51	BLOWER1	B1A MOTOR TEMP WIND B	AIN	LMA	2
ABST51	BLOWER1	B1A MOTOR TEMP WIND B	AIN	HMA	2
ABST51	BLOWER1	B1A MOTOR TEMP WIND C	AIN	HMA	2
ABST51	BLOWER1	B1A MOTOR TEMP WIND C	AIN	LLA	2
ABST51	BLOWER1	B1A MOTOR TEMP WIND C	AIN	HHA	2
ABST51	BLOWER1	B1A MOTOR TEMP WIND C	AIN	LMA	2
ABST51	BLOWER1	B1A MOTOR TEMP WIND C	AIN	OOR	2
ABST51	BLOWER1	B1A MOTOR TEMP WIND C	AIN	BAD	2
ABST51	BLOWER1	BLWR 1A BEARING VIBRATION X	AIN	BAD	2
ABST51	BLOWER1	BLWR 1A BEARING VIBRATION X	AIN	HMA	2
ABST51	BLOWER1	BLWR 1A BEARING VIBRATION X	AIN	HHA	2
ABST51	BLOWER1	BLWR 1A BEARING VIBRATION X	AIN	OOR	2
ABST51	BLOWER1	BLWR 1A BEARING VIBRATION Y	AIN	HMA	2
ABST51	BLOWER1	BLWR 1A BEARING VIBRATION Y	AIN	BAD	2
ABST51	BLOWER1	BLWR 1A BEARING VIBRATION Y	AIN	HHA	2
ABST51	BLOWER1	BLWR 1A BEARING VIBRATION Y	AIN	OOR	2
ABST51	BLOWER1	BLWR 1A BEARING VIBRATION Z	AIN	LMA	2
ABST51	BLOWER1	BLWR 1A BEARING VIBRATION Z	AIN	HMA	2
ABST51	BLOWER1	BLWR 1A BEARING VIBRATION Z	AIN	HHA	2
ABST51	BLOWER1	BLWR 1A BEARING VIBRATION Z	AIN	OOR	5
ABST51	BLOWER1	BLWR 1A MOTOR VIBRATION INNR	AIN	HHA	2
ABST51	BLOWER1	BLWR 1A MOTOR VIBRATION INNR	AIN	BAD	2
ABST51	BLOWER1	BLWR 1A MOTOR VIBRATION INNR	AIN	OOR	2
ABST51	BLOWER1	BLWR 1A MOTOR VIBRATION INNR	AIN	HMA	2
ABST51	BLOWER1	BLWR 1A MOTOR VIBRATION OUTR	AIN	BAD	2
ABST51	BLOWER1	BLWR 1A MOTOR VIBRATION OUTR	AIN	HHA	2
ABST51	BLOWER1	BLWR 1A MOTOR VIBRATION OUTR	AIN	HMA	2
ABST51	BLOWER1	BLWR 1A MOTOR VIBRATION OUTR	AIN	OOR	2
ABST51	BLOWER1	BLOWER 1A OIL RESERVE TP	AIN	HHA	5
ABST51	BLOWER1	BLOWER 1A OIL RESERVE TP	AIN	LMA	5
ABST51	BLOWER1	BLOWER 1A OIL RESERVE TP	AIN	HMA	5
ABST51	BLOWER1	BLOWER 1A OIL RESERVE TP	AIN	OOR	0
ABST51	BLOWER1	BLOWER 1A OIL RESERVE TP	AIN	BAD	0
ABST51	BLOWER1	BLOWER 1A OIL RESERVE TP	AIN	LLA	5
ABST51	BLOWER2	BLWR 1B INLET VANEPOSITION	AIN	OOR	5
ABST51	BLOWER2	BLWR 1B INLET VANEPOSITION	AIN	BAD	5
ABST51	BLOWER2	BLWR 1B DIFFUSER POSITION	AIN	BAD	2
ABST51	BLOWER2	BLWR 1B DIFFUSER POSITION	AIN	OOR	2
ABST51	BLOWER2	BLWR 1B MOTOR CURRENT	AIN	BAD	2

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
ABST51	BLOWER2	BLWR 1B MOTOR CURRENT	AIN	HMA	2
ABST51	BLOWER2	BLWR 1B MOTOR CURRENT	AIN	HHA	2
ABST51	BLOWER2	BLWR 1B MOTOR CURRENT	AIN	OOR	2
ABST51	BLOWER2	BLOWER 1B DIFF PRESS	AIN	HMA	2
ABST51	BLOWER2	BLOWER 1B DIFF PRESS	AIN	OOR	2
ABST51	BLOWER2	BLOWER 1B DIFF PRESS	AIN	BAD	2
ABST51	BLOWER2	BLOWER 1B DIFF PRESS	AIN	HHA	2
ABST51	BLOWER2	BLOWER 1B SUC AIR TEMP	AIN	BAD	2
ABST51	BLOWER2	BLOWER 1B SUC AIR TEMP	AIN	OOR	2
ABST51	BLOWER2	BLOWER 1B SUC AIR TEMP	AIN	HMA	2
ABST51	BLOWER2	BLOWER 1B SUC AIR TEMP	AIN	HHA	2
ABST51	BLOWER2	B1B BEARING TMP LO SPD INNER	AIN	HHA	2
ABST51	BLOWER2	B1B BEARING TMP LO SPD INNER	AIN	BAD	2
ABST51	BLOWER2	B1B BEARING TMP LO SPD INNER	AIN	OOR	2
ABST51	BLOWER2	B1B BEARING TMP LO SPD INNER	AIN	HMA	2
ABST51	BLOWER2	B1B BEARING TMP LO SPD INNER	AIN	LMA	2
ABST51	BLOWER2	B1B BEARING TMP LO SPD INNER	AIN	LLA	2
ABST51	BLOWER2	B1B BEARING TMP LO SPD OUTER	AIN	LLA	2
ABST51	BLOWER2	B1B BEARING TMP LO SPD OUTER	AIN	LMA	2
ABST51	BLOWER2	B1B BEARING TMP LO SPD OUTER	AIN	OOR	2
ABST51	BLOWER2	B1B BEARING TMP LO SPD OUTER	AIN	HMA	2
ABST51	BLOWER2	B1B BEARING TMP LO SPD OUTER	AIN	HHA	2
ABST51	BLOWER2	B1B BEARING TMP LO SPD OUTER	AIN	BAD	2
ABST51	BLOWER2	B1B BEARING TMP HI SPD INNER	AIN	BAD	2
ABST51	BLOWER2	B1B BEARING TMP HI SPD INNER	AIN	HMA	2
ABST51	BLOWER2	B1B BEARING TMP HI SPD INNER	AIN	LMA	2
ABST51	BLOWER2	B1B BEARING TMP HI SPD INNER	AIN	HHA	2
ABST51	BLOWER2	B1B BEARING TMP HI SPD INNER	AIN	LLA	2
ABST51	BLOWER2	B1B BEARING TMP HI SPD INNER	AIN	OOR	2
ABST51	BLOWER2	B1B BEARING TMP HI SPD OUTER	AIN	HHA	2
ABST51	BLOWER2	B1B BEARING TMP HI SPD OUTER	AIN	LLA	2
ABST51	BLOWER2	B1B BEARING TMP HI SPD OUTER	AIN	LMA	2
ABST51	BLOWER2	B1B BEARING TMP HI SPD OUTER	AIN	HMA	2
ABST51	BLOWER2	B1B BEARING TMP HI SPD OUTER	AIN	OOR	2
ABST51	BLOWER2	B1B BEARING TMP HI SPD OUTER	AIN	BAD	2
ABST51	BLOWER2	B1B BEARING TMP HI SPD THRUST	AIN	LLA	2
ABST51	BLOWER2	B1B BEARING TMP HI SPD THRUST	AIN	HHA	2
ABST51	BLOWER2	B1B BEARING TMP HI SPD THRUST	AIN	HMA	2
ABST51	BLOWER2	B1B BEARING TMP HI SPD THRUST	AIN	OOR	2
ABST51	BLOWER2	B1B BEARING TMP HI SPD THRUST	AIN	BAD	2
ABST51	BLOWER2	B1B BEARING TMP HI SPD THRUST	AIN	LMA	2
ABST51	BLOWER2	B1B MOTOR TEMP WIND A	AIN	LLA	2
ABST51	BLOWER2	B1B MOTOR TEMP WIND A	AIN	HHA	2
ABST51	BLOWER2	B1B MOTOR TEMP WIND A	AIN	LMA	2
ABST51	BLOWER2	B1B MOTOR TEMP WIND A	AIN	HMA	2
ABST51	BLOWER2	B1B MOTOR TEMP WIND A	AIN	OOR	2
ABST51	BLOWER2	B1B MOTOR TEMP WIND A	AIN	BAD	2
ABST51	BLOWER2	B1B MOTOR TEMP WIND B	AIN	LLA	2
ABST51	BLOWER2	B1B MOTOR TEMP WIND B	AIN	HHA	2
ABST51	BLOWER2	B1B MOTOR TEMP WIND B	AIN	LMA	2
ABST51	BLOWER2	B1B MOTOR TEMP WIND B	AIN	HMA	2
ABST51	BLOWER2	B1B MOTOR TEMP WIND B	AIN	OOR	2
ABST51	BLOWER2	B1B MOTOR TEMP WIND B	AIN	BAD	2

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
ABST51	BLOWER2	B1B MOTOR TEMP WIND C	AIN	LMA	2
ABST51	BLOWER2	B1B MOTOR TEMP WIND C	AIN	LLA	2
ABST51	BLOWER2	B1B MOTOR TEMP WIND C	AIN	BAD	2
ABST51	BLOWER2	B1B MOTOR TEMP WIND C	AIN	OOR	2
ABST51	BLOWER2	B1B MOTOR TEMP WIND C	AIN	HMA	2
ABST51	BLOWER2	B1B MOTOR TEMP WIND C	AIN	HHA	2
ABST51	BLOWER2	BLWR 1B BEARING VIBRATION X	AIN	HMA	2
ABST51	BLOWER2	BLWR 1B BEARING VIBRATION X	AIN	OOR	2
ABST51	BLOWER2	BLWR 1B BEARING VIBRATION X	AIN	BAD	2
ABST51	BLOWER2	BLWR 1B BEARING VIBRATION X	AIN	HHA	2
ABST51	BLOWER2	BLWR 1B BEARING VIBRATION Y	AIN	HHA	2
ABST51	BLOWER2	BLWR 1B BEARING VIBRATION Y	AIN	HMA	2
ABST51	BLOWER2	BLWR 1B BEARING VIBRATION Y	AIN	OOR	2
ABST51	BLOWER2	BLWR 1B BEARING VIBRATION Y	AIN	BAD	2
ABST51	BLOWER2	BLWR 1B BEARING VIBRATION Z	AIN	HMA	2
ABST51	BLOWER2	BLWR 1B BEARING VIBRATION Z	AIN	LMA	2
ABST51	BLOWER2	BLWR 1B BEARING VIBRATION Z	AIN	HHA	2
ABST51	BLOWER2	BLWR 1B MOTOR VIBRATION INNR	AIN	HMA	2
ABST51	BLOWER2	BLWR 1B MOTOR VIBRATION INNR	AIN	OOR	2
ABST51	BLOWER2	BLWR 1B MOTOR VIBRATION INNR	AIN	BAD	2
ABST51	BLOWER2	BLWR 1B MOTOR VIBRATION INNR	AIN	HHA	2
ABST51	BLOWER2	BLWR 1B MOTOR VIBRATION OUTR	AIN	HHA	2
ABST51	BLOWER2	BLWR 1B MOTOR VIBRATION OUTR	AIN	HMA	2
ABST51	BLOWER2	BLWR 1B MOTOR VIBRATION OUTR	AIN	OOR	2
ABST51	BLOWER2	BLWR 1B MOTOR VIBRATION OUTR	AIN	BAD	2
ABST51	BLOWER2	BLOWER 1B OIL RESERVE TP	AIN	LLA	2
ABST51	BLOWER2	BLOWER 1B OIL RESERVE TP	AIN	HHA	2
ABST51	BLOWER2	BLOWER 1B OIL RESERVE TP	AIN	LMA	2
ABST51	BLOWER2	BLOWER 1B OIL RESERVE TP	AIN	HMA	2
ABST51	BLOWER2	BLOWER 1B OIL RESERVE TP	AIN	OOR	2
ABST51	BLOWER2	BLOWER 1B OIL RESERVE TP	AIN	BAD	2
ABST51	HQ	FOXBORO ROOM TEMPERATURE	AIN	HMA	1
ABST51	HQ	HQA AND HQB KWH	AIN	LMA	5
ABST52	CCWRF	CCWRF BYPASS FLOW	AIN	LMA	5
ABST52	CCWRF	CCWRF BYPASS FLOW	AIN	HMA	5
ABST52	CIW_DATA	CIW LEVEL	AIN	HMA	1
ABST52	CIW_DATA	CIW LEVEL	AIN	LMA	1
ABST52	RP1_BYPASS	RP1 BYPASS FLOW METER 3	AIN	HMA	2
ABST52	RP1_BYPASS	RP1 BYPASS FLOW METER 3	AIN	LMA	2
CP6051	ALARM_PAGERS	RP5 PRI 1 ALARM ENABLE/DISABLE	AIN	LMA	5
CP6051	ALARM_PAGERS	RP5 PRI 1 ALARM ENABLE/DISABLE	AIN	HMA	5
CP6051	ALARM_PAGERS	RP5 PRI 1 ALARM ENABLE/DISABLE	AIN	HHA	5
CP6051	ES_PUMPS	EMERGENCY STORAG BASIN TO HDWR	AIN	HMA	2
CP6051	ES_PUMPS	EMERGENCY STORAG BASIN TO HDWR	AIN	OOR	2
CP6051	ES_PUMPS	EMERGENCY STORAG BASIN TO HDWR	AIN	BAD	2
CP6051	ES_PUMPS	EMERGENCY STORAG BASIN TO HDWR	AIN	LMA	2
CP6051	ES_PUMPS	EMERGENCY STORAG BASIN TO HDWR	AIN	LLA	2
CP6051	ES_PUMPS	EMERGENCY STORAG BASIN TO HDWR	AIN	HHA	2
CP6051	ES_PUMPS	EMERGENCY STORAGE BASIN LEVEL	AIN	LLA	2
CP6051	ES_PUMPS	EMERGENCY STORAGE BASIN LEVEL	AIN	HHA	2
CP6051	ES_PUMPS	EMERGENCY STORAGE BASIN LEVEL	AIN	LMA	2
CP6051	ES_PUMPS	EMERGENCY STORAGE BASIN LEVEL	AIN	HMA	2
CP6051	ES_PUMPS	EMERGENCY STORAGE BASIN LEVEL	AIN	OOR	2

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6051	ES_PUMPS	EMERGENCY STORAGE BASIN LEVEL	AIN	BAD	2
CP6051	ES_PUMPS	PES-6021 PMP 1 SPEED	AIN	LMA	2
CP6051	ES_PUMPS	PES-6021 PMP 1 SPEED	AIN	OOR	1
CP6051	ES_PUMPS	PES-6021 PMP 1 SPEED	AIN	BAD	1
CP6051	ES_PUMPS	PES-6021 PMP 1 SPEED	AIN	HHA	2
CP6051	ES_PUMPS	PES-6021 PMP 1 SPEED	AIN	LLA	2
CP6051	ES_PUMPS	PES-6021 PMP 1 SPEED	AIN	HMA	2
CP6051	ES_PUMPS	PES-6022 PMP 2 SPEED	AIN	HHA	2
CP6051	ES_PUMPS	PES-6022 PMP 2 SPEED	AIN	LMA	2
CP6051	ES_PUMPS	PES-6022 PMP 2 SPEED	AIN	LLA	2
CP6051	ES_PUMPS	PES-6022 PMP 2 SPEED	AIN	HMA	2
CP6051	ES_PUMPS	PES-6022 PMP 2 SPEED	AIN	OOR	1
CP6051	ES_PUMPS	PES-6022 PMP 2 SPEED	AIN	BAD	1
CP6051	ES_PUMPS	PES-6023 PMP 3 SPEED	AIN	BAD	1
CP6051	ES_PUMPS	PES-6023 PMP 3 SPEED	AIN	OOR	1
CP6051	ES_PUMPS	PES-6023 PMP 3 SPEED	AIN	HMA	2
CP6051	ES_PUMPS	PES-6023 PMP 3 SPEED	AIN	LMA	2
CP6051	ES_PUMPS	PES-6023 PMP 3 SPEED	AIN	HHA	2
CP6051	ES_PUMPS	PES-6023 PMP 3 SPEED	AIN	LLA	2
CP6051	FE_CHLORIDE	TNK-6004 NO. 2A LEVEL	AIN	OOR	2
CP6051	FE_CHLORIDE	TNK-6004 NO. 2A LEVEL	AIN	LLA	2
CP6051	FE_CHLORIDE	TNK-6004 NO. 2A LEVEL	AIN	HHA	2
CP6051	FE_CHLORIDE	TNK-6004 NO. 2A LEVEL	AIN	LMA	2
CP6051	FE_CHLORIDE	TNK-6004 NO. 2A LEVEL	AIN	HMA	2
CP6051	FE_CHLORIDE	TNK-6004 NO. 2A LEVEL	AIN	BAD	2
CP6051	HEADWORKS	BARSCREEN COMBUST GAS	AIN	BAD	1
CP6051	HEADWORKS	BARSCREEN COMBUST GAS	AIN	HMA	2
CP6051	HEADWORKS	BARSCREEN COMBUST GAS	AIN	LMA	2
CP6051	HEADWORKS	BARSCREEN COMBUST GAS	AIN	HHA	1
CP6051	HEADWORKS	BARSCREEN COMBUST GAS	AIN	LLA	1
CP6051	HEADWORKS	BARSCREEN COMBUST GAS	AIN	OOR	1
CP6051	HEADWORKS	BARSCREEN COMBUST GAS	AIN	LMA	2
CP6051	HEADWORKS	BARSCREEN COMBUST GAS	AIN	LLA	1
CP6051	HEADWORKS	BARSCREEN COMBUST GAS	AIN	HHA	1
CP6051	HEADWORKS	BARSCREEN COMBUST GAS	AIN	HMA	2
CP6051	HEADWORKS	BARSCREEN COMBUST GAS	AIN	BAD	1
CP6051	HEADWORKS	BARSCREEN COMBUST GAS	AIN	OOR	1
CP6051	HEADWORKS	BARSCREEN COMBUST GAS	AIN	LLA	1
CP6051	HEADWORKS	BARSCREEN COMBUST GAS	AIN	BAD	1
CP6051	HEADWORKS	BARSCREEN COMBUST GAS	AIN	HHA	1
CP6051	HEADWORKS	BARSCREEN COMBUST GAS	AIN	LMA	2
CP6051	HEADWORKS	BARSCREEN COMBUST GAS	AIN	HMA	2
CP6051	HEADWORKS	BARSCREEN COMBUST GAS	AIN	OOR	1
CP6051	HEADWORKS	BARSCREEN COMBUST GAS	AIN	LLA	2
CP6051	HEADWORKS	BARSCREEN COMBUST GAS	AIN	OOR	1
CP6051	HEADWORKS	BARSCREEN COMBUST GAS	AIN	HMA	2
CP6051	HEADWORKS	BARSCREEN COMBUST GAS	AIN	LMA	2
CP6051	HEADWORKS	BARSCREEN COMBUST GAS	AIN	HHA	2
CP6051	HEADWORKS	BARSCREEN COMBUST GAS	AIN	BAD	1
CP6051	HEADWORKS	BARSCREEN INLET LEVEL	AIN	BAD	2
CP6051	HEADWORKS	BARSCREEN INLET LEVEL	AIN	HMA	2
CP6051	HEADWORKS	BARSCREEN INLET LEVEL	AIN	LLA	5
CP6051	HEADWORKS	BARSCREEN INLET LEVEL	AIN	HHA	5

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6051	HEADWORKS	BARSCREEN INLET LEVEL	AIN	LMA	2
CP6051	HEADWORKS	BARSCREEN INLET LEVEL	AIN	OOR	2
CP6051	HEADWORKS	BARSCREEN OUTLET LEVEL	AIN	LLA	2
CP6051	HEADWORKS	BARSCREEN OUTLET LEVEL	AIN	HHA	2
CP6051	HEADWORKS	BARSCREEN OUTLET LEVEL	AIN	LMA	2
CP6051	HEADWORKS	BARSCREEN OUTLET LEVEL	AIN	HMA	2
CP6051	HEADWORKS	BARSCREEN OUTLET LEVEL	AIN	OOR	2
CP6051	HEADWORKS	BARSCREEN OUTLET LEVEL	AIN	BAD	2
CP6051	HEADWORKS	BS CHANNEL LEVEL DIFF	AIN	HMA	2
CP6051	HEADWORKS	BS CHANNEL LEVEL DIFF	AIN	BAD	2
CP6051	HEADWORKS	BS CHANNEL LEVEL DIFF	AIN	OOR	2
CP6051	INFLUENT	IPS DSCHRG HEADR PH	AIN	HHA	2
CP6051	INFLUENT	IPS DSCHRG HEADR PH	AIN	LLA	2
CP6051	INFLUENT	IPS DSCHRG HEADR PH	AIN	LMA	2
CP6051	INFLUENT	IPS DSCHRG HEADR PH	AIN	HMA	2
CP6051	INFLUENT	IPS DSCHRG HEADR PH	AIN	BAD	2
CP6051	INFLUENT	IPS DSCHRG HEADR PH	AIN	OOR	2
CP6051	INFLUENT	IPS DSCHRG HEADR CONDUCTIVITY	AIN	BAD	2
CP6051	INFLUENT	LAG/SBY PUMP HI/LO PERMISSIVE	AIN	LMA	5
CP6051	INFLUENT	LAG/SBY PUMP HI/LO PERMISSIVE	AIN	HMA	5
CP6051	INFLUENT	IPS DSCHRG HEADR FLOW	AIN	LMA	1
CP6051	INFLUENT	IPS DSCHRG HEADR FLOW	AIN	HHA	1
CP6051	INFLUENT	IPS DSCHRG HEADR FLOW	AIN	LLA	1
CP6051	INFLUENT	IPS DSCHRG HEADR FLOW	AIN	BAD	1
CP6051	INFLUENT	IPS DSCHRG HEADR FLOW	AIN	OOR	1
CP6051	INFLUENT	IPS DSCHRG HEADR FLOW	AIN	HMA	1
CP6051	INFLUENT	IPS WETWELL 1 COMBUST GAS	AIN	BAD	1
CP6051	INFLUENT	IPS WETWELL 1 COMBUST GAS	AIN	OOR	1
CP6051	INFLUENT	IPS WETWELL 1 COMBUST GAS	AIN	HMA	2
CP6051	INFLUENT	IPS WETWELL 1 COMBUST GAS	AIN	LMA	2
CP6051	INFLUENT	IPS WETWELL 1 COMBUST GAS	AIN	HHA	2
CP6051	INFLUENT	IPS WETWELL 1 COMBUST GAS	AIN	LLA	2
CP6051	INFLUENT	IPS WETWELL 2 COMBUST GAS	AIN	OOR	1
CP6051	INFLUENT	IPS WETWELL 2 COMBUST GAS	AIN	BAD	1
CP6051	INFLUENT	IPS WETWELL 2 COMBUST GAS	AIN	LMA	2
CP6051	INFLUENT	IPS WETWELL 2 COMBUST GAS	AIN	HHA	2
CP6051	INFLUENT	IPS WETWELL 2 COMBUST GAS	AIN	LLA	2
CP6051	INFLUENT	IPS WETWELL 2 COMBUST GAS	AIN	HMA	2
CP6051	INFLUENT	IPS JUNCT BOX COMBUST GAS	AIN	LMA	2
CP6051	INFLUENT	IPS JUNCT BOX COMBUST GAS	AIN	HMA	2
CP6051	INFLUENT	IPS JUNCT BOX COMBUST GAS	AIN	BAD	2
CP6051	INFLUENT	IPS JUNCT BOX COMBUST GAS	AIN	OOR	1
CP6051	INFLUENT	IPS JUNCT BOX COMBUST GAS	AIN	HHA	2
CP6051	INFLUENT	IPS JUNCT BOX COMBUST GAS	AIN	LLA	2
CP6051	INFLUENT	IPS WETWELL 1 LEVEL	AIN	BAD	1
CP6051	INFLUENT	IPS WETWELL 1 LEVEL	AIN	OOR	1
CP6051	INFLUENT	IPS WETWELL 1 LEVEL	AIN	HHA	1
CP6051	INFLUENT	IPS WETWELL 1 LEVEL	AIN	LLA	1
CP6051	INFLUENT	IPS WETWELL 1 LEVEL	AIN	LMA	1
CP6051	INFLUENT	IPS WETWELL 1 LEVEL	AIN	HMA	1
CP6051	INFLUENT	IPS WETWELL 2 LEVEL	AIN	HMA	1
CP6051	INFLUENT	IPS WETWELL 2 LEVEL	AIN	LLA	1
CP6051	INFLUENT	IPS WETWELL 2 LEVEL	AIN	BAD	1

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6051	INFLUENT	IPS WETWELL 2 LEVEL	AIN	OOR	1
CP6051	INFLUENT	IPS WETWELL 2 LEVEL	AIN	HHA	1
CP6051	INFLUENT	IPS WETWELL 2 LEVEL	AIN	LMA	1
CP6051	INFLUENT	IPS PMP 2 SPEED INDICATE	AIN	OOR	1
CP6051	INFLUENT	IPS PMP 2 SPEED INDICATE	AIN	BAD	1
CP6051	INFLUENT	IPS PMP 3 SPEED INDICATE	AIN	BAD	1
CP6051	INFLUENT	IPS PMP 3 SPEED INDICATE	AIN	OOR	1
CP6051	INFLUENT	IPS PMP 4 SPEED INDICATE	AIN	BAD	1
CP6051	INFLUENT	IPS PMP 4 SPEED INDICATE	AIN	OOR	1
CP6051	NO_ALARM1	FLOW RATE BELOW THRESHOLD	AIN	BAD	5
CP6051	NO_ALARM1	FLOW RATE BELOW THRESHOLD	AIN	LMA	5
CP6051	NO_ALARM1	FLOW RATE BELOW THRESHOLD	AIN	OOR	1
CP6051	NO_ALARM1	ESB LEVEL	AIN	HHA	2
CP6051	NO_ALARM1	ESB LEVEL	AIN	LMA	2
CP6051	NO_ALARM1	ESB LEVEL	AIN	BAD	5
CP6051	NO_ALARM1	ESB LEVEL	AIN	LLA	2
CP6051	NO_ALARM1	ESB LEVEL	AIN	HMA	2
CP6051	NO_ALARM1	ESB LEVEL	AIN	OOR	1
CP6051	NO_ALARM1		AIN	HMA	2
CP6051	NO_ALARM1		AIN	BAD	5
CP6051	NO_ALARM1		AIN	OOR	1
CP6051	NO_ALARM1		AIN	LMA	2
CP6051	NO_ALARM1		AIN	HHA	2
CP6051	NO_ALARM1		AIN	LLA	2
CP6051	NO_ALARM1	INFLUENT PUMP STATION	AIN	BAD	5
CP6051	NO_ALARM1	INFLUENT PUMP STATION	AIN	OOR	1
CP6051	NO_ALARM1	INFLUENT PUMP STATION	AIN	HMA	5
CP6051	NO_ALARM1	INFLUENT PUMP STATION	AIN	LMA	5
CP6051	NO_ALARM1	INFLUENT PUMP STATION	AIN	LLA	5
CP6051	NO_ALARM1	INFLUENT PUMP STATION	AIN	HHA	5
CP6051	NO_ALARM1	INFLUENT PUMP STATION	AIN	OOR	1
CP6051	NO_ALARM1	INFLUENT PUMP STATION	AIN	LMA	5
CP6051	NO_ALARM1	INFLUENT PUMP STATION	AIN	BAD	5
CP6051	NO_ALARM1	INFLUENT PUMP STATION	AIN	HMA	5
CP6051	POLYMER	PRIMARY POLYMER TOTE 1A LEVEL	AIN	BAD	1
CP6051	POLYMER	PRIMARY POLYMER TOTE 1A LEVEL	AIN	OOR	1
CP6051	POLYMER	PRIMARY POLYMER TOTE 1A LEVEL	AIN	HMA	2
CP6051	POLYMER	PRIMARY POLYMER TOTE 1A LEVEL	AIN	HHA	2
CP6051	POLYMER	PRIMARY POLYMER TOTE 1A LEVEL	AIN	LLA	2
CP6051	POLYMER	PRIMARY POLYMER TOTE 1A LEVEL	AIN	LMA	2
CP6051	POLYMER	PRIMARY POLYMER TOTE 2A LEVEL	AIN	LLA	2
CP6051	POLYMER	PRIMARY POLYMER TOTE 2A LEVEL	AIN	HHA	2
CP6051	POLYMER	PRIMARY POLYMER TOTE 2A LEVEL	AIN	LMA	2
CP6051	POLYMER	PRIMARY POLYMER TOTE 2A LEVEL	AIN	HMA	2
CP6051	POLYMER	PRIMARY POLYMER TOTE 2A LEVEL	AIN	OOR	1
CP6051	POLYMER	PRIMARY POLYMER TOTE 2A LEVEL	AIN	BAD	1
CP6051	POLYMER	BP-6021 NO. 1A SPEED	AIN	BAD	1
CP6051	POLYMER	BP-6021 NO. 1A SPEED	AIN	OOR	1
CP6051	POLYMER	BP-6021 NO. 1A SPEED	AIN	LLA	2
CP6051	POLYMER	BP-6021 NO. 1A SPEED	AIN	HHA	2
CP6051	POLYMER	BP-6021 NO. 1A SPEED	AIN	LMA	2
CP6051	POLYMER	BP-6021 NO. 1A SPEED	AIN	HMA	2
CP6051	POLYMER	BP-6022 NO. 1B SPEED	AIN	LLA	2

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6051	POLYMER	BP-6022 NO. 1B SPEED	AIN	HHA	2
CP6051	POLYMER	BP-6022 NO. 1B SPEED	AIN	LMA	2
CP6051	POLYMER	BP-6022 NO. 1B SPEED	AIN	OOR	1
CP6051	POLYMER	BP-6022 NO. 1B SPEED	AIN	HMA	2
CP6051	POLYMER	BP-6022 NO. 1B SPEED	AIN	BAD	1
CP6051	RP2_FLOW	RP2 FLOW	AIN	OOR	1
CP6051	RP2_FLOW	RP2 FLOW	AIN	BAD	5
CP6051	SLUDGE_PUMPS	TO RP-2 SOLID FACILITY	AIN	BAD	5
CP6051	SLUDGE_PUMPS	TO RP-2 SOLID FACILITY	AIN	OOR	5
CP6051	SLUDGE_PUMPS	TO RP-2 SOLID FACILITY	AIN	LLA	5
CP6051	SLUDGE_PUMPS	PRIMARY SCUM WETWELL	AIN	LMA	1
CP6051	SLUDGE_PUMPS	PRIMARY SCUM WETWELL	AIN	HMA	1
CP6051	SLUDGE_PUMPS	PRIMARY SCUM WETWELL	AIN	OOR	2
CP6051	SLUDGE_PUMPS	PRIMARY SCUM WETWELL	AIN	HHA	1
CP6051	SLUDGE_PUMPS	PRIMARY SCUM WETWELL	AIN	BAD	1
CP6051	SLUDGE_PUMPS	PRIMARY SCUM WETWELL	AIN	LLA	1
CP6052	AERATION_AIR	VAA-6052 ZONE 3A DISSOLVE O2	AIN	LLA	2
CP6052	AERATION_AIR	VAA-6052 ZONE 3A DISSOLVE O2	AIN	LMA	2
CP6052	AERATION_AIR	VAA-6052 ZONE 3A DISSOLVE O2	AIN	HMA	2
CP6052	AERATION_AIR	VAA-6052 ZONE 3A DISSOLVE O2	AIN	OOR	2
CP6052	AERATION_AIR	VAA-6052 ZONE 3A DISSOLVE O2	AIN	BAD	2
CP6052	AERATION_AIR	VAA-6053 ZONE 3B DISSOLVE O2	AIN	LMA	2
CP6052	AERATION_AIR	VAA-6053 ZONE 3B DISSOLVE O2	AIN	HMA	2
CP6052	AERATION_AIR	VAA-6053 ZONE 3B DISSOLVE O2	AIN	BAD	2
CP6052	AERATION_AIR	VAA-6053 ZONE 3B DISSOLVE O2	AIN	OOR	2
CP6052	AERATION_AIR	VAA-6054 ZONE 3C DISSOLVE O2	AIN	OOR	2
CP6052	AERATION_AIR	VAA-6054 ZONE 3C DISSOLVE O2	AIN	BAD	2
CP6052	AERATION_AIR	VAA-6054 ZONE 3C DISSOLVE O2	AIN	HMA	2
CP6052	AERATION_AIR	VAA-6054 ZONE 3C DISSOLVE O2	AIN	LLA	2
CP6052	AERATION_AIR	VAA-6054 ZONE 3C DISSOLVE O2	AIN	LMA	2
CP6052	AERATION_AIR	VAA-6055 ZONE 3D DISSOLVE O2	AIN	BAD	2
CP6052	AERATION_AIR	VAA-6055 ZONE 3D DISSOLVE O2	AIN	OOR	2
CP6052	AERATION_AIR	VAA-6055 ZONE 3D DISSOLVE O2	AIN	HMA	2
CP6052	AERATION_AIR	VAA-6055 ZONE 3D DISSOLVE O2	AIN	LMA	2
CP6052	AERATION_AIR	VAA6060 ZONE 4A DISSOLVE O2	AIN	HMA	2
CP6052	AERATION_AIR	VAA6060 ZONE 4A DISSOLVE O2	AIN	LLA	2
CP6052	AERATION_AIR	VAA6060 ZONE 4A DISSOLVE O2	AIN	LMA	2
CP6052	AERATION_AIR	VAA6060 ZONE 4A DISSOLVE O2	AIN	OOR	2
CP6052	AERATION_AIR	VAA6060 ZONE 4A DISSOLVE O2	AIN	BAD	2
CP6052	AERATION_AIR	VAA6061 ZONE 4B DISSOLVE O2	AIN	BAD	2
CP6052	AERATION_AIR	VAA6061 ZONE 4B DISSOLVE O2	AIN	OOR	2
CP6052	AERATION_AIR	VAA6061 ZONE 4B DISSOLVE O2	AIN	HMA	2
CP6052	AERATION_AIR	VAA6061 ZONE 4B DISSOLVE O2	AIN	LMA	2
CP6052	AERATION_AIR	VAA6062 ZONE 4C DISSOLVE O2	AIN	LLA	2
CP6052	AERATION_AIR	VAA6062 ZONE 4C DISSOLVE O2	AIN	HMA	2
CP6052	AERATION_AIR	VAA6062 ZONE 4C DISSOLVE O2	AIN	LMA	2
CP6052	AERATION_AIR	VAA6062 ZONE 4C DISSOLVE O2	AIN	BAD	2
CP6052	AERATION_AIR	VAA6062 ZONE 4C DISSOLVE O2	AIN	OOR	2
CP6052	AERATION_AIR	VAA6063 ZONE 4D DISSOLVE O2	AIN	LMA	2
CP6052	AERATION_AIR	VAA6063 ZONE 4D DISSOLVE O2	AIN	HMA	2
CP6052	AERATION_AIR	VAA6063 ZONE 4D DISSOLVE O2	AIN	OOR	2
CP6052	AERATION_AIR	VAA6063 ZONE 4D DISSOLVE O2	AIN	BAD	2
CP6052	AERATION_AIR	VAA-6052 ZONE 3A LOW FLOW	AIN	BAD	1

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6052	AERATION_AIR	VAA-6052 ZONE 3A LOW FLOW	AIN	OOR	1
CP6052	AERATION_AIR	VAA-6053 ZONE 3B LOW FLOW	AIN	BAD	1
CP6052	AERATION_AIR	VAA-6053 ZONE 3B LOW FLOW	AIN	OOR	1
CP6052	AERATION_AIR	VAA-6054 ZONE 3C LOW FLOW	AIN	BAD	1
CP6052	AERATION_AIR	VAA-6054 ZONE 3C LOW FLOW	AIN	OOR	1
CP6052	AERATION_AIR	VAA-6055 ZONE 3D LOW FLOW	AIN	OOR	1
CP6052	AERATION_AIR	VAA-6055 ZONE 3D LOW FLOW	AIN	BAD	1
CP6052	AERATION_AIR	VAA6060 ZONE 4A LOW FLOW	AIN	BAD	1
CP6052	AERATION_AIR	VAA6060 ZONE 4A LOW FLOW	AIN	OOR	1
CP6052	AERATION_AIR	VAA6061 ZONE 4B LOW FLOW	AIN	BAD	1
CP6052	AERATION_AIR	VAA6061 ZONE 4B LOW FLOW	AIN	OOR	1
CP6052	AERATION_AIR	VAA6062 ZONE 4C LOW FLOW	AIN	BAD	1
CP6052	AERATION_AIR	VAA6062 ZONE 4C LOW FLOW	AIN	OOR	1
CP6052	AERATION_AIR	VAA6063 ZONE 4D LOW FLOW	AIN	BAD	1
CP6052	AERATION_AIR	VAA6063 ZONE 4D LOW FLOW	AIN	OOR	1
CP6052	AERATION_AIR	AERATION TOTAL AIR FLOW	AIN	LMA	1
CP6052	AERATION_AIR	AERATION BASIN HEADER PRESS	AIN	OOR	1
CP6052	AERATION_AIR	AERATION BASIN HEADER PRESS	AIN	LMA	2
CP6052	AERATION_AIR	AERATION BASIN HEADER PRESS	AIN	HHA	2
CP6052	AERATION_AIR	AERATION BASIN HEADER PRESS	AIN	LLA	2
CP6052	AERATION_AIR	AERATION BASIN HEADER PRESS	AIN	BAD	1
CP6052	AERATION_AIR	AERATION BASIN HEADER PRESS	AIN	HMA	2
CP6052	AERATION_AIR	VAA-6052 ZONE 3A VALVE POS	AIN	BAD	1
CP6052	AERATION_AIR	VAA-6052 ZONE 3A VALVE POS	AIN	LLA	2
CP6052	AERATION_AIR	VAA-6052 ZONE 3A VALVE POS	AIN	HHA	2
CP6052	AERATION_AIR	VAA-6052 ZONE 3A VALVE POS	AIN	LMA	2
CP6052	AERATION_AIR	VAA-6052 ZONE 3A VALVE POS	AIN	OOR	1
CP6052	AERATION_AIR	VAA-6052 ZONE 3A VALVE POS	AIN	HMA	2
CP6052	AERATION_AIR	VAA-6053 ZONE 3B VALVE POS	AIN	BAD	1
CP6052	AERATION_AIR	VAA-6053 ZONE 3B VALVE POS	AIN	HMA	2
CP6052	AERATION_AIR	VAA-6053 ZONE 3B VALVE POS	AIN	LMA	2
CP6052	AERATION_AIR	VAA-6053 ZONE 3B VALVE POS	AIN	HHA	2
CP6052	AERATION_AIR	VAA-6053 ZONE 3B VALVE POS	AIN	LLA	2
CP6052	AERATION_AIR	VAA-6053 ZONE 3B VALVE POS	AIN	OOR	1
CP6052	AERATION_AIR	VAA-6054 ZONE 3C VALVE POS	AIN	HMA	2
CP6052	AERATION_AIR	VAA-6054 ZONE 3C VALVE POS	AIN	LMA	2
CP6052	AERATION_AIR	VAA-6054 ZONE 3C VALVE POS	AIN	LLA	2
CP6052	AERATION_AIR	VAA-6054 ZONE 3C VALVE POS	AIN	HHA	2
CP6052	AERATION_AIR	VAA-6054 ZONE 3C VALVE POS	AIN	OOR	1
CP6052	AERATION_AIR	VAA-6054 ZONE 3C VALVE POS	AIN	BAD	1
CP6052	AERATION_AIR	VAA-6055 ZONE 3D VALVE POS	AIN	HHA	2
CP6052	AERATION_AIR	VAA-6055 ZONE 3D VALVE POS	AIN	LMA	2
CP6052	AERATION_AIR	VAA-6055 ZONE 3D VALVE POS	AIN	HMA	2
CP6052	AERATION_AIR	VAA-6055 ZONE 3D VALVE POS	AIN	OOR	1
CP6052	AERATION_AIR	VAA-6055 ZONE 3D VALVE POS	AIN	BAD	1
CP6052	AERATION_AIR	VAA-6055 ZONE 3D VALVE POS	AIN	LLA	2
CP6052	AERATION_AIR	VAA-6060 ZONE 4A VALVE POS	AIN	BAD	1
CP6052	AERATION_AIR	VAA-6060 ZONE 4A VALVE POS	AIN	OOR	1
CP6052	AERATION_AIR	VAA-6060 ZONE 4A VALVE POS	AIN	HMA	2
CP6052	AERATION_AIR	VAA-6060 ZONE 4A VALVE POS	AIN	LMA	2
CP6052	AERATION_AIR	VAA-6060 ZONE 4A VALVE POS	AIN	HHA	2
CP6052	AERATION_AIR	VAA-6060 ZONE 4A VALVE POS	AIN	LLA	2
CP6052	AERATION_AIR	VAA-6061 ZONE 4B VALVE POS	AIN	BAD	1

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6052	AERATION_AIR	VAA-6061 ZONE 4B VALVE POS	AIN	LLA	2
CP6052	AERATION_AIR	VAA-6061 ZONE 4B VALVE POS	AIN	HHA	2
CP6052	AERATION_AIR	VAA-6061 ZONE 4B VALVE POS	AIN	LMA	2
CP6052	AERATION_AIR	VAA-6061 ZONE 4B VALVE POS	AIN	HMA	2
CP6052	AERATION_AIR	VAA-6061 ZONE 4B VALVE POS	AIN	OOR	1
CP6052	AERATION_AIR	VAA-6062 ZONE 4C VALVE POS	AIN	OOR	1
CP6052	AERATION_AIR	VAA-6062 ZONE 4C VALVE POS	AIN	LLA	2
CP6052	AERATION_AIR	VAA-6062 ZONE 4C VALVE POS	AIN	HMA	2
CP6052	AERATION_AIR	VAA-6062 ZONE 4C VALVE POS	AIN	HHA	2
CP6052	AERATION_AIR	VAA-6062 ZONE 4C VALVE POS	AIN	LMA	2
CP6052	AERATION_AIR	VAA-6062 ZONE 4C VALVE POS	AIN	BAD	1
CP6052	AERATION_AIR	VAA-6063 ZONE 4D VALVE POS	AIN	LLA	2
CP6052	AERATION_AIR	VAA-6063 ZONE 4D VALVE POS	AIN	HHA	2
CP6052	AERATION_AIR	VAA-6063 ZONE 4D VALVE POS	AIN	LMA	2
CP6052	AERATION_AIR	VAA-6063 ZONE 4D VALVE POS	AIN	HMA	2
CP6052	AERATION_AIR	VAA-6063 ZONE 4D VALVE POS	AIN	OOR	1
CP6052	AERATION_AIR	VAA-6063 ZONE 4D VALVE POS	AIN	BAD	1
CP6052	COMPRESSOR	AIR RECEIVER PLANT AIR PRES	AIN	LMA	1
CP6052	COMPRESSOR	AIR RECEIVER PLANT AIR PRES	AIN	HHA	1
CP6052	COMPRESSOR	AIR RECEIVER PLANT AIR PRES	AIN	LLA	1
CP6052	COMPRESSOR	AIR RECEIVER PLANT AIR PRES	AIN	BAD	1
CP6052	COMPRESSOR	AIR RECEIVER PLANT AIR PRES	AIN	HMA	1
CP6052	COMPRESSOR	AIR RECEIVER PLANT AIR PRES	AIN	OOR	1
CP6052	COMPRESSOR	AIR RECEIVER PLANT AIR PRES	AIN	LLA	2
CP6052	COMPRESSOR	AIR RECEIVER PLANT AIR PRES	AIN	LMA	1
CP6052	COMPRESSOR	AIR RECEIVER PLANT AIR PRES	AIN	HHA	2
CP6052	COMPRESSOR	AIR RECEIVER PLANT AIR PRES	AIN	BAD	1
CP6052	COMPRESSOR	AIR RECEIVER PLANT AIR PRES	AIN	OOR	1
CP6052	COMPRESSOR	AIR RECEIVER PLANT AIR PRES	AIN	HMA	1
CP6052	RAS_PUMPS	PRS-6056 PMP 6 SUCTION FLOW	AIN	HMA	2
CP6052	RAS_PUMPS	PRS-6056 PMP 6 SUCTION FLOW	AIN	LLA	2
CP6052	RAS_PUMPS	PRS-6056 PMP 6 SUCTION FLOW	AIN	HHA	2
CP6052	RAS_PUMPS	PRS-6056 PMP 6 SUCTION FLOW	AIN	LMA	2
CP6052	RAS_PUMPS	PRS-6056 PMP 6 SUCTION FLOW	AIN	OOR	2
CP6052	RAS_PUMPS	PRS-6056 PMP 6 SUCTION FLOW	AIN	BAD	2
CP6052	RAS_PUMPS	PRS-6057 PMP 7 SUCTION FLOW	AIN	HHA	2
CP6052	RAS_PUMPS	PRS-6057 PMP 7 SUCTION FLOW	AIN	LMA	2
CP6052	RAS_PUMPS	PRS-6057 PMP 7 SUCTION FLOW	AIN	OOR	1
CP6052	RAS_PUMPS	PRS-6057 PMP 7 SUCTION FLOW	AIN	BAD	1
CP6052	RAS_PUMPS	PRS-6057 PMP 7 SUCTION FLOW	AIN	LLA	2
CP6052	RAS_PUMPS	PRS-6057 PMP 7 SUCTION FLOW	AIN	HMA	2
CP6052	RAS_PUMPS	PRS-6058 PMP 8 SUCTION FLOW	AIN	HHA	2
CP6052	RAS_PUMPS	PRS-6058 PMP 8 SUCTION FLOW	AIN	BAD	1
CP6052	RAS_PUMPS	PRS-6058 PMP 8 SUCTION FLOW	AIN	OOR	1
CP6052	RAS_PUMPS	PRS-6058 PMP 8 SUCTION FLOW	AIN	HMA	2
CP6052	RAS_PUMPS	PRS-6058 PMP 8 SUCTION FLOW	AIN	LMA	2
CP6052	RAS_PUMPS	PRS-6058 PMP 8 SUCTION FLOW	AIN	LLA	2
CP6052	RAS_PUMPS	RAS TO AB NO. 3 SUCTION FLOW	AIN	HHA	2
CP6052	RAS_PUMPS	RAS TO AB NO. 3 SUCTION FLOW	AIN	LLA	2
CP6052	RAS_PUMPS	RAS TO AB NO. 3 SUCTION FLOW	AIN	LMA	2
CP6052	RAS_PUMPS	RAS TO AB NO. 3 SUCTION FLOW	AIN	BAD	2
CP6052	RAS_PUMPS	RAS TO AB NO. 3 SUCTION FLOW	AIN	OOR	2
CP6052	RAS_PUMPS	RAS TO AB NO. 4 SUCTION FLOW	AIN	LLA	5

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6052	RAS_PUMPS	RAS TO AB NO. 4 SUCTION FLOW	AIN	HHA	5
CP6052	RAS_PUMPS	RAS TO AB NO. 4 SUCTION FLOW	AIN	LMA	5
CP6052	RAS_PUMPS	RAS TO AB NO. 4 SUCTION FLOW	AIN	OOR	5
CP6052	RAS_PUMPS	RAS TO AB NO. 4 SUCTION FLOW	AIN	BAD	5
CP6052	RAS_PUMPS	PRS-6069 PMP 9 SUCTION FLOW	AIN	BAD	1
CP6052	RAS_PUMPS	PRS-6069 PMP 9 SUCTION FLOW	AIN	LLA	2
CP6052	RAS_PUMPS	PRS-6069 PMP 9 SUCTION FLOW	AIN	LMA	2
CP6052	RAS_PUMPS	PRS-6069 PMP 9 SUCTION FLOW	AIN	HMA	2
CP6052	RAS_PUMPS	PRS-6069 PMP 9 SUCTION FLOW	AIN	OOR	1
CP6052	RAS_PUMPS	PRS-6069 PMP 9 SUCTION FLOW	AIN	HHA	2
CP6052	RAS_PUMPS	PRS-6060 PMP 10 SUCTION FLOW	AIN	OOR	1
CP6052	RAS_PUMPS	PRS-6060 PMP 10 SUCTION FLOW	AIN	HMA	2
CP6052	RAS_PUMPS	PRS-6060 PMP 10 SUCTION FLOW	AIN	LMA	2
CP6052	RAS_PUMPS	PRS-6060 PMP 10 SUCTION FLOW	AIN	LLA	1
CP6052	RAS_PUMPS	PRS-6060 PMP 10 SUCTION FLOW	AIN	HHA	1
CP6052	RAS_PUMPS	PRS-6060 PMP 10 SUCTION FLOW	AIN	BAD	1
CP6052	RAS_PUMPS	TOTAL INFLUENT	AIN	BAD	5
CP6052	RAS_PUMPS	TOTAL INFLUENT	AIN	HHA	2
CP6052	RAS_PUMPS	TOTAL INFLUENT	AIN	LLA	2
CP6052	RAS_PUMPS	TOTAL INFLUENT	AIN	HMA	2
CP6052	RAS_PUMPS	TOTAL INFLUENT	AIN	OOR	1
CP6052	RAS_PUMPS	TOTAL INFLUENT	AIN	LMA	2
CP6052	RAS_PUMPS	PRS-6056 PMP 6 SPEED	AIN	BAD	1
CP6052	RAS_PUMPS	PRS-6056 PMP 6 SPEED	AIN	LLA	2
CP6052	RAS_PUMPS	PRS-6056 PMP 6 SPEED	AIN	OOR	1
CP6052	RAS_PUMPS	PRS-6056 PMP 6 SPEED	AIN	HHA	2
CP6052	RAS_PUMPS	PRS-6056 PMP 6 SPEED	AIN	HMA	2
CP6052	RAS_PUMPS	PRS-6056 PMP 6 SPEED	AIN	LMA	2
CP6052	RAS_PUMPS	PRS-6057 PMP 7 SPEED	AIN	LLA	2
CP6052	RAS_PUMPS	PRS-6057 PMP 7 SPEED	AIN	HHA	2
CP6052	RAS_PUMPS	PRS-6057 PMP 7 SPEED	AIN	LMA	2
CP6052	RAS_PUMPS	PRS-6057 PMP 7 SPEED	AIN	HMA	2
CP6052	RAS_PUMPS	PRS-6057 PMP 7 SPEED	AIN	BAD	1
CP6052	RAS_PUMPS	PRS-6057 PMP 7 SPEED	AIN	OOR	1
CP6052	RAS_PUMPS	PRS-6058 PMP 8 SPEED	AIN	BAD	1
CP6052	RAS_PUMPS	PRS-6058 PMP 8 SPEED	AIN	OOR	1
CP6052	RAS_PUMPS	PRS-6058 PMP 8 SPEED	AIN	HMA	2
CP6052	RAS_PUMPS	PRS-6058 PMP 8 SPEED	AIN	LMA	2
CP6052	RAS_PUMPS	PRS-6058 PMP 8 SPEED	AIN	HHA	2
CP6052	RAS_PUMPS	PRS-6058 PMP 8 SPEED	AIN	LLA	2
CP6052	RAS_PUMPS	PRS-6069 PMP 9 SPEED	AIN	OOR	1
CP6052	RAS_PUMPS	PRS-6069 PMP 9 SPEED	AIN	HMA	2
CP6052	RAS_PUMPS	PRS-6069 PMP 9 SPEED	AIN	LMA	2
CP6052	RAS_PUMPS	PRS-6069 PMP 9 SPEED	AIN	HHA	2
CP6052	RAS_PUMPS	PRS-6069 PMP 9 SPEED	AIN	LLA	2
CP6052	RAS_PUMPS	PRS-6069 PMP 9 SPEED	AIN	BAD	1
CP6052	RAS_PUMPS	PRS-6060 PMP 10 SPEED	AIN	LLA	2
CP6052	RAS_PUMPS	PRS-6060 PMP 10 SPEED	AIN	HHA	2
CP6052	RAS_PUMPS	PRS-6060 PMP 10 SPEED	AIN	LMA	2
CP6052	RAS_PUMPS	PRS-6060 PMP 10 SPEED	AIN	HMA	2
CP6052	RAS_PUMPS	PRS-6060 PMP 10 SPEED	AIN	OOR	1
CP6052	RAS_PUMPS	PRS-6060 PMP 10 SPEED	AIN	BAD	1
CP6052	RAS_PUMPS	RAS TO AB NO. 3 VALVE POS	AIN	HHA	2

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6052	RAS_PUMPS	RAS TO AB NO. 3 VALVE POS	AIN	LLA	2
CP6052	RAS_PUMPS	RAS TO AB NO. 3 VALVE POS	AIN	LMA	2
CP6052	RAS_PUMPS	RAS TO AB NO. 3 VALVE POS	AIN	HMA	2
CP6052	RAS_PUMPS	RAS TO AB NO. 3 VALVE POS	AIN	OOR	2
CP6052	RAS_PUMPS	RAS TO AB NO. 3 VALVE POS	AIN	BAD	2
CP6052	RAS_PUMPS	RAS TO AB NO. 4 VALVE POS	AIN	HHA	2
CP6052	RAS_PUMPS	RAS TO AB NO. 4 VALVE POS	AIN	BAD	1
CP6052	RAS_PUMPS	RAS TO AB NO. 4 VALVE POS	AIN	OOR	1
CP6052	RAS_PUMPS	RAS TO AB NO. 4 VALVE POS	AIN	LLA	2
CP6052	RAS_PUMPS	RAS TO AB NO. 4 VALVE POS	AIN	HMA	2
CP6052	RAS_PUMPS	RAS TO AB NO. 4 VALVE POS	AIN	LMA	2
CP6052	WAS_PUMPS	WAS FEED RATE	AIN	LMA	2
CP6052	WAS_PUMPS	WAS FEED RATE	AIN	OOR	1
CP6052	WAS_PUMPS	WAS FEED RATE	AIN	BAD	1
CP6052	WAS_PUMPS	WAS FEED RATE	AIN	HHA	2
CP6052	WAS_PUMPS	WAS FEED RATE	AIN	LLA	2
CP6052	WAS_PUMPS	WAS FEED RATE	AIN	HMA	2
CP6052	WAS_PUMPS	PWS-6053 PMP 3 SPEED	AIN	BAD	1
CP6052	WAS_PUMPS	PWS-6053 PMP 3 SPEED	AIN	OOR	1
CP6052	WAS_PUMPS	PWS-6053 PMP 3 SPEED	AIN	LMA	2
CP6052	WAS_PUMPS	PWS-6053 PMP 3 SPEED	AIN	HMA	2
CP6052	WAS_PUMPS	PWS-6053 PMP 3 SPEED	AIN	HHA	2
CP6052	WAS_PUMPS	PWS-6053 PMP 3 SPEED	AIN	LLA	2
CP6052	WAS_PUMPS	PWS-6054 PMP 4 SPEED	AIN	LLA	2
CP6052	WAS_PUMPS	PWS-6054 PMP 4 SPEED	AIN	LMA	2
CP6052	WAS_PUMPS	PWS-6054 PMP 4 SPEED	AIN	HMA	2
CP6052	WAS_PUMPS	PWS-6054 PMP 4 SPEED	AIN	HHA	2
CP6052	WAS_PUMPS	PWS-6054 PMP 4 SPEED	AIN	OOR	1
CP6052	WAS_PUMPS	PWS-6054 PMP 4 SPEED	AIN	BAD	1
CP6053	ALUM	PA-6401 PMP 1A SPEED	AIN	OOR	1
CP6053	ALUM	PA-6401 PMP 1A SPEED	AIN	LMA	2
CP6053	ALUM	PA-6401 PMP 1A SPEED	AIN	HHA	2
CP6053	ALUM	PA-6401 PMP 1A SPEED	AIN	LLA	2
CP6053	ALUM	PA-6401 PMP 1A SPEED	AIN	HMA	2
CP6053	ALUM	PA-6401 PMP 1A SPEED	AIN	BAD	1
CP6053	ALUM	PA-6402 PMP 2A SPEED	AIN	HHA	2
CP6053	ALUM	PA-6402 PMP 2A SPEED	AIN	BAD	1
CP6053	ALUM	PA-6402 PMP 2A SPEED	AIN	HMA	2
CP6053	ALUM	PA-6402 PMP 2A SPEED	AIN	LMA	2
CP6053	ALUM	PA-6402 PMP 2A SPEED	AIN	OOR	1
CP6053	ALUM	PA-6402 PMP 2A SPEED	AIN	LLA	2
CP6053	CATI_POLYMER	TERTIARY CHEMICAL POLYMER SYSTEM	AIN	BAD	5
CP6053	CATI_POLYMER	TERTIARY CHEMICAL POLYMER SYSTEM	AIN	OOR	1
CP6053	CATI_POLYMER	TERTIARY CHEMICAL POLYMER SYSTEM	AIN	HMA	2
CP6053	CATI_POLYMER	TERTIARY CHEMICAL POLYMER SYSTEM	AIN	LMA	2
CP6053	CATI_POLYMER	TERTIARY CHEMICAL POLYMER SYSTEM	AIN	HHA	2
CP6053	CATI_POLYMER	TERTIARY CHEMICAL POLYMER SYSTEM	AIN	LLA	2
CP6053	CATI_POLYMER	BP-6401 NO. 1A INJECTION RATE	AIN	HHA	2
CP6053	CATI_POLYMER	BP-6401 NO. 1A INJECTION RATE	AIN	LLA	2
CP6053	CATI_POLYMER	BP-6401 NO. 1A INJECTION RATE	AIN	OOR	1
CP6053	CATI_POLYMER	BP-6401 NO. 1A INJECTION RATE	AIN	LMA	2
CP6053	CATI_POLYMER	BP-6401 NO. 1A INJECTION RATE	AIN	BAD	1
CP6053	CATI_POLYMER	BP-6401 NO. 1A INJECTION RATE	AIN	HMA	2

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6053	CATI_POLYMER	BP-6402 NO. 1B INJECTION RATE	AIN	LLA	2
CP6053	CATI_POLYMER	BP-6402 NO. 1B INJECTION RATE	AIN	LMA	2
CP6053	CATI_POLYMER	BP-6402 NO. 1B INJECTION RATE	AIN	HMA	2
CP6053	CATI_POLYMER	BP-6402 NO. 1B INJECTION RATE	AIN	OOR	1
CP6053	CATI_POLYMER	BP-6402 NO. 1B INJECTION RATE	AIN	BAD	1
CP6053	CATI_POLYMER	BP-6402 NO. 1B INJECTION RATE	AIN	HHA	2
CP6053	CATI_POLYMER	TERTIARY POLY TOTE 1A LEVEL	AIN	HMA	2
CP6053	CATI_POLYMER	TERTIARY POLY TOTE 1A LEVEL	AIN	BAD	1
CP6053	CATI_POLYMER	TERTIARY POLY TOTE 1A LEVEL	AIN	OOR	1
CP6053	CATI_POLYMER	TERTIARY POLY TOTE 1A LEVEL	AIN	LLA	2
CP6053	CATI_POLYMER	TERTIARY POLY TOTE 1A LEVEL	AIN	HHA	2
CP6053	CATI_POLYMER	TERTIARY POLY TOTE 1A LEVEL	AIN	LMA	2
CP6053	CL2_CONTACT	CT ONE HOUR AVERAGE	AIN	LMA	1
CP6053	CL2_CONTACT	CT ONE HOUR AVERAGE	AIN	LLA	5
CP6053	CL2_CONTACT	DT ONE HOUR AVERAGE	AIN	LMA	5
CP6053	CL2_CONTACT	DT ONE HOUR AVERAGE	AIN	LLA	5
CP6053	CL2_CONTACT	CL BASIN NO. 2 CL RESIDUAL 1A	AIN	OOR	2
CP6053	CL2_CONTACT	CL BASIN NO. 2 CL RESIDUAL 1A	AIN	LLA	1
CP6053	CL2_CONTACT	CL BASIN NO. 2 CL RESIDUAL 1A	AIN	HHA	1
CP6053	CL2_CONTACT	CL BASIN NO. 2 CL RESIDUAL 1A	AIN	HMA	1
CP6053	CL2_CONTACT	CL BASIN NO. 2 CL RESIDUAL 1A	AIN	LMA	1
CP6053	CL2_CONTACT	CL BASIN NO. 2 CL RESIDUAL 1A	AIN	BAD	1
CP6053	CL2_CONTACT	CL BASIN NO. 3 CL RESIDUAL 1B	AIN	OOR	2
CP6053	CL2_CONTACT	CL BASIN NO. 3 CL RESIDUAL 1B	AIN	LLA	1
CP6053	CL2_CONTACT	CL BASIN NO. 3 CL RESIDUAL 1B	AIN	HHA	1
CP6053	CL2_CONTACT	CL BASIN NO. 3 CL RESIDUAL 1B	AIN	HMA	1
CP6053	CL2_CONTACT	CL BASIN NO. 3 CL RESIDUAL 1B	AIN	LMA	1
CP6053	CL2_CONTACT	CL BASIN NO. 3 CL RESIDUAL 1B	AIN	BAD	1
CP6053	CL2_CONTACT	CL BASIN NO. 2 CL RESIDUAL 2	AIN	LMA	1
CP6053	CL2_CONTACT	CL BASIN NO. 2 CL RESIDUAL 2	AIN	BAD	2
CP6053	CL2_CONTACT	CL BASIN NO. 2 CL RESIDUAL 2	AIN	OOR	2
CP6053	CL2_CONTACT	CL BASIN NO. 2 CL RESIDUAL 2	AIN	HMA	1
CP6053	CL2_CONTACT	CL BASIN NO. 2 CL RESIDUAL 2	AIN	LLA	1
CP6053	CL2_CONTACT	CL BASIN NO. 2 CL RESIDUAL 2	AIN	HHA	1
CP6053	CL2_CONTACT	CL BASIN NO. 3 CL RESIDUAL 3	AIN	OOR	1
CP6053	CL2_CONTACT	CL BASIN NO. 3 CL RESIDUAL 3	AIN	LMA	1
CP6053	CL2_CONTACT	CL BASIN NO. 3 CL RESIDUAL 3	AIN	BAD	1
CP6053	CL2_CONTACT	CL BASIN NO. 3 CL RESIDUAL 3	AIN	LLA	1
CP6053	CL2_CONTACT	CL BASIN NO. 3 CL RESIDUAL 3	AIN	HMA	1
CP6053	CL2_CONTACT	CL BASIN NO. 3 CL RESIDUAL 3	AIN	HHA	1
CP6053	CL2_CONTACT	CONTROL ZCHLOR CL RESIDUAL 4A	AIN	LLA	2
CP6053	CL2_CONTACT	CONTROL ZCHLOR CL RESIDUAL 4A	AIN	HMA	1
CP6053	CL2_CONTACT	CONTROL ZCHLOR CL RESIDUAL 4A	AIN	HHA	2
CP6053	CL2_CONTACT	CONTROL ZCHLOR CL RESIDUAL 4A	AIN	BAD	1
CP6053	CL2_CONTACT	CONTROL ZCHLOR CL RESIDUAL 4A	AIN	OOR	1
CP6053	CL2_CONTACT	OUTFALL ZCHLOR CL RESIDUAL 4B	AIN	BAD	1
CP6053	CL2_CONTACT	OUTFALL ZCHLOR CL RESIDUAL 4B	AIN	OOR	1
CP6053	CL2_CONTACT	OUTFALL ZCHLOR CL RESIDUAL 4B	AIN	HMA	1
CP6053	CL2_CONTACT	OUTFALL ZCHLOR CL RESIDUAL 4B	AIN	HHA	2
CP6053	CL2_CONTACT	OUTFALL ZCHLOR CL RESIDUAL 4B	AIN	LLA	2
CP6053	CL2_CONTACT	OUTFALL TURBIDITY METER	AIN	HMA	1
CP6053	CL2_CONTACT	OUTFALL TURBIDITY METER	AIN	OOR	1
CP6053	CL2_CONTACT	OUTFALL TURBIDITY METER	AIN	BAD	1

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6053	CL2_CONTACT	OUTFALL TURBIDITY METER	AIN	LMA	1
CP6053	CL2_CONTACT	OUTFALL PH	AIN	OOR	1
CP6053	CL2_CONTACT	OUTFALL PH	AIN	BAD	1
CP6053	CL2_CONTACT	OUTFALL PH	AIN	HMA	1
CP6053	CL2_CONTACT	OUTFALL PH	AIN	LMA	1
CP6053	CL2_CONTACT	OUTFALL CONDUCTIVITY	AIN	LMA	2
CP6053	CL2_CONTACT	OUTFALL CONDUCTIVITY	AIN	BAD	1
CP6053	CL2_CONTACT	OUTFALL CONDUCTIVITY	AIN	HMA	2
CP6053	CL2_CONTACT	OUTFALL CONDUCTIVITY	AIN	OOR	1
CP6053	CL2_CONTACT	CONTACT TIME ALARM	AIN	LMA	1
CP6053	CL2_CONTACT	CONTACT TIME ALARM	AIN	LLA	1
CP6053	CL2_CONTACT	DETENTION TIME	AIN	LMA	1
CP6053	CL2_CONTACT	FINAL EFFLUENT TO OUTFALL	AIN	HHA	1
CP6053	CL2_CONTACT	FINAL EFFLUENT TO OUTFALL	AIN	OOR	1
CP6053	CL2_CONTACT	FINAL EFFLUENT TO OUTFALL	AIN	LLA	1
CP6053	CL2_CONTACT	FINAL EFFLUENT TO OUTFALL	AIN	LMA	1
CP6053	CL2_CONTACT	FINAL EFFLUENT TO OUTFALL	AIN	HMA	1
CP6053	CL2_CONTACT	FINAL EFFLUENT TO OUTFALL	AIN	BAD	1
CP6053	NA_BISULFITE	SBS PUMP #2 CONTROL	AIN	HMA	5
CP6053	NA_BISULFITE	SBS PUMP #2 CONTROL	AIN	LMA	5
CP6053	NA_BISULFITE	TNK-6408 NO. 1A BISULFITE	AIN	LLA	2
CP6053	NA_BISULFITE	TNK-6408 NO. 1A BISULFITE	AIN	LMA	2
CP6053	NA_BISULFITE	TNK-6408 NO. 1A BISULFITE	AIN	BAD	2
CP6053	NA_BISULFITE	TNK-6408 NO. 1A BISULFITE	AIN	HHA	2
CP6053	NA_BISULFITE	TNK-6408 NO. 1A BISULFITE	AIN	OOR	2
CP6053	NA_BISULFITE	TNK-6408 NO. 1A BISULFITE	AIN	HMA	2
CP6053	NA_BISULFITE	TNK-6409 NO. 2A BISULFITE	AIN	BAD	2
CP6053	NA_BISULFITE	TNK-6409 NO. 2A BISULFITE	AIN	LLA	2
CP6053	NA_BISULFITE	TNK-6409 NO. 2A BISULFITE	AIN	OOR	2
CP6053	NA_BISULFITE	TNK-6409 NO. 2A BISULFITE	AIN	LMA	2
CP6053	NA_BISULFITE	TNK-6409 NO. 2A BISULFITE	AIN	HMA	2
CP6053	NA_BISULFITE	TNK-6409 NO. 2A BISULFITE	AIN	HHA	2
CP6053	NA_BISULFITE	PSB-6401 PMP 1A SPEED	AIN	BAD	2
CP6053	NA_BISULFITE	PSB-6401 PMP 1A SPEED	AIN	OOR	2
CP6053	NA_BISULFITE	PSB-6401 PMP 1A SPEED	AIN	HMA	2
CP6053	NA_BISULFITE	PSB-6401 PMP 1A SPEED	AIN	LMA	2
CP6053	NA_BISULFITE	PSB-6401 PMP 1A SPEED	AIN	HHA	2
CP6053	NA_BISULFITE	PSB-6401 PMP 1A SPEED	AIN	LLA	2
CP6053	NA_BISULFITE	PSB-6402 PMP 2A SPEED	AIN	HHA	2
CP6053	NA_BISULFITE	PSB-6402 PMP 2A SPEED	AIN	BAD	2
CP6053	NA_BISULFITE	PSB-6402 PMP 2A SPEED	AIN	OOR	2
CP6053	NA_BISULFITE	PSB-6402 PMP 2A SPEED	AIN	HMA	2
CP6053	NA_BISULFITE	PSB-6402 PMP 2A SPEED	AIN	LLA	2
CP6053	NA_BISULFITE	PSB-6402 PMP 2A SPEED	AIN	LMA	2
CP6053	NA_BISULFITE	PSB-6403 PMP 3A SPEED	AIN	LLA	2
CP6053	NA_BISULFITE	PSB-6403 PMP 3A SPEED	AIN	BAD	2
CP6053	NA_BISULFITE	PSB-6403 PMP 3A SPEED	AIN	OOR	2
CP6053	NA_BISULFITE	PSB-6403 PMP 3A SPEED	AIN	HMA	2
CP6053	NA_BISULFITE	PSB-6403 PMP 3A SPEED	AIN	LMA	2
CP6053	NA_BISULFITE	PSB-6403 PMP 3A SPEED	AIN	HHA	2
CP6053	NA_BISULFITE	PSB-6404 PMP 4A SPEED	AIN	BAD	2
CP6053	NA_BISULFITE	PSB-6404 PMP 4A SPEED	AIN	OOR	2
CP6053	NA_BISULFITE	PSB-6404 PMP 4A SPEED	AIN	HMA	2

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6053	NA_BISULFITE	PSB-6404 PMP 4A SPEED	AIN	LMA	2
CP6053	NA_BISULFITE	PSB-6404 PMP 4A SPEED	AIN	HHA	2
CP6053	NA_BISULFITE	PSB-6404 PMP 4A SPEED	AIN	LLA	2
CP6053	NAOCL		AIN	BAD	5
CP6053	NAOCL		AIN	LLA	2
CP6053	NAOCL		AIN	HHA	2
CP6053	NAOCL		AIN	LMA	2
CP6053	NAOCL		AIN	HMA	2
CP6053	NAOCL		AIN	OOR	1
CP6053	NAOCL	SODIUM HYPO DISINFECT SYS	AIN	BAD	5
CP6053	NAOCL	SODIUM HYPO DISINFECT SYS	AIN	OOR	1
CP6053	NAOCL	SODIUM HYPO DISINFECT SYS	AIN	OOR	1
CP6053	NAOCL	SODIUM HYPO DISINFECT SYS	AIN	BAD	5
CP6053	NAOCL	SODIUM HYPO DISINFECT SYS	AIN	BAD	5
CP6053	NAOCL	SODIUM HYPO DISINFECT SYS	AIN	OOR	1
CP6053	NAOCL	SODIUM HYPO DISINFECT SYS	AIN	LMA	2
CP6053	NAOCL	SODIUM HYPO DISINFECT SYS	AIN	HMA	2
CP6053	NAOCL	SODIUM HYPO DISINFECT SYS	AIN	HHA	2
CP6053	NAOCL	SODIUM HYPO DISINFECT SYS	AIN	LLA	2
CP6053	NAOCL	NAOCL DOSAGE	AIN	LMA	2
CP6053	NAOCL	NAOCL DOSAGE	AIN	HMA	2
CP6053	NAOCL	TOTAL RAS FLOW	AIN	LLA	2
CP6053	NAOCL	TOTAL RAS FLOW	AIN	HHA	2
CP6053	NAOCL	TOTAL RAS FLOW	AIN	LMA	2
CP6053	NAOCL	TOTAL RAS FLOW	AIN	HMA	2
CP6053	NAOCL	TOTAL RAS FLOW	AIN	OOR	1
CP6053	NAOCL	TOTAL RAS FLOW	AIN	BAD	5
CP6053	NAOCL	TNK-6404 NO. 1A NAOCL LEVEL	AIN	HHA	2
CP6053	NAOCL	TNK-6404 NO. 1A NAOCL LEVEL	AIN	HMA	2
CP6053	NAOCL	TNK-6404 NO. 1A NAOCL LEVEL	AIN	BAD	2
CP6053	NAOCL	TNK-6404 NO. 1A NAOCL LEVEL	AIN	OOR	2
CP6053	NAOCL	TNK-6404 NO. 1A NAOCL LEVEL	AIN	LLA	2
CP6053	NAOCL	TNK-6404 NO. 1A NAOCL LEVEL	AIN	LMA	2
CP6053	NAOCL	TNK-6403 NO. 2A NAOCL LEVEL	AIN	LLA	2
CP6053	NAOCL	TNK-6403 NO. 2A NAOCL LEVEL	AIN	BAD	2
CP6053	NAOCL	TNK-6403 NO. 2A NAOCL LEVEL	AIN	OOR	2
CP6053	NAOCL	TNK-6403 NO. 2A NAOCL LEVEL	AIN	HMA	2
CP6053	NAOCL	TNK-6403 NO. 2A NAOCL LEVEL	AIN	LMA	2
CP6053	NAOCL	TNK-6403 NO. 2A NAOCL LEVEL	AIN	HHA	2
CP6053	NAOCL	TNK-6406 NO. 1B NAOCL LEVEL	AIN	LLA	2
CP6053	NAOCL	TNK-6406 NO. 1B NAOCL LEVEL	AIN	HHA	2
CP6053	NAOCL	TNK-6406 NO. 1B NAOCL LEVEL	AIN	HMA	2
CP6053	NAOCL	TNK-6406 NO. 1B NAOCL LEVEL	AIN	OOR	2
CP6053	NAOCL	TNK-6406 NO. 1B NAOCL LEVEL	AIN	BAD	2
CP6053	NAOCL	TNK-6406 NO. 1B NAOCL LEVEL	AIN	LMA	2
CP6053	NAOCL	TNK-6407 NO. 2B NAOCL LEVEL	AIN	LLA	2
CP6053	NAOCL	TNK-6407 NO. 2B NAOCL LEVEL	AIN	LMA	2
CP6053	NAOCL	TNK-6407 NO. 2B NAOCL LEVEL	AIN	HMA	2
CP6053	NAOCL	TNK-6407 NO. 2B NAOCL LEVEL	AIN	OOR	2
CP6053	NAOCL	TNK-6407 NO. 2B NAOCL LEVEL	AIN	BAD	2
CP6053	NAOCL	TNK-6407 NO. 2B NAOCL LEVEL	AIN	HHA	2
CP6053	NAOCL	PSH-6401 PMP 1A SPEED	AIN	BAD	1
CP6053	NAOCL	PSH-6401 PMP 1A SPEED	AIN	OOR	1

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6053	NAOCL	PSH-6401 PMP 1A SPEED	AIN	HHA	2
CP6053	NAOCL	PSH-6401 PMP 1A SPEED	AIN	LLA	2
CP6053	NAOCL	PSH-6401 PMP 1A SPEED	AIN	HMA	2
CP6053	NAOCL	PSH-6401 PMP 1A SPEED	AIN	LMA	2
CP6053	NAOCL	PSH-6402 PMP 2A SPEED	AIN	LMA	2
CP6053	NAOCL	PSH-6402 PMP 2A SPEED	AIN	BAD	1
CP6053	NAOCL	PSH-6402 PMP 2A SPEED	AIN	OOR	1
CP6053	NAOCL	PSH-6402 PMP 2A SPEED	AIN	HMA	2
CP6053	NAOCL	PSH-6402 PMP 2A SPEED	AIN	HHA	2
CP6053	NAOCL	PSH-6402 PMP 2A SPEED	AIN	LLA	2
CP6053	NAOCL	PSH-6405 PMP 1B SPEED	AIN	HHA	2
CP6053	NAOCL	PSH-6405 PMP 1B SPEED	AIN	HMA	2
CP6053	NAOCL	PSH-6405 PMP 1B SPEED	AIN	LLA	2
CP6053	NAOCL	PSH-6405 PMP 1B SPEED	AIN	OOR	2
CP6053	NAOCL	PSH-6405 PMP 1B SPEED	AIN	BAD	2
CP6053	NAOCL	PSH-6405 PMP 1B SPEED	AIN	LMA	2
CP6053	NAOCL	PSH-6406 PMP 2B SPEED	AIN	LLA	2
CP6053	NAOCL	PSH-6406 PMP 2B SPEED	AIN	BAD	2
CP6053	NAOCL	PSH-6406 PMP 2B SPEED	AIN	HHA	2
CP6053	NAOCL	PSH-6406 PMP 2B SPEED	AIN	LMA	2
CP6053	NAOCL	PSH-6406 PMP 2B SPEED	AIN	HMA	2
CP6053	NAOCL	PSH-6406 PMP 2B SPEED	AIN	OOR	2
CP6053	NAOCL	PSH-6407 PMP 3B SPEED	AIN	OOR	2
CP6053	NAOCL	PSH-6407 PMP 3B SPEED	AIN	HMA	2
CP6053	NAOCL	PSH-6407 PMP 3B SPEED	AIN	LLA	2
CP6053	NAOCL	PSH-6407 PMP 3B SPEED	AIN	HHA	2
CP6053	NAOCL	PSH-6407 PMP 3B SPEED	AIN	LMA	2
CP6053	NAOCL	PSH-6407 PMP 3B SPEED	AIN	BAD	2
CP6053	NAOCL	PSH-6408 PMP 4B SPEED	AIN	LLA	2
CP6053	NAOCL	PSH-6408 PMP 4B SPEED	AIN	LMA	2
CP6053	NAOCL	PSH-6408 PMP 4B SPEED	AIN	HMA	2
CP6053	NAOCL	PSH-6408 PMP 4B SPEED	AIN	OOR	2
CP6053	NAOCL	PSH-6408 PMP 4B SPEED	AIN	BAD	2
CP6053	NAOCL	PSH-6408 PMP 4B SPEED	AIN	HHA	2
CP6053	NAOCL	PSH-6409 PMP 5B SPEED	AIN	HHA	2
CP6053	NAOCL	PSH-6409 PMP 5B SPEED	AIN	LMA	2
CP6053	NAOCL	PSH-6409 PMP 5B SPEED	AIN	LLA	2
CP6053	NAOCL	PSH-6409 PMP 5B SPEED	AIN	HMA	2
CP6053	NAOCL	PSH-6409 PMP 5B SPEED	AIN	OOR	2
CP6053	NAOCL	PSH-6409 PMP 5B SPEED	AIN	BAD	2
CP6053	NAOCL	PSH-6412 PMP 3C SPEED	AIN	OOR	2
CP6053	NAOCL	PSH-6412 PMP 3C SPEED	AIN	LMA	2
CP6053	NAOCL	PSH-6412 PMP 3C SPEED	AIN	LLA	2
CP6053	NAOCL	PSH-6412 PMP 3C SPEED	AIN	HHA	2
CP6053	NAOCL	PSH-6412 PMP 3C SPEED	AIN	HMA	2
CP6053	NAOCL	PSH-6412 PMP 3C SPEED	AIN	BAD	2
CP6053	NAOCL	PSH-6413 PMP 4C SPEED	AIN	HHA	2
CP6053	NAOCL	PSH-6413 PMP 4C SPEED	AIN	LMA	2
CP6053	NAOCL	PSH-6413 PMP 4C SPEED	AIN	OOR	1
CP6053	NAOCL	PSH-6413 PMP 4C SPEED	AIN	BAD	1
CP6053	NAOCL	PSH-6413 PMP 4C SPEED	AIN	LLA	2
CP6053	NAOCL	PSH-6413 PMP 4C SPEED	AIN	HMA	2
CP6053	NO_ALARM3	SODIUM HYPO DISINFECT SYS	AIN	LLA	5

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6053	NO_ALARM3	SODIUM HYPO DISINFECT SYS	AIN	BAD	5
CP6053	NO_ALARM3	SODIUM HYPO DISINFECT SYS	AIN	OOR	1
CP6053	NO_ALARM3	SODIUM HYPO DISINFECT SYS	AIN	LMA	5
CP6053	NO_ALARM3	SODIUM HYPO DISINFECT SYS	AIN	HHA	5
CP6053	NO_ALARM3	SODIUM HYPO DISINFECT SYS	AIN	HMA	5
CP6053	NO_ALARM3	SODIUM HYPO DISINFECT SYS	AIN	HMA	5
CP6053	NO_ALARM3	SODIUM HYPO DISINFECT SYS	AIN	LMA	5
CP6053	NO_ALARM3	SODIUM HYPO DISINFECT SYS	AIN	BAD	5
CP6053	NO_ALARM3	SODIUM HYPO DISINFECT SYS	AIN	HHA	5
CP6053	NO_ALARM3	SODIUM HYPO DISINFECT SYS	AIN	OOR	1
CP6053	NO_ALARM3	SODIUM HYPO DISINFECT SYS	AIN	LLA	5
CP6053	NO_ALARM3	SODIUM HYPO DISINFECT SYS	AIN	LLA	5
CP6053	NO_ALARM3	SODIUM HYPO DISINFECT SYS	AIN	HHA	5
CP6053	NO_ALARM3	SODIUM HYPO DISINFECT SYS	AIN	HMA	5
CP6053	NO_ALARM3	SODIUM HYPO DISINFECT SYS	AIN	BAD	5
CP6053	NO_ALARM3	SODIUM HYPO DISINFECT SYS	AIN	OOR	1
CP6053	NO_ALARM3	SODIUM HYPO DISINFECT SYS	AIN	LMA	5
CP6053	NO_ALARM3	TERTIARY CHEMICAL POLYMER SYSTEM	AIN	HMA	2
CP6053	NO_ALARM3	TERTIARY CHEMICAL POLYMER SYSTEM	AIN	LLA	2
CP6053	NO_ALARM3	TERTIARY CHEMICAL POLYMER SYSTEM	AIN	HHA	2
CP6053	NO_ALARM3	TERTIARY CHEMICAL POLYMER SYSTEM	AIN	LMA	2
CP6053	NO_ALARM3	TERTIARY CHEMICAL POLYMER SYSTEM	AIN	BAD	5
CP6053	NO_ALARM3	TERTIARY CHEMICAL POLYMER SYSTEM	AIN	OOR	1
CP6053	NO_ALARM3	TERTIARY CHEMICAL ALUM	AIN	LLA	2
CP6053	NO_ALARM3	TERTIARY CHEMICAL ALUM	AIN	HHA	2
CP6053	NO_ALARM3	TERTIARY CHEMICAL ALUM	AIN	LMA	2
CP6053	NO_ALARM3	TERTIARY CHEMICAL ALUM	AIN	HMA	2
CP6053	NO_ALARM3	TERTIARY CHEMICAL ALUM	AIN	BAD	5
CP6053	NO_ALARM3	TERTIARY CHEMICAL ALUM	AIN	OOR	1
CP6053	NO_ALARM3	TERTIARY CHEMICAL POLYMER SYSTEM	AIN	HHA	2
CP6053	NO_ALARM3	TERTIARY CHEMICAL POLYMER SYSTEM	AIN	LLA	2
CP6053	NO_ALARM3	TERTIARY CHEMICAL POLYMER SYSTEM	AIN	HMA	2
CP6053	NO_ALARM3	TERTIARY CHEMICAL POLYMER SYSTEM	AIN	LMA	2
CP6053	NO_ALARM3	TERTIARY CHEMICAL POLYMER SYSTEM	AIN	BAD	5
CP6053	NO_ALARM3	TERTIARY CHEMICAL POLYMER SYSTEM	AIN	OOR	1
CP6053	NO_ALARM3	TERTIARY CHEMICAL ALUM	AIN	BAD	5
CP6053	NO_ALARM3	TERTIARY CHEMICAL ALUM	AIN	OOR	1
CP6053	NO_ALARM3	TERTIARY CHEMICAL ALUM	AIN	HMA	2
CP6053	NO_ALARM3	TERTIARY CHEMICAL ALUM	AIN	LMA	2
CP6053	NO_ALARM3	TERTIARY CHEMICAL ALUM	AIN	HHA	2
CP6053	NO_ALARM3	TERTIARY CHEMICAL ALUM	AIN	LLA	2
CP6053	NO_ALARM3	SODIUM HYPO DISINFECT SYS	AIN	OOR	1
CP6053	NO_ALARM3	SODIUM HYPO DISINFECT SYS	AIN	BAD	5
CP6053	NO_ALARM3	FILTER RECYCLE PUMPS	AIN	LLA	2
CP6053	NO_ALARM3	FILTER RECYCLE PUMPS	AIN	HMA	2
CP6053	NO_ALARM3	FILTER RECYCLE PUMPS	AIN	BAD	5
CP6053	NO_ALARM3	FILTER RECYCLE PUMPS	AIN	OOR	1
CP6053	NO_ALARM3	FILTER RECYCLE PUMPS	AIN	LMA	2
CP6053	NO_ALARM3	FILTER RECYCLE PUMPS	AIN	HHA	2
CP6053	NO_ALARM3	FILTER RECYCLE PUMPS	AIN	BAD	5
CP6053	NO_ALARM3	FILTER RECYCLE PUMPS	AIN	OOR	1
CP6053	NO_ALARM3	FILTER RECYCLE PUMPS	AIN	LMA	2
CP6053	NO_ALARM3	FILTER RECYCLE PUMPS	AIN	HHA	2

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6053	NO_ALARM3	FILTER RECYCLE PUMPS	AIN	LLA	2
CP6053	NO_ALARM3	FILTER RECYCLE PUMPS	AIN	HMA	2
CP6053	NO_ALARM3	FILTER RECYCLE PUMPS	AIN	HMA	2
CP6053	NO_ALARM3	FILTER RECYCLE PUMPS	AIN	BAD	5
CP6053	NO_ALARM3	FILTER RECYCLE PUMPS	AIN	LLA	2
CP6053	NO_ALARM3	FILTER RECYCLE PUMPS	AIN	OOR	1
CP6053	NO_ALARM3	FILTER RECYCLE PUMPS	AIN	LMA	2
CP6053	NO_ALARM3	FILTER RECYCLE PUMPS	AIN	HHA	2
CP6053	NPDES	OUTFALL CL2 RESIDUAL	AIN	HMA	5
CP6053	NPDES	OUTFALL CL2 RESIDUAL	AIN	HHA	5
CP6053	NPDES	OUTFALL FLOW	AIN	LMA	5
CP6053	NPDES	EFFLUENT PH	AIN	LMA	5
CP6053	NPDES	EFFLUENT PH	AIN	HMA	5
CP6053	NPDES	EFFLUENT TURBIDITY	AIN	HMA	5
CP6053	NPDES	EFFLUENT TURBIDITY	AIN	HHA	5
CP6053	NPDES	OUTFALL TURBIDITY DAILY AVERAGE	AIN	HMA	1
CP6053	TER_FILTERS	FILTER INFLUENT TURBIDITY	AIN	HMA	2
CP6053	TER_FILTERS	FILTER INFLUENT TURBIDITY	AIN	HHA	2
CP6053	TER_FILTERS	FILTER INFLUENT TURBIDITY	AIN	BAD	2
CP6053	TER_FILTERS	FILTER INFLUENT TURBIDITY	AIN	OOR	2
CP6053	TER_FILTERS	FILTER EFFLUENT TURBIDITY	AIN	BAD	2
CP6053	TER_FILTERS	FILTER EFFLUENT TURBIDITY	AIN	OOR	2
CP6053	TER_FILTERS	FILTER EFFLUENT TURBIDITY	AIN	HMA	2
CP6053	TER_FILTERS	FILTER EFFLUENT TURBIDITY	AIN	LMA	2
CP6053	TER_FILTERS	FILTER EFFLUENT TURBIDITY	AIN	HHA	2
CP6053	TER_FILTERS	FILTER EFFLUENT TURBIDITY	AIN	LLA	2
CP6053	TER_FILTERS	FILTER LOADING	AIN	HMA	2
CP6053	TER_FILTERS	FILTER LOADING	AIN	HHA	2
CP6053	TER_FILTERS	FILTER RECYCLE DSCHRG FLOW	AIN	BAD	2
CP6053	TER_FILTERS	FILTER RECYCLE DSCHRG FLOW	AIN	OOR	2
CP6053	TER_FILTERS	FILTER RECYCLE DSCHRG FLOW	AIN	HMA	2
CP6053	TER_FILTERS	FILTER RECYCLE DSCHRG FLOW	AIN	HHA	2
CP6053	TER_FILTERS	FILTER RECYCLE WETWELL	AIN	BAD	2
CP6053	TER_FILTERS	FILTER RECYCLE WETWELL	AIN	OOR	2
CP6053	TER_FILTERS	FILTER RECYCLE WETWELL	AIN	LMA	2
CP6053	TER_FILTERS	FILTER RECYCLE WETWELL	AIN	HHA	2
CP6053	TER_FILTERS	FILTER RECYCLE WETWELL	AIN	LLA	2
CP6053	TER_FILTERS	FILTER RECYCLE WETWELL	AIN	HMA	2
CP6053	TER_FILTERS	FLO-6405 NO. 2A SPEED	AIN	LLA	2
CP6053	TER_FILTERS	FLO-6405 NO. 2A SPEED	AIN	HHA	2
CP6053	TER_FILTERS	FLO-6405 NO. 2A SPEED	AIN	LMA	2
CP6053	TER_FILTERS	FLO-6405 NO. 2A SPEED	AIN	HMA	2
CP6053	TER_FILTERS	FLO-6405 NO. 2A SPEED	AIN	OOR	1
CP6053	TER_FILTERS	FLO-6405 NO. 2A SPEED	AIN	BAD	1
CP6053	TER_FILTERS	FLO-6406 NO. 2B SPEED	AIN	BAD	1
CP6053	TER_FILTERS	FLO-6406 NO. 2B SPEED	AIN	OOR	1
CP6053	TER_FILTERS	FLO-6406 NO. 2B SPEED	AIN	HMA	2
CP6053	TER_FILTERS	FLO-6406 NO. 2B SPEED	AIN	HHA	2
CP6053	TER_FILTERS	FLO-6406 NO. 2B SPEED	AIN	LLA	2
CP6053	TER_FILTERS	FLO-6406 NO. 2B SPEED	AIN	LMA	2
CP6053	TER_FILTERS	FLO-6407 NO. 2C SPEED	AIN	HMA	2
CP6053	TER_FILTERS	FLO-6407 NO. 2C SPEED	AIN	LMA	2
CP6053	TER_FILTERS	FLO-6407 NO. 2C SPEED	AIN	BAD	1

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6053	TER_FILTERS	FLO-6407 NO. 2C SPEED	AIN	OOR	1
CP6053	TER_FILTERS	FLO-6407 NO. 2C SPEED	AIN	HHA	2
CP6053	TER_FILTERS	FLO-6407 NO. 2C SPEED	AIN	LLA	2
CP6053	TER_FILTERS	FLO-6408 NO. 2D SPEED	AIN	OOR	1
CP6053	TER_FILTERS	FLO-6408 NO. 2D SPEED	AIN	BAD	1
CP6053	TER_FILTERS	FLO-6408 NO. 2D SPEED	AIN	LLA	2
CP6053	TER_FILTERS	FLO-6408 NO. 2D SPEED	AIN	HHA	2
CP6053	TER_FILTERS	FLO-6408 NO. 2D SPEED	AIN	LMA	2
CP6053	TER_FILTERS	FLO-6408 NO. 2D SPEED	AIN	HMA	2
CP6053	WATER_PUMPS	PUMP SERVICE WTR TOTAL FLOW	AIN	LLA	2
CP6053	WATER_PUMPS	PUMP SERVICE WTR TOTAL FLOW	AIN	HMA	2
CP6053	WATER_PUMPS	PUMP SERVICE WTR TOTAL FLOW	AIN	LMA	2
CP6053	WATER_PUMPS	PUMP SERVICE WTR TOTAL FLOW	AIN	HHA	2
CP6053	WATER_PUMPS	PUMP SERVICE WTR OVERFLOW	AIN	BAD	2
CP6053	WATER_PUMPS	PUMP SERVICE WTR OVERFLOW	AIN	HHA	2
CP6053	WATER_PUMPS	PUMP SERVICE WTR OVERFLOW	AIN	LLA	2
CP6053	WATER_PUMPS	PUMP SERVICE WTR OVERFLOW	AIN	OOR	2
CP6053	WATER_PUMPS	PUMP SERVICE WTR OVERFLOW	AIN	LMA	2
CP6053	WATER_PUMPS	PUMP SERVICE WTR OVERFLOW	AIN	HMA	2
CP6053	WATER_PUMPS	JKQTOTAL TRANSFER TO AIN	AIN	OOR	2
CP6053	WATER_PUMPS	JKQTOTAL TRANSFER TO AIN	AIN	BAD	2
CP6053	WATER_PUMPS	JKWTOTAL TRANSFER TO AIN	AIN	BAD	2
CP6053	WATER_PUMPS	JKWTOTAL TRANSFER TO AIN	AIN	OOR	2
CP6053	WATER_PUMPS	PUMP SERVICE WTR SYSTEM PRESS	AIN	HMA	2
CP6053	WATER_PUMPS	PUMP SERVICE WTR SYSTEM PRESS	AIN	OOR	2
CP6053	WATER_PUMPS	PUMP SERVICE WTR SYSTEM PRESS	AIN	LMA	2
CP6053	WATER_PUMPS	PUMP SERVICE WTR SYSTEM PRESS	AIN	BAD	2
CP6053	WATER_PUMPS	PUMP SERVICE WTR SYSTEM PRESS	AIN	HHA	2
CP6053	WATER_PUMPS	PUMP SERVICE WTR SYSTEM PRESS	AIN	LLA	2
CP6053	WATER_PUMPS	PSW-6402 PMP 2 SPEED	AIN	BAD	1
CP6053	WATER_PUMPS	PSW-6402 PMP 2 SPEED	AIN	OOR	1
CP6053	WATER_PUMPS	PSW-6404 PMP 4 SPEED	AIN	BAD	1
CP6053	WATER_PUMPS	PSW-6404 PMP 4 SPEED	AIN	OOR	1
CP6053	WATER_PUMPS	PSW-6405 PMP 5 SPEED	AIN	BAD	1
CP6053	WATER_PUMPS	PSW-6405 PMP 5 SPEED	AIN	OOR	1
CP6051	ES_PUMPS	PES-6021 PMP 1 SPEED CONTROL	AOUT	BAD	1
CP6051	ES_PUMPS	PES-6022 PMP 2 SPEED CONTROL	AOUT	BAD	1
CP6051	ES_PUMPS	PES-6023 PMP 3 SPEED CONTROL	AOUT	BAD	1
CP6051	FE_CHLORIDE	PF-6024 PMP 4 SPEED CONTROL	AOUT	BAD	1
CP6051	FE_CHLORIDE	PF-6025 PMP 5 SPEED CONTROL	AOUT	BAD	1
CP6051	INFLUENT	INFLUENT SAMPLER PACING	AOUT	BAD	5
CP6051	INFLUENT	IPS PMP 2 SPEED CONTROL	AOUT	BAD	1
CP6051	INFLUENT	IPS PMP 3 SPEED CONTROL	AOUT	BAD	1
CP6051	INFLUENT	IPS PMP 4 SPEED CONTROL	AOUT	BAD	1
CP6051	POLYMER	BP-6021 NO. 1A CONTROLLER	AOUT	BAD	1
CP6051	POLYMER	BP-6022 NO. 1B CONTROLLER	AOUT	BAD	1
CP6052	AERATION_AIR	VAA-6052 ZONE 3A VALVE CONTROL	AOUT	BAD	1
CP6052	AERATION_AIR	VAA-6053 ZONE 3B VALVE CONTROL	AOUT	BAD	1
CP6052	AERATION_AIR	VAA-6054 ZONE 3C VALVE CONTROL	AOUT	BAD	1
CP6052	AERATION_AIR	VAA-6055 ZONE 3D VALVE CONTROL	AOUT	BAD	1
CP6052	AERATION_AIR	VAA-6060 ZONE 4A VALVE CONTROL	AOUT	BAD	1
CP6052	AERATION_AIR	VAA-6061 ZONE 4B VALVE CONTROL	AOUT	BAD	1
CP6052	AERATION_AIR	VAA-6062 ZONE 4C VALVE CONTROL	AOUT	BAD	1

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6052	AERATION_AIR	VAA-6063 ZONE 4D VALVE CONTROL	AOUT	BAD	1
CP6052	RAS_PUMPS	PRS-6056 PMP 6 SPEED CONTROL	AOUT	BAD	1
CP6052	RAS_PUMPS	PRS-6057 PMP 7 SPEED CONTROL	AOUT	BAD	1
CP6052	RAS_PUMPS	PRS-6058 PMP 8 SPEED CONTROL	AOUT	BAD	1
CP6052	RAS_PUMPS	PRS-6069 PMP 9 SPEED CONTROL	AOUT	BAD	1
CP6052	RAS_PUMPS	PRS-6060 PMP 10 SPEED CONTROL	AOUT	BAD	1
CP6052	RAS_PUMPS	RAS TO AB NO. 3 VALVE CONTROL	AOUT	BAD	1
CP6052	RAS_PUMPS	RAS TO AB NO. 4 VALVE CONTROL	AOUT	BAD	1
CP6052	WAS_PUMPS	PWS-6053 PMP 3 SPEED CONTROL	AOUT	BAD	1
CP6052	WAS_PUMPS	PWS-6054 PMP 4 SPEED CONTROL	AOUT	BAD	1
CP6053	ALUM	PA-6401 PMP 1A SPEED CONTROL	AOUT	BAD	1
CP6053	ALUM	PA-6402 PMP 2A SPEED CONTROL	AOUT	BAD	1
CP6053	CATI_POLYMER	BP-6401 NO. 1A RATE CONTROL	AOUT	BAD	1
CP6053	CATI_POLYMER	BP-6402 NO. 1B RATE CONTROL	AOUT	BAD	1
CP6053	CL2_CONTACT	OUTFALL SAMPLER PACING	AOUT	BAD	1
CP6053	NA_BISULFITE	PSB-6401 PMP 1A SPEED CONTROL	AOUT	BAD	1
CP6053	NA_BISULFITE	PSB-6402 PMP 2A SPEED CONTROL	AOUT	BAD	1
CP6053	NA_BISULFITE	PSB-6403 PMP 3A SPEED CONTROL	AOUT	BAD	1
CP6053	NA_BISULFITE	PSB-6404 PMP 4A SPEED CONTROL	AOUT	BAD	1
CP6053	NAOCL	PSH-6401 PMP 1A SPEED CONTROL	AOUT	BAD	1
CP6053	NAOCL	PSH-6402 PMP 2A SPEED CONTROL	AOUT	BAD	1
CP6053	NAOCL	PSH-6405 PMP 1B SPEED CONTROL	AOUT	BAD	1
CP6053	NAOCL	PSH-6406 PMP 2B SPEED CONTROL	AOUT	BAD	1
CP6053	NAOCL	PSH-6407 PMP 3B SPEED CONTROL	AOUT	BAD	1
CP6053	NAOCL	PSH-6408 PMP 4B SPEED CONTROL	AOUT	BAD	1
CP6053	NAOCL	PSH-6409 PMP 5B SPEED CONTROL	AOUT	BAD	1
CP6053	NAOCL	PSH-6412 PMP 3C SPEED CONTROL	AOUT	BAD	1
CP6053	NAOCL	PSH-6413 PMP 4C SPEED CONTROL	AOUT	BAD	1
CP6053	TER_FILTERS	FLO-6405 NO. 2A SPEED CONTROL	AOUT	BAD	1
CP6053	TER_FILTERS	FLO-6406 NO. 2B SPEED CONTROL	AOUT	BAD	1
CP6053	TER_FILTERS	FLO-6407 NO. 2C SPEED CONTROL	AOUT	BAD	1
CP6053	TER_FILTERS	FLO-6408 NO. 2D SPEED CONTROL	AOUT	BAD	1
CP6053	WATER_PUMPS	PSW-6402 PMP 2 SPEED CONTROL	AOUT	BAD	1
CP6053	WATER_PUMPS	PSW-6404 PMP 4 SPEED CONTROL	AOUT	BAD	1
CP6053	WATER_PUMPS	PSW-6405 PMP 5 SPEED CONTROL	AOUT	BAD	1
ABST51	REG_STATUS	CARBON CANYON ALARMS	BLNALM	STA	2
ABST51	REG_STATUS	CARBON CANYON ALARMS	BLNALM	STA	2
ABST51	REG_STATUS	CARBON CANYON ALARMS	BLNALM	STA	2
ABST51	REG_STATUS	CARBON CANYON ALARMS	BLNALM	STA	2
ABST51	REG_STATUS	CARBON CANYON ALARMS	BLNALM	STA	2
ABST51	REG_STATUS	CARBON CANYON ALARMS	BLNALM	STA	5
ABST51	REG_STATUS		BLNALM	STA	1
ABST51	REG_STATUS	RED ALARMS	BLNALM	STA	1
ABST51	REG_STATUS	RP1 ALARMS	BLNALM	STA	2
ABST51	REG_STATUS	RP1 ALARMS	BLNALM	STA	2
ABST51	REG_STATUS	RP1 ALARMS	BLNALM	STA	2
ABST51	REG_STATUS	RP1 ALARMS	BLNALM	STA	2
ABST51	REG_STATUS	RP1 ALARMS	BLNALM	STA	2
ABST51	REG_STATUS	RP1 ALARMS	BLNALM	STA	5
ABST51	REG_STATUS	RP4 ALARMS	BLNALM	STA	2
ABST51	REG_STATUS	RP4 ALARMS	BLNALM	STA	2
ABST51	REG_STATUS	RP4 ALARMS	BLNALM	STA	2
ABST51	REG_STATUS	RP4 ALARMS	BLNALM	STA	2

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
ABST51	REG_STATUS	RP4 ALARMS	BLNALM	STA	2
ABST51	RP2		BLNALM	STA	5
ABST51	RP2		BLNALM	STA	5
ABST51	RP2		BLNALM	STA	5
ABST51	RP2		BLNALM	STA	5
ABST51	RP2		BLNALM	STA	5
ABST51	RP2		BLNALM	STA	5
ABST51	RP2		BLNALM	STA	5
ABST51	RP2		BLNALM	STA	5
ABST51	RP2		BLNALM	STA	5
ABST51	RP2		BLNALM	STA	5
ABST51	RP2		BLNALM	STA	5
ABST51	RP2		BLNALM	STA	5
ABST51	RP2		BLNALM	STA	5
ABST51	RP2		BLNALM	STA	5
ABST51	RP2		BLNALM	STA	5
ABST51	RP2		BLNALM	STA	5
ABST51	RP2		BLNALM	STA	5
CP6051	INFLUENT	INFLUENT ALARM	BLNALM	STA	1
CP6051	INFLUENT	INFLUENT ALARM	BLNALM	STA	1
CP6051	INFLUENT	INFLUENT ALARM	BLNALM	STA	1
CP6051	INFLUENT	INFLUENT ALARM	BLNALM	STA	1
CP6051	SLUDGE_PUMPS		BLNALM	STA	1
CP6053	CL2_CONTACT	CONTACT BASIN ALARMS	BLNALM	STA	1
CP6053	CL2_CONTACT	CONTACT BASIN ALARMS	BLNALM	STA	1
CP6053	CL2_CONTACT	CONTACT BASIN ALARMS	BLNALM	STA	1
CP6053	CL2_CONTACT	CONTACT BASIN ALARMS	BLNALM	STA	1
CP6053	CL2_CONTACT	CONTACT BASIN ALARMS	BLNALM	STA	1
CP6053	CL2_CONTACT	CONTACT BASIN ALARMS	BLNALM	STA	1
CP6053	CL2_CONTACT	CONTACT BASIN ALARMS	BLNALM	STA	1
CP6053	CL2_CONTACT	CONTACT BASIN ALARMS	BLNALM	STA	1
CP6053	NPDES	NPDES ALARMS	BLNALM	STA	2
CP6053	NPDES	NPDES ALARMS	BLNALM	STA	2
CP6053	NPDES	NPDES ALARMS	BLNALM	STA	2
CP6053	NPDES	NPDES ALARMS	BLNALM	STA	2
CP6053	NPDES	NPDES ALARMS	BLNALM	STA	2
CP6053	NPDES	NPDES ALARMS	BLNALM	STA	2
CP6053	NPDES	NPDES ALARMS	BLNALM	STA	2
CP6053	NPDES	NPDES ALARMS	BLNALM	STA	2
CP6053	NPDES	NPDES ALARMS	BLNALM	STA	2
CP6053	NPDES	NPDES ALARMS	BLNALM	STA	2
CP6053	NPDES	NPDES ALARMS	BLNALM	STA	2
CP6053	TER_FILTERS	TERT. FILTERS	BLNALM	STA	1
CP6053	TER_FILTERS	TERT. FILTERS	BLNALM	STA	1
ABST51	AB_BAR_SCRN1	BAR SCREEN 1B RUNNING	CIN	BAD	1
ABST51	AB_BAR_SCRN1	BAR SCREEN 1B HIGH TORQUE	CIN	STA	1
ABST51	AB_BAR_SCRN1	BAR SCREEN 1B HIGH TORQUE	CIN	BAD	1
ABST51	AB_BAR_SCRN1	BAR SCREEN 1B IN REMOTE	CIN	BAD	1
ABST51	AB_BAR_SCRN2	BAR SCREEN 1C RUNNING	CIN	BAD	1
ABST51	AB_BAR_SCRN2	BAR SCREEN 1C HIGH TORQUE	CIN	STA	1
ABST51	AB_BAR_SCRN2	BAR SCREEN 1C HIGH TORQUE	CIN	BAD	1
ABST51	AB_BAR_SCRN2	BAR SCREEN 1C IN REMOTE	CIN	BAD	1
ABST51	AB_SCRN_COMP	SCOMP NO. 1 AGIT OVERLOAD	CIN	STA	1

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
ABST51	AB_SCRN_COMP	SCOMP NO. 1 AGIT OVERLOAD	CIN	BAD	1
ABST51	AB_SCRN_COMP	SCOMP NO. 1 AGIT HIGH TORQUE	CIN	BAD	1
ABST51	AB_SCRN_COMP	SCOMP NO. 1 AGIT HIGH TORQUE	CIN	STA	1
ABST51	AB_SCRN_COMP	SCOMP NO. 1 LEVEL SENSOR F	CIN	STA	2
ABST51	AB_SCRN_COMP	SCOMP NO. 1 LEVEL SENSOR F	CIN	BAD	1
ABST51	AB_SCRN_COMP	SCOMP NO. 1 MTR OVERLOAD	CIN	STA	1
ABST51	AB_SCRN_COMP	SCOMP NO. 1 MTR OVERLOAD	CIN	BAD	1
ABST51	AB_SCRN_COMP	SCOMP NO. 1 MTR HIGH TORQUE	CIN	BAD	1
ABST51	AB_SCRN_COMP	SCOMP NO. 1 MTR HIGH TORQUE	CIN	STA	1
ABST51	AB_SCRN_COMP	SCOMP NO. 1 HI LEVEL	CIN	STA	2
ABST51	AB_SCRN_COMP	SCOMP NO. 1 HI LEVEL	CIN	BAD	2
ABST51	AB_SCRN_COMP	SCOMP NO. 1 MTR RUNNING	CIN	BAD	1
ABST51	AB_SCRN_COMP	SCOMP NO. 1 SPRAY WASH ON	CIN	BAD	1
ABST51	AB_SCRN_COMP	SCOMP NO. 1 AGIT RUNNING	CIN	BAD	1
ABST51	AB_SCRN_COMP	SCOMP NO. 1 IN HAND	CIN	BAD	1
ABST51	AB_SCRN_COMP	SCOMP NO. 1 IN AUTO	CIN	BAD	1
ABST51	BLOWER1	BLWR 1A INLET VANEMOTOR FAILED	CIN	BAD	1
ABST51	BLOWER1	BLWR 1A INLET VANEMOTOR FAILED	CIN	STA	1
ABST51	BLOWER1	BLWR 1A MOTOR FAILED	CIN	STA	1
ABST51	BLOWER1	BLWR 1A MOTOR FAILED	CIN	BAD	1
ABST51	BLOWER1	BLWR 1A DIFFUSER MOTOR FAILED	CIN	BAD	1
ABST51	BLOWER1	BLWR 1A DIFFUSER MOTOR FAILED	CIN	STA	1
ABST51	BLOWER1	BLWR 1A MOTOR START/STOP	CIN	BAD	1
ABST51	BLOWER1	BLOWER 1A FAULT ACK	CIN	STA	1
ABST51	BLOWER1	BLOWER 1A FAULT ACK	CIN	BAD	1
ABST51	BLOWER1	BLOWER 1A FAULT RESET	CIN	STA	1
ABST51	BLOWER1	BLOWER 1A FAULT RESET	CIN	BAD	1
ABST51	BLOWER1	BLWR 1A INLET VANECONTROL	CIN	STA	1
ABST51	BLOWER1	BLWR 1A INLET VANECONTROL	CIN	BAD	1
ABST51	BLOWER1	BLWR 1A DISCH VLV OPEN	CIN	BAD	1
ABST51	BLOWER1	BLWR 1A DIFFUSER CONTROL	CIN	STA	1
ABST51	BLOWER1	BLWR 1A DIFFUSER CONTROL	CIN	BAD	1
ABST51	BLOWER1	BLOWER 1A SUC SURGE PRE	CIN	STA	1
ABST51	BLOWER1	BLOWER 1A SUC SURGE PRE	CIN	BAD	1
ABST51	BLOWER1	BLOWER 1A SURGE SWITCH	CIN	BAD	1
ABST51	BLOWER1	BLOWER 1A SURGE SWITCH	CIN	STA	1
ABST51	BLOWER1	BLWR 1A DISCH VLV CLOSE	CIN	BAD	1
ABST51	BLOWER1	BLWR 1A MOTOR RUNNING	CIN	BAD	1
ABST51	BLOWER1	BLWR 1A INLET VANEIN REMOTE	CIN	BAD	1
ABST51	BLOWER1	BLWR 1A DISCH VLV IN REMOTE	CIN	BAD	1
ABST51	BLOWER1	BLWR 1A DIFFUSER IN REMOTE	CIN	BAD	1
ABST51	BLOWER1	BLOWER 1A ZERO MOTION SW	CIN	BAD	5
ABST51	BLOWER1	BLOWER 1A ZERO MOTION SW	CIN	STA	5
ABST51	BLOWER1	BLWR 1A INLET VANEOPEN	CIN	BAD	1
ABST51	BLOWER1	BLWR 1A DISCH VLV FULLY OPEN	CIN	BAD	1
ABST51	BLOWER1	BLWR 1A DIFFUSER OPEN	CIN	BAD	1
ABST51	BLOWER1	BLWR 1A INLET VANEFULLY CLOSED	CIN	BAD	1
ABST51	BLOWER1	BLWR 1A DISCH VLV FULLY CLOSED	CIN	BAD	1
ABST51	BLOWER1	BLWR 1A DIFFUSER FULLY CLOSED	CIN	BAD	1
ABST51	BLOWER1	EMERG STOP STATUS	CIN	BAD	1
ABST51	BLOWER1	BLWR 1A BLOW OFF VSTATUS	CIN	BAD	1
ABST51	BLOWER1	BLWR 1A BLOW OFF VSTATUS	CIN	BAD	1
ABST51	BLOWER1	BLOWER 1A TRIP LOW OIL PRESS	CIN	STA	1

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
ABST51	BLOWER1	BLOWER 1A TRIP LOW OIL PRESS	CIN	BAD	1
ABST51	BLOWER1	BLOWER 1A MTR START DELA	CIN	BAD	1
ABST51	BLOWER1	BLOWER 1A MTR START DELA	CIN	STA	1
ABST51	BLOWER1	BLOWER 1A NO FBACK	CIN	BAD	1
ABST51	BLOWER1	BLOWER 1A NO FBACK	CIN	STA	1
ABST51	BLOWER1	BLOWER 1A LOSS OF FBACK	CIN	STA	1
ABST51	BLOWER1	BLOWER 1A LOSS OF FBACK	CIN	BAD	1
ABST51	BLOWER1	BLOWER 1A MTR STOP DELAY	CIN	BAD	1
ABST51	BLOWER1	BLOWER 1A MTR STOP DELAY	CIN	STA	1
ABST51	BLOWER1	BLOWER 1A RESTART BLOCKI	CIN	BAD	1
ABST51	BLOWER1	BLOWER 1A RESTART BLOCKI	CIN	STA	1
ABST51	BLOWER1	BLOWER 1A TRIP LOW LOW OIL PR	CIN	BAD	1
ABST51	BLOWER1	BLOWER 1A TRIP LOW LOW OIL PR	CIN	STA	1
ABST51	BLOWER1	BLOWER 1A ALARM HI AIR TEMP	CIN	STA	1
ABST51	BLOWER1	BLOWER 1A ALARM HI AIR TEMP	CIN	BAD	1
ABST51	BLOWER1	BLOWER 1A TRIP HI AIR TEMP	CIN	STA	1
ABST51	BLOWER1	BLOWER 1A TRIP HI AIR TEMP	CIN	BAD	1
ABST51	BLOWER1	BLOWER 1A TRIP LO LO OIL TEMP	CIN	BAD	1
ABST51	BLOWER1	BLOWER 1A TRIP LO LO OIL TEMP	CIN	STA	1
ABST51	BLOWER1	BLOWER 1A ALARM LOW OIL TEMP	CIN	BAD	1
ABST51	BLOWER1	BLOWER 1A ALARM LOW OIL TEMP	CIN	STA	1
ABST51	BLOWER1	BLOWER 1A ALARM HI OIL TEMP	CIN	STA	1
ABST51	BLOWER1	BLOWER 1A ALARM HI OIL TEMP	CIN	BAD	1
ABST51	BLOWER1	BLOWER 1A TRIP HI OIL TEMP	CIN	STA	1
ABST51	BLOWER1	BLOWER 1A TRIP HI OIL TEMP	CIN	BAD	1
ABST51	BLOWER1	BLOWER 1A ALARM REV ROTATION	CIN	BAD	1
ABST51	BLOWER1	BLOWER 1A ALARM REV ROTATION	CIN	STA	1
ABST51	BLOWER1	B1A SLW SPD BEARING INNER TEMP	CIN	BAD	1
ABST51	BLOWER1	B1A SLW SPD BEARING INNER TEMP	CIN	STA	1
ABST51	BLOWER1	B1A SLW SPD BEARING INNER TEMP	CIN	STA	1
ABST51	BLOWER1	B1A SLW SPD BEARING INNER TEMP	CIN	BAD	1
ABST51	BLOWER1	B1A LO SPD BEARING OUTER TEMP	CIN	BAD	1
ABST51	BLOWER1	B1A LO SPD BEARING OUTER TEMP	CIN	STA	1
ABST51	BLOWER1	B1A LO SPD BEARING OUTER TEMP	CIN	STA	1
ABST51	BLOWER1	B1A LO SPD BEARING OUTER TEMP	CIN	BAD	1
ABST51	BLOWER1	B1A HI SPD BEARINGINNER ALM TEMP	CIN	BAD	1
ABST51	BLOWER1	B1A HI SPD BEARINGINNER ALM TEMP	CIN	STA	1
ABST51	BLOWER1	B1A HI SPD BEARINGINNER TRIP TEM	CIN	BAD	1
ABST51	BLOWER1	B1A HI SPD BEARINGINNER TRIP TEM	CIN	STA	1
ABST51	BLOWER1	B1A HI SPD BEARINGOUTER ALM TEMP	CIN	STA	1
ABST51	BLOWER1	B1A HI SPD BEARINGOUTER ALM TEMP	CIN	BAD	1
ABST51	BLOWER1	B1A HI SPD BEARINGOUTER TRIP TEM	CIN	BAD	1
ABST51	BLOWER1	B1A HI SPD BEARINGOUTER TRIP TEM	CIN	STA	1
ABST51	BLOWER1	B1A HI SPD BEARINGTHRUST ALM TEM	CIN	STA	1
ABST51	BLOWER1	B1A HI SPD BEARINGTHRUST ALM TEM	CIN	BAD	1
ABST51	BLOWER1	B1A HI SPD BEARINGTHRUST TRIP TE	CIN	STA	1
ABST51	BLOWER1	B1A HI SPD BEARINGTHRUST TRIP TE	CIN	BAD	1
ABST51	BLOWER1	B1A MTR A WINDING HI ALM TEMP	CIN	BAD	1
ABST51	BLOWER1	B1A MTR A WINDING HI ALM TEMP	CIN	STA	1
ABST51	BLOWER1	B1A MTR A WINDING HI TRIP TEMP	CIN	BAD	1
ABST51	BLOWER1	B1A MTR A WINDING HI TRIP TEMP	CIN	STA	1
ABST51	BLOWER1	B1A MTR OUTOARD BEARING TEMP	CIN	STA	1
ABST51	BLOWER1	B1A MTR OUTOARD BEARING TEMP	CIN	BAD	1

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
ABST51	BLOWER1	B1A MTR OUTBOARD BEARING TEMP	CIN	STA	1
ABST51	BLOWER1	B1A MTR OUTBOARD BEARING TEMP	CIN	BAD	1
ABST51	BLOWER1	B1A MTR OUTBOARD VELOMITER TRIP	CIN	STA	2
ABST51	BLOWER1	B1A MTR OUTBOARD VELOMITER TRIP	CIN	BAD	2
ABST51	BLOWER1	B1A MTR A WINDING HI ALM TEMP	CIN	BAD	1
ABST51	BLOWER1	B1A MTR A WINDING HI ALM TEMP	CIN	STA	1
ABST51	BLOWER1	B1A MTR A WINDING HI TRIP TEMP	CIN	STA	1
ABST51	BLOWER1	B1A MTR A WINDING HI TRIP TEMP	CIN	BAD	1
ABST51	BLOWER1	B1A MTR B WINDING HI ALM TEMP	CIN	BAD	1
ABST51	BLOWER1	B1A MTR B WINDING HI ALM TEMP	CIN	STA	1
ABST51	BLOWER1	B1A MTR B WINDING HI TRIP TEMP	CIN	STA	1
ABST51	BLOWER1	B1A MTR B WINDING HI TRIP TEMP	CIN	BAD	1
ABST51	BLOWER1	BLOWER 1A LO LO OIL SW	CIN	STA	1
ABST51	BLOWER1	BLOWER 1A LO LO OIL SW	CIN	BAD	1
ABST51	BLOWER1	BLOWER 1A LOW OIL SW	CIN	STA	2
ABST51	BLOWER1	BLOWER 1A LOW OIL SW	CIN	BAD	2
ABST51	BLOWER1	B1A MTR C WINDING TEMP	CIN	STA	1
ABST51	BLOWER1	B1A MTR C WINDING TEMP	CIN	BAD	1
ABST51	BLOWER1	B1A MTR C WINDING TEMP	CIN	BAD	1
ABST51	BLOWER1	B1A MTR C WINDING TEMP	CIN	STA	1
ABST51	BLOWER1	B1A MTR INBOARD BEARING TEMP	CIN	BAD	1
ABST51	BLOWER1	B1A MTR INBOARD BEARING TEMP	CIN	STA	1
ABST51	BLOWER1	B1A MTR INBOARD BEARING TEMP	CIN	BAD	1
ABST51	BLOWER1	B1A MTR INBOARD BEARING TEMP	CIN	STA	1
ABST51	BLOWER1	B1A HI SPD SHAFT X POSITION ALM	CIN	STA	1
ABST51	BLOWER1	B1A HI SPD SHAFT X POSITION ALM	CIN	BAD	1
ABST51	BLOWER1	B1A HI SPD SHAFT X POSITION TRI	CIN	STA	1
ABST51	BLOWER1	B1A HI SPD SHAFT X POSITION TRI	CIN	BAD	1
ABST51	BLOWER1	B1A HI SPD SHAFT Y POSITION ALM	CIN	STA	1
ABST51	BLOWER1	B1A HI SPD SHAFT Y POSITION ALM	CIN	BAD	1
ABST51	BLOWER1	B1A HI SPD SHAFT Y POSITION TRI	CIN	BAD	1
ABST51	BLOWER1	B1A HI SPD SHAFT Y POSITION TRI	CIN	STA	1
ABST51	BLOWER1	B1A HI SPD THRUST MIN POS ALM	CIN	STA	1
ABST51	BLOWER1	B1A HI SPD THRUST MIN POS ALM	CIN	BAD	1
ABST51	BLOWER1	B1A HI SPD THRUST MIN POS TRIP	CIN	STA	1
ABST51	BLOWER1	B1A HI SPD THRUST MIN POS TRIP	CIN	BAD	1
ABST51	BLOWER1	B1A HI SPD THRUST MAX POS ALARM	CIN	STA	1
ABST51	BLOWER1	B1A HI SPD THRUST MAX POS ALARM	CIN	BAD	1
ABST51	BLOWER1	B1A HI SPD THRUST MAX POS TRIP	CIN	BAD	1
ABST51	BLOWER1	B1A HI SPD THRUST MAX POS TRIP	CIN	STA	1
ABST51	BLOWER1	BLOWER 1A PRESS DIFF	CIN	BAD	2
ABST51	BLOWER1	BLOWER 1A PRESS DIFF	CIN	STA	2
ABST51	BLOWER2	BLWR 1B INLET VANEMOTOR FAILED	CIN	STA	1
ABST51	BLOWER2	BLWR 1B INLET VANEMOTOR FAILED	CIN	BAD	1
ABST51	BLOWER2	BLWR 1B MOTOR FAILED	CIN	STA	1
ABST51	BLOWER2	BLWR 1B MOTOR FAILED	CIN	BAD	1
ABST51	BLOWER2	BLWR 1B DIFFUSER MOTOR FAILED	CIN	STA	1
ABST51	BLOWER2	BLWR 1B DIFFUSER MOTOR FAILED	CIN	BAD	1
ABST51	BLOWER2	BLWR 1B MOTOR START/STOP	CIN	BAD	1
ABST51	BLOWER2	BLOWER 1B FAULT ACK	CIN	STA	1
ABST51	BLOWER2	BLOWER 1B FAULT ACK	CIN	BAD	1
ABST51	BLOWER2	BLOWER 1B FAULT RESET	CIN	STA	1
ABST51	BLOWER2	BLOWER 1B FAULT RESET	CIN	BAD	1

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
ABST51	BLOWER2	BLWR 1B DISCH VLV OPEN	CIN	BAD	1
ABST51	BLOWER2	BLWR 1B INLET VANECONTROL	CIN	BAD	1
ABST51	BLOWER2	BLWR 1B INLET VANECONTROL	CIN	STA	1
ABST51	BLOWER2	BLWR 1B DIFFUSER CONTROL	CIN	STA	1
ABST51	BLOWER2	BLWR 1B DIFFUSER CONTROL	CIN	BAD	1
ABST51	BLOWER2	BLOWER 1B SUC SURGE PRES	CIN	BAD	1
ABST51	BLOWER2	BLOWER 1B SUC SURGE PRES	CIN	STA	1
ABST51	BLOWER2	BLOWER 1B SURGE SWITCH	CIN	BAD	1
ABST51	BLOWER2	BLOWER 1B SURGE SWITCH	CIN	STA	1
ABST51	BLOWER2	BLWR 1B DISCH VLV CLOSE	CIN	BAD	1
ABST51	BLOWER2	BLWR 1B MOTOR RUNNING	CIN	BAD	1
ABST51	BLOWER2	BLWR 1B INLET VANEIN REMOTE	CIN	BAD	1
ABST51	BLOWER2	BLWR 1B DISCH VLV IN REMOTE	CIN	BAD	1
ABST51	BLOWER2	BLWR 1B DIFFUSER IN REMOTE	CIN	BAD	1
ABST51	BLOWER2	BLOWER 1B ZERO MOTION SW	CIN	STA	2
ABST51	BLOWER2	BLOWER 1B ZERO MOTION SW	CIN	BAD	2
ABST51	BLOWER2	BLWR 1B INLET VANEOPEN	CIN	BAD	1
ABST51	BLOWER2	BLWR 1B DISCH VLV FULLY OPEN	CIN	BAD	1
ABST51	BLOWER2	BLWR 1B DIFFUSER OPEN	CIN	BAD	1
ABST51	BLOWER2	BLWR 1B INLET VANEFULLY CLOSED	CIN	BAD	1
ABST51	BLOWER2	BLWR 1B DISCH VLV FULLY CLOSED	CIN	BAD	1
ABST51	BLOWER2	BLWR 1B DIFFUSER FULLY CLOSED	CIN	BAD	1
ABST51	BLOWER2	EMERG STOP STATUS	CIN	BAD	1
ABST51	BLOWER2	BLWR 1B BLOW OFF VSTATUS	CIN	BAD	1
ABST51	BLOWER2	BLWR 1B BLOW OFF VSTATUS	CIN	BAD	1
ABST51	BLOWER2	BLOWER 1B TRIP LOW OIL PRESS	CIN	STA	1
ABST51	BLOWER2	BLOWER 1B TRIP LOW OIL PRESS	CIN	BAD	1
ABST51	BLOWER2	BLOWER 1B MTR START DELA	CIN	BAD	1
ABST51	BLOWER2	BLOWER 1B MTR START DELA	CIN	STA	1
ABST51	BLOWER2	BLOWER 1B NO FBACK	CIN	STA	1
ABST51	BLOWER2	BLOWER 1B NO FBACK	CIN	BAD	1
ABST51	BLOWER2	BLOWER 1B LOSS OF FBACK	CIN	STA	1
ABST51	BLOWER2	BLOWER 1B LOSS OF FBACK	CIN	BAD	1
ABST51	BLOWER2	BLOWER 1B MTR STOP DELAY	CIN	STA	1
ABST51	BLOWER2	BLOWER 1B MTR STOP DELAY	CIN	BAD	1
ABST51	BLOWER2	BLOWER 1B RESTART BLOCKI	CIN	STA	1
ABST51	BLOWER2	BLOWER 1B RESTART BLOCKI	CIN	BAD	1
ABST51	BLOWER2	BLOWER 1B TRIP LOW LOW OIL PR	CIN	BAD	1
ABST51	BLOWER2	BLOWER 1B TRIP LOW LOW OIL PR	CIN	STA	1
ABST51	BLOWER2	BLOWER 1B ALARM HI AIR TEMP	CIN	STA	1
ABST51	BLOWER2	BLOWER 1B ALARM HI AIR TEMP	CIN	BAD	1
ABST51	BLOWER2	BLOWER 1B TRIP HI AIR TEMP	CIN	STA	1
ABST51	BLOWER2	BLOWER 1B TRIP HI AIR TEMP	CIN	BAD	1
ABST51	BLOWER2	BLOWER 1B TRIP LO LO OIL TEMP	CIN	STA	1
ABST51	BLOWER2	BLOWER 1B TRIP LO LO OIL TEMP	CIN	BAD	1
ABST51	BLOWER2	BLOWER 1B ALARM LOW OIL TEMP	CIN	BAD	2
ABST51	BLOWER2	BLOWER 1B ALARM LOW OIL TEMP	CIN	STA	2
ABST51	BLOWER2	BLOWER 1B ALARM HI OIL TEMP	CIN	BAD	1
ABST51	BLOWER2	BLOWER 1B ALARM HI OIL TEMP	CIN	STA	1
ABST51	BLOWER2	BLOWER 1B TRIP HI OIL TEMP	CIN	BAD	1
ABST51	BLOWER2	BLOWER 1B TRIP HI OIL TEMP	CIN	STA	1
ABST51	BLOWER2	BLOWER 1B ALARM REV ROTATION	CIN	STA	1
ABST51	BLOWER2	BLOWER 1B ALARM REV ROTATION	CIN	BAD	1

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
ABST51	BLOWER2	B1B SLW SPD BEARING INNER TEMP	CIN	BAD	1
ABST51	BLOWER2	B1B SLW SPD BEARING INNER TEMP	CIN	STA	1
ABST51	BLOWER2	B1B SLW SPD BEARING INNER TEMP	CIN	BAD	1
ABST51	BLOWER2	B1B SLW SPD BEARING INNER TEMP	CIN	STA	1
ABST51	BLOWER2	B1B LO SPD BEARING OUTER TEMP	CIN	STA	1
ABST51	BLOWER2	B1B LO SPD BEARING OUTER TEMP	CIN	BAD	1
ABST51	BLOWER2	B1B LO SPD BEARING OUTER TEMP	CIN	BAD	1
ABST51	BLOWER2	B1B LO SPD BEARING OUTER TEMP	CIN	STA	1
ABST51	BLOWER2	B1B HI SPD BEARINGINNER ALM TEMP	CIN	STA	1
ABST51	BLOWER2	B1B HI SPD BEARINGINNER ALM TEMP	CIN	BAD	1
ABST51	BLOWER2	B1B HI SPD BEARINGINNER TRIP TEM	CIN	STA	1
ABST51	BLOWER2	B1B HI SPD BEARINGINNER TRIP TEM	CIN	BAD	1
ABST51	BLOWER2	B1B HI SPD BEARINGOUTER ALM TEMP	CIN	STA	1
ABST51	BLOWER2	B1B HI SPD BEARINGOUTER ALM TEMP	CIN	BAD	1
ABST51	BLOWER2	B1B HI SPD BEARINGOUTER TRIP TEM	CIN	BAD	1
ABST51	BLOWER2	B1B HI SPD BEARINGOUTER TRIP TEM	CIN	STA	1
ABST51	BLOWER2	B1B HI SPD BEARINGTHRUST ALM TEM	CIN	BAD	1
ABST51	BLOWER2	B1B HI SPD BEARINGTHRUST ALM TEM	CIN	STA	1
ABST51	BLOWER2	B1B HI SPD BEARINGTHRUST TRIP TE	CIN	STA	1
ABST51	BLOWER2	B1B HI SPD BEARINGTHRUST TRIP TE	CIN	BAD	1
ABST51	BLOWER2	B1B MTR A WINDING HI ALM TEMP	CIN	BAD	1
ABST51	BLOWER2	B1B MTR A WINDING HI ALM TEMP	CIN	STA	1
ABST51	BLOWER2	B1B MTR A WINDING HI TRIP TEMP	CIN	BAD	1
ABST51	BLOWER2	B1B MTR A WINDING HI TRIP TEMP	CIN	STA	1
ABST51	BLOWER2	B1B MTR OUTBOARD BEARING TEMP	CIN	STA	1
ABST51	BLOWER2	B1B MTR OUTBOARD BEARING TEMP	CIN	BAD	1
ABST51	BLOWER2	B1B MTR OUTBOARD BEARING TEMP	CIN	BAD	1
ABST51	BLOWER2	B1B MTR OUTBOARD BEARING TEMP	CIN	STA	1
ABST51	BLOWER2	B1B MTR OUTBOARD VELOMITER TRIP	CIN	BAD	2
ABST51	BLOWER2	B1B MTR OUTBOARD VELOMITER TRIP	CIN	STA	2
ABST51	BLOWER2	B1B MTR A WINDING HI ALM TEMP	CIN	STA	1
ABST51	BLOWER2	B1B MTR A WINDING HI ALM TEMP	CIN	BAD	1
ABST51	BLOWER2	B1B MTR A WINDING HI TRIP TEMP	CIN	BAD	1
ABST51	BLOWER2	B1B MTR A WINDING HI TRIP TEMP	CIN	STA	1
ABST51	BLOWER2	B1B MTR B WINDING HI ALM TEMP	CIN	BAD	1
ABST51	BLOWER2	B1B MTR B WINDING HI ALM TEMP	CIN	STA	1
ABST51	BLOWER2	B1B MTR B WINDING HI TRIP TEMP	CIN	STA	1
ABST51	BLOWER2	B1B MTR B WINDING HI TRIP TEMP	CIN	BAD	1
ABST51	BLOWER2	BLOWER 1B LO LO OIL SW	CIN	STA	2
ABST51	BLOWER2	BLOWER 1B LO LO OIL SW	CIN	BAD	2
ABST51	BLOWER2	BLOWER 1B LOW OIL SW	CIN	STA	2
ABST51	BLOWER2	BLOWER 1B LOW OIL SW	CIN	BAD	2
ABST51	BLOWER2	B1B MTR C WINDING TEMP	CIN	STA	1
ABST51	BLOWER2	B1B MTR C WINDING TEMP	CIN	BAD	1
ABST51	BLOWER2	B1B MTR C WINDING TEMP	CIN	STA	1
ABST51	BLOWER2	B1B MTR C WINDING TEMP	CIN	BAD	1
ABST51	BLOWER2	B1B MTR INBOARD BEARING TEMP	CIN	STA	1
ABST51	BLOWER2	B1B MTR INBOARD BEARING TEMP	CIN	BAD	1
ABST51	BLOWER2	B1B MTR INBOARD BEARING TEMP	CIN	BAD	1
ABST51	BLOWER2	B1B MTR INBOARD BEARING TEMP	CIN	STA	1
ABST51	BLOWER2	B1B HI SPD SHAFT X POSITION ALM	CIN	BAD	1
ABST51	BLOWER2	B1B HI SPD SHAFT X POSITION ALM	CIN	STA	1
ABST51	BLOWER2	B1B HI SPD SHAFT X POSITION TRI	CIN	STA	1

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
ABST51	BLOWER2	B1B HI SPD SHAFT X POSITION TRI	CIN	BAD	1
ABST51	BLOWER2	B1B HI SPD SHAFT Y POSITION ALM	CIN	STA	1
ABST51	BLOWER2	B1B HI SPD SHAFT Y POSITION ALM	CIN	BAD	1
ABST51	BLOWER2	B1B HI SPD SHAFT Y POSITION TRI	CIN	STA	1
ABST51	BLOWER2	B1B HI SPD SHAFT Y POSITION TRI	CIN	BAD	1
ABST51	BLOWER2	B1B HI SPD THRUST MIN POS ALM	CIN	BAD	1
ABST51	BLOWER2	B1B HI SPD THRUST MIN POS ALM	CIN	STA	1
ABST51	BLOWER2	B1B HI SPD THRUST MIN POS TRIP	CIN	STA	1
ABST51	BLOWER2	B1B HI SPD THRUST MIN POS TRIP	CIN	BAD	1
ABST51	BLOWER2	B1B HI SPD THRUST MAX POS ALARM	CIN	STA	1
ABST51	BLOWER2	B1B HI SPD THRUST MAX POS ALARM	CIN	BAD	1
ABST51	BLOWER2	B1B HI SPD THRUST MAX POS TRIP	CIN	STA	1
ABST51	BLOWER2	B1B HI SPD THRUST MAX POS TRIP	CIN	BAD	1
ABST51	BLOWER2	BLOWER 1B PRESS DIFF	CIN	BAD	1
ABST51	BLOWER2	BLOWER 1B PRESS DIFF	CIN	STA	1
ABST51	PLC_FAIL	BARSCREEN 1B PLC FAIL	CIN	STA	1
ABST51	PLC_FAIL	BARSCREEN 1C PLC FAIL	CIN	STA	1
ABST51	PLC_FAIL	BLOWER 1A PLC FAIL	CIN	STA	1
ABST51	PLC_FAIL	BLOWER 1B PLC FAIL	CIN	STA	1
ABST51	PLC_FAIL	BLOWER MCP PLC FAIL	CIN	STA	1
ABST51	PLC_FAIL	RP2 TELEMETRY FAIL	CIN	STA	1
ABST51	PLC_FAIL	SCREENING/COMP PLC FAIL	CIN	STA	5
ABST51	RP2	RP2 PRIORITY 1 ALARM	CIN	STA	2
ABST51	RP2	RP2 SYSTEM ALARM	CIN	STA	2
ABST52	CIW_DATA		CIN	STA	1
ABST52	CIW_DATA	GENERATOR RUNNING	CIN	STA	1
ABST52	CIW_DATA		CIN	STA	1
ABST52	CIW_DATA		CIN	STA	1
ABST52	CIW_DATA		CIN	STA	1
ABST52	RP1_BYPASS	RP5/RP1 COMMUNICATION FAIL	CIN	STA	1
CP6051	1_CLARIFIERS	DPC-6021 NO. 3 DRIVE FAILED	CIN	BAD	1
CP6051	1_CLARIFIERS	DPC-6021 NO. 3 DRIVE FAILED	CIN	STA	1
CP6051	1_CLARIFIERS	GK-6021 AB INLET GATE MTR FAIL	CIN	STA	1
CP6051	1_CLARIFIERS	GK-6021 AB INLET GATE MTR FAIL	CIN	BAD	1
CP6051	1_CLARIFIERS	DPC-6022 NO. 4 DRIVE FAILED	CIN	STA	1
CP6051	1_CLARIFIERS	DPC-6022 NO. 4 DRIVE FAILED	CIN	BAD	1
CP6051	1_CLARIFIERS	DPC-6021 NO. 3 70% TORQUE	CIN	STA	1
CP6051	1_CLARIFIERS	DPC-6021 NO. 3 70% TORQUE	CIN	BAD	1
CP6051	1_CLARIFIERS	DPC-6021 NO. 3 90% TORQUE	CIN	BAD	1
CP6051	1_CLARIFIERS	DPC-6021 NO. 3 90% TORQUE	CIN	STA	1
CP6051	1_CLARIFIERS	DPC-6022 NO. 4 70% TORQUE	CIN	BAD	1
CP6051	1_CLARIFIERS	DPC-6022 NO. 4 70% TORQUE	CIN	STA	1
CP6051	1_CLARIFIERS	DPC-6022 NO. 4 90% TORQUE	CIN	BAD	1
CP6051	1_CLARIFIERS	DPC-6022 NO. 4 90% TORQUE	CIN	STA	1
CP6051	1_CLARIFIERS	DPC-6021 NO. 3 RUNNING	CIN	BAD	1
CP6051	1_CLARIFIERS	DPC-6022 NO. 4 RUNNING	CIN	BAD	1
CP6051	1_CLARIFIERS	GK-6021 AB INLET IN REMOTE	CIN	BAD	1
CP6051	1_CLARIFIERS	GK-6021 AB INLET GATE OPEN	CIN	BAD	1
CP6051	1_CLARIFIERS	GK-6021 AB INLET GATE CLOSED	CIN	BAD	1
CP6051	1_SUMP_PUMP	BIOFILTER SUMP1 MOISTURE S/D	CIN	STA	1
CP6051	1_SUMP_PUMP	BIOFILTER SUMP1 MOISTURE S/D	CIN	BAD	1
CP6051	1_SUMP_PUMP	BIOFILTER SUMP2 MOISTURE S/D	CIN	STA	1
CP6051	1_SUMP_PUMP	BIOFILTER SUMP2 MOISTURE S/D	CIN	BAD	1

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6051	1_SUMP_PUMP	PSP-6003 PMP 1 MOISTURE S/D	CIN	BAD	1
CP6051	1_SUMP_PUMP	PSP-6003 PMP 1 MOISTURE S/D	CIN	STA	1
CP6051	1_SUMP_PUMP	PSP-6004 PMP 2 MOISTURE S/D	CIN	STA	1
CP6051	1_SUMP_PUMP	PSP-6004 PMP 2 MOISTURE S/D	CIN	BAD	1
CP6051	1_SUMP_PUMP	WSP-6005 PMP 1 MOISTURE S/D	CIN	BAD	1
CP6051	1_SUMP_PUMP	WSP-6005 PMP 1 MOISTURE S/D	CIN	STA	1
CP6051	1_SUMP_PUMP	WSP-6006 PMP 2 MOISTURE S/D	CIN	STA	1
CP6051	1_SUMP_PUMP	WSP-6006 PMP 2 MOISTURE S/D	CIN	BAD	1
CP6051	1_SUMP_PUMP	PSP-6021 PMP 1 MOISTURE S/D	CIN	BAD	1
CP6051	1_SUMP_PUMP	PSP-6021 PMP 1 MOISTURE S/D	CIN	STA	1
CP6051	1_SUMP_PUMP	PSP-6022 PMP 2 MOISTURE S/D	CIN	STA	1
CP6051	1_SUMP_PUMP	PSP-6022 PMP 2 MOISTURE S/D	CIN	BAD	1
CP6051	1_SUMP_PUMP	FERRIC SUMP1 MOISTURE S/D	CIN	BAD	1
CP6051	1_SUMP_PUMP	FERRIC SUMP1 MOISTURE S/D	CIN	STA	1
CP6051	1_SUMP_PUMP	FERRIC SUMP2 MOISTURE S/D	CIN	STA	1
CP6051	1_SUMP_PUMP	FERRIC SUMP2 MOISTURE S/D	CIN	BAD	1
CP6051	1_SUMP_PUMP	PRI SLDG SUMP1 MOISTURE S/D	CIN	STA	1
CP6051	1_SUMP_PUMP	PRI SLDG SUMP1 MOISTURE S/D	CIN	BAD	1
CP6051	1_SUMP_PUMP	PRI SLDG SUMP2 MOISTURE S/D	CIN	BAD	1
CP6051	1_SUMP_PUMP	PRI SLDG SUMP2 MOISTURE S/D	CIN	STA	1
CP6051	1_SUMP_PUMP	BIOFILTER SUMP1 OVERLOAD	CIN	STA	1
CP6051	1_SUMP_PUMP	BIOFILTER SUMP1 OVERLOAD	CIN	BAD	1
CP6051	1_SUMP_PUMP	BIOFILTER SUMP2 OVERLOAD	CIN	BAD	1
CP6051	1_SUMP_PUMP	BIOFILTER SUMP2 OVERLOAD	CIN	STA	1
CP6051	1_SUMP_PUMP	PSP-6003 PMP 1 OVERLOAD	CIN	BAD	2
CP6051	1_SUMP_PUMP	PSP-6003 PMP 1 OVERLOAD	CIN	STA	2
CP6051	1_SUMP_PUMP	PSP-6004 PMP 2 OVERLOAD	CIN	BAD	2
CP6051	1_SUMP_PUMP	PSP-6004 PMP 2 OVERLOAD	CIN	STA	2
CP6051	1_SUMP_PUMP	WSP-6005 PMP 1 OVERLOAD	CIN	STA	1
CP6051	1_SUMP_PUMP	WSP-6005 PMP 1 OVERLOAD	CIN	BAD	1
CP6051	1_SUMP_PUMP	WSP-6006 PMP 2 OVERLOAD	CIN	BAD	1
CP6051	1_SUMP_PUMP	WSP-6006 PMP 2 OVERLOAD	CIN	STA	1
CP6051	1_SUMP_PUMP	PSP-6021 PMP 1 OVERLOAD	CIN	BAD	2
CP6051	1_SUMP_PUMP	PSP-6021 PMP 1 OVERLOAD	CIN	STA	1
CP6051	1_SUMP_PUMP	PSP-6022 PMP 2 OVERLOAD	CIN	STA	1
CP6051	1_SUMP_PUMP	PSP-6022 PMP 2 OVERLOAD	CIN	BAD	1
CP6051	1_SUMP_PUMP	FERRIC SUMP1 OVERLOAD	CIN	BAD	1
CP6051	1_SUMP_PUMP	FERRIC SUMP1 OVERLOAD	CIN	STA	1
CP6051	1_SUMP_PUMP	FERRIC SUMP2 OVERLOAD	CIN	BAD	1
CP6051	1_SUMP_PUMP	FERRIC SUMP2 OVERLOAD	CIN	STA	1
CP6051	1_SUMP_PUMP	PRI SLDG SUMP1 OVERLOAD	CIN	BAD	1
CP6051	1_SUMP_PUMP	PRI SLDG SUMP1 OVERLOAD	CIN	STA	1
CP6051	1_SUMP_PUMP	PRI SLDG SUMP2 OVERLOAD	CIN	STA	1
CP6051	1_SUMP_PUMP	PRI SLDG SUMP2 OVERLOAD	CIN	BAD	1
CP6051	1_SUMP_PUMP	BIOFILTER SUMP SUMP HI LEVEL	CIN	STA	1
CP6051	1_SUMP_PUMP	BIOFILTER SUMP SUMP HI LEVEL	CIN	BAD	1
CP6051	1_SUMP_PUMP	GRIT PUMP STATION SUMP HI LEVEL	CIN	STA	1
CP6051	1_SUMP_PUMP	GRIT PUMP STATION SUMP HI LEVEL	CIN	BAD	1
CP6051	1_SUMP_PUMP	SCREEN WASH/COMP SUMP HI LEVEL	CIN	STA	1
CP6051	1_SUMP_PUMP	SCREEN WASH/COMP SUMP HI LEVEL	CIN	BAD	1
CP6051	1_SUMP_PUMP	EMERG STRG BASIN SUMP HI LEVEL	CIN	BAD	2
CP6051	1_SUMP_PUMP	EMERG STRG BASIN SUMP HI LEVEL	CIN	STA	2
CP6051	1_SUMP_PUMP	PRI CHEM FCLTY SUMP HI LEVEL	CIN	STA	2

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6051	1_SUMP_PUMP	PRI CHEM FCLTY SUMP HI LEVEL	CIN	BAD	2
CP6051	1_SUMP_PUMP	PRI SLUDGE STAT'N SUMP HI LEVEL	CIN	BAD	1
CP6051	1_SUMP_PUMP	PRI SLUDGE STAT'N SUMP HI LEVEL	CIN	STA	1
CP6051	1_SUMP_PUMP	PSP-6001 PMP 1 RUNNING	CIN	BAD	1
CP6051	1_SUMP_PUMP	PSP-6002 PMP 2 RUNNING	CIN	BAD	1
CP6051	1_SUMP_PUMP	PSP-6003 PMP 1 RUNNING	CIN	BAD	1
CP6051	1_SUMP_PUMP	PSP-6004 PMP 2 RUNNING	CIN	BAD	1
CP6051	1_SUMP_PUMP	WSP-6005 PMP 1 RUNNING	CIN	BAD	1
CP6051	1_SUMP_PUMP	WSP-6006 PMP 2 RUNNING	CIN	BAD	1
CP6051	1_SUMP_PUMP	PSP-6021 PMP 1 RUNNING	CIN	BAD	1
CP6051	1_SUMP_PUMP	PSP-6022 PMP 2 RUNNING	CIN	BAD	1
CP6051	1_SUMP_PUMP	PSP-6023 PMP 1 RUNNING	CIN	BAD	2
CP6051	1_SUMP_PUMP	PSP-6024 PMP 2 RUNNING	CIN	BAD	1
CP6051	1_SUMP_PUMP	PSP-6025 PMP 1 RUNNING	CIN	BAD	1
CP6051	1_SUMP_PUMP	PSP-6026 PMP 2 RUNNING	CIN	BAD	1
CP6051	1_SUMP_PUMP	PSP-6001 PMP 1 IN AUTO	CIN	BAD	1
CP6051	1_SUMP_PUMP	PSP-6002 PMP 2 IN AUTO	CIN	BAD	1
CP6051	1_SUMP_PUMP	PSP-6003 PMP 1 IN AUTO	CIN	BAD	1
CP6051	1_SUMP_PUMP	PSP-6004 PMP 2 IN AUTO	CIN	BAD	1
CP6051	1_SUMP_PUMP	WSP-6005 PMP 1 IN AUTO	CIN	BAD	1
CP6051	1_SUMP_PUMP	WSP-6006 PMP 2 IN AUTO	CIN	BAD	1
CP6051	1_SUMP_PUMP	PSP-6021 PMP 1 IN AUTO	CIN	BAD	1
CP6051	1_SUMP_PUMP	PSP-6022 PMP 2 IN AUTO	CIN	BAD	1
CP6051	1_SUMP_PUMP	PSP-6023 PMP 1 IN AUTO	CIN	BAD	1
CP6051	1_SUMP_PUMP	PSP-6024 PMP 2 IN AUTO	CIN	BAD	1
CP6051	1_SUMP_PUMP	PSP-6025 PMP 1 IN AUTO	CIN	BAD	1
CP6051	1_SUMP_PUMP	PSP-6026 PMP 2 IN AUTO	CIN	BAD	1
CP6051	ALARM_PAGERS	PLC5 HEARTBEAT FAILURE	CIN	STA	1
CP6051	BIOFILTERS	BIOFILTER FAN 1A OVERLOAD	CIN	STA	2
CP6051	BIOFILTERS	BIOFILTER FAN 1A OVERLOAD	CIN	BAD	2
CP6051	BIOFILTERS	BIOFILTER FAN 1B OVERLOAD	CIN	BAD	1
CP6051	BIOFILTERS	BIOFILTER FAN 1B OVERLOAD	CIN	STA	1
CP6051	BIOFILTERS	BIOFILTER FAN 1C OVERLOAD	CIN	BAD	1
CP6051	BIOFILTERS	BIOFILTER FAN 1C OVERLOAD	CIN	STA	1
CP6051	BIOFILTERS	BIOFILTER FAN 1A LOW AMPS	CIN	BAD	1
CP6051	BIOFILTERS	BIOFILTER FAN 1A LOW AMPS	CIN	STA	1
CP6051	BIOFILTERS	BIOFILTER FAN 1B LOW AMPS	CIN	STA	1
CP6051	BIOFILTERS	BIOFILTER FAN 1B LOW AMPS	CIN	BAD	1
CP6051	BIOFILTERS	BIOFILTER FAN 1C LOW AMPS	CIN	BAD	1
CP6051	BIOFILTERS	BIOFILTER FAN 1C LOW AMPS	CIN	STA	1
CP6051	BIOFILTERS	BIOFILTER FAN 1A RUNNING	CIN	BAD	1
CP6051	BIOFILTERS	BIOFILTER FAN 1B RUNNING	CIN	BAD	1
CP6051	BIOFILTERS	BIOFILTER FAN 1C RUNNING	CIN	BAD	1
CP6051	DEWATERING	GRIT WASHER 1 FAILED	CIN	BAD	1
CP6051	DEWATERING	GRIT WASHER 1 FAILED	CIN	STA	1
CP6051	DEWATERING	GRIT WASHER 2 FAILED	CIN	STA	1
CP6051	DEWATERING	GRIT WASHER 2 FAILED	CIN	BAD	1
CP6051	DEWATERING	GRIT WASHER 1 HIGH LEVEL	CIN	STA	1
CP6051	DEWATERING	GRIT WASHER 1 HIGH LEVEL	CIN	BAD	1
CP6051	DEWATERING	GRIT WASHER 2 HIGH LEVEL	CIN	BAD	1
CP6051	DEWATERING	GRIT WASHER 2 HIGH LEVEL	CIN	STA	1
CP6051	DEWATERING	GRIT WASHER 1 RUNNING	CIN	BAD	1
CP6051	DEWATERING	GRIT WASHER 2 RUNNING	CIN	BAD	1

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6051	DEWATERING	GRIT WASHER 1 IN REMOTE	CIN	BAD	1
CP6051	DEWATERING	GRIT WASHER 2 IN REMOTE	CIN	BAD	1
CP6051	ES_PUMPS	PES-6021 PMP 1 LEAK DETECTED	CIN	BAD	1
CP6051	ES_PUMPS	PES-6021 PMP 1 LEAK DETECTED	CIN	STA	1
CP6051	ES_PUMPS	PES-6022 PMP 2 LEAK DETECTED	CIN	STA	1
CP6051	ES_PUMPS	PES-6022 PMP 2 LEAK DETECTED	CIN	BAD	1
CP6051	ES_PUMPS	PES-6023 PMP 3 LEAK DETECTED	CIN	STA	1
CP6051	ES_PUMPS	PES-6023 PMP 3 LEAK DETECTED	CIN	BAD	1
CP6051	ES_PUMPS	PES-6021 PMP 1 MOTOR FAILED	CIN	STA	1
CP6051	ES_PUMPS	PES-6021 PMP 1 MOTOR FAILED	CIN	BAD	1
CP6051	ES_PUMPS	PES-6021 PMP 1 VFD FAILED	CIN	BAD	1
CP6051	ES_PUMPS	PES-6021 PMP 1 VFD FAILED	CIN	STA	1
CP6051	ES_PUMPS	PES-6022 PMP 2 MOTOR FAILED	CIN	STA	1
CP6051	ES_PUMPS	PES-6022 PMP 2 MOTOR FAILED	CIN	BAD	1
CP6051	ES_PUMPS	PES-6022 PMP 2 VFD FAILED	CIN	STA	1
CP6051	ES_PUMPS	PES-6022 PMP 2 VFD FAILED	CIN	BAD	1
CP6051	ES_PUMPS	PES-6023 PMP 3 MOTOR FAILED	CIN	STA	1
CP6051	ES_PUMPS	PES-6023 PMP 3 MOTOR FAILED	CIN	BAD	1
CP6051	ES_PUMPS	PES-6023 PMP 3 VFD FAILED	CIN	BAD	1
CP6051	ES_PUMPS	PES-6023 PMP 3 VFD FAILED	CIN	STA	1
CP6051	ES_PUMPS	EMERGENCY STORAGE BASIN LO LEVEL	CIN	STA	2
CP6051	ES_PUMPS	EMERGENCY STORAGE BASIN LO LEVEL	CIN	BAD	2
CP6051	ES_PUMPS	EMERGENCY STORAGE BASIN HI LEVEL	CIN	STA	1
CP6051	ES_PUMPS	EMERGENCY STORAGE BASIN HI LEVEL	CIN	BAD	1
CP6051	ES_PUMPS	PES-6021 PMP 1 HIGH TEMP	CIN	STA	1
CP6051	ES_PUMPS	PES-6021 PMP 1 HIGH TEMP	CIN	BAD	1
CP6051	ES_PUMPS	PES-6022 PMP 2 HIGH TEMP	CIN	STA	1
CP6051	ES_PUMPS	PES-6022 PMP 2 HIGH TEMP	CIN	BAD	1
CP6051	ES_PUMPS	PES-6023 PMP 3 HIGH TEMP	CIN	BAD	1
CP6051	ES_PUMPS	PES-6023 PMP 3 HIGH TEMP	CIN	STA	1
CP6051	ES_PUMPS	PES-6021 PMP 1 RUNNING	CIN	BAD	1
CP6051	ES_PUMPS	PES-6022 PMP 2 RUNNING	CIN	BAD	1
CP6051	ES_PUMPS	PES-6023 PMP 3 RUNNING	CIN	BAD	1
CP6051	ES_PUMPS	PES-6021 PMP 1 IN REMOTE	CIN	BAD	1
CP6051	ES_PUMPS	PES-6022 PMP 2 IN REMOTE	CIN	BAD	1
CP6051	ES_PUMPS	PES-6023 PMP 3 IN REMOTE	CIN	BAD	1
CP6051	FE_CHLORIDE	PF-6024 PMP 4 LOW FLOW	CIN	BAD	1
CP6051	FE_CHLORIDE	PF-6024 PMP 4 LOW FLOW	CIN	STA	1
CP6051	FE_CHLORIDE	PF-6025 PMP 5 LOW FLOW	CIN	BAD	1
CP6051	FE_CHLORIDE	PF-6025 PMP 5 LOW FLOW	CIN	STA	1
CP6051	FE_CHLORIDE	TNK-6004 NO. 2A LOW LEVEL	CIN	BAD	2
CP6051	FE_CHLORIDE	TNK-6004 NO. 2A LOW LEVEL	CIN	STA	2
CP6051	FE_CHLORIDE	TNK-6004 NO. 2A HIGH LEVEL	CIN	STA	1
CP6051	FE_CHLORIDE	TNK-6004 NO. 2A HIGH LEVEL	CIN	BAD	1
CP6051	FE_CHLORIDE	PF-6024 PMP 4 HI DSCHRG PRES	CIN	BAD	1
CP6051	FE_CHLORIDE	PF-6024 PMP 4 HI DSCHRG PRES	CIN	STA	1
CP6051	FE_CHLORIDE	PF-6025 PMP 5 HI DSCHRG PRES	CIN	STA	1
CP6051	FE_CHLORIDE	PF-6025 PMP 5 HI DSCHRG PRES	CIN	BAD	1
CP6051	FE_CHLORIDE	PF-6024 PMP 4 RUNNING	CIN	BAD	1
CP6051	FE_CHLORIDE	PF-6025 PMP 5 RUNNING	CIN	BAD	1
CP6051	FE_CHLORIDE	PF-6024 PMP 4 IN REMOTE	CIN	BAD	1
CP6051	FE_CHLORIDE	PF-6025 PMP 5 IN REMOTE	CIN	BAD	1
CP6051	GRIT_PUMPS	GRIT PUMP 2 MOTOROVERLOAD	CIN	STA	1

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6051	GRIT_PUMPS	GRIT PUMP 2 MOTOROVERLOAD	CIN	BAD	1
CP6051	GRIT_PUMPS	AXIAL FLOW PROP OVERLOAD	CIN	BAD	2
CP6051	GRIT_PUMPS	AXIAL FLOW PROP OVERLOAD	CIN	STA	2
CP6051	GRIT_PUMPS	GRIT PUMP 3 MOTOROVERLOAD	CIN	BAD	1
CP6051	GRIT_PUMPS	GRIT PUMP 3 MOTOROVERLOAD	CIN	STA	1
CP6051	GRIT_PUMPS	FLUFF WATER VALVE FAILED	CIN	BAD	1
CP6051	GRIT_PUMPS	FLUFF WATER VALVE FAILED	CIN	STA	1
CP6051	GRIT_PUMPS	FLUFF WATER VALVE FAILED	CIN	STA	2
CP6051	GRIT_PUMPS	FLUFF WATER VALVE FAILED	CIN	BAD	1
CP6051	GRIT_PUMPS	GRIT PUMP 2 SEAL WLOW FLOW	CIN	STA	1
CP6051	GRIT_PUMPS	GRIT PUMP 2 SEAL WLOW FLOW	CIN	BAD	1
CP6051	GRIT_PUMPS	GRIT PUMP 3 SEAL WLOW FLOW	CIN	STA	1
CP6051	GRIT_PUMPS	GRIT PUMP 3 SEAL WLOW FLOW	CIN	BAD	1
CP6051	GRIT_PUMPS	GRIT BASIN 1B EMER SHUTDOWN	CIN	STA	1
CP6051	GRIT_PUMPS	GRIT BASIN 1B EMER SHUTDOWN	CIN	BAD	1
CP6051	GRIT_PUMPS	GRIT PUMP 2 SUCTIOLOW PRESS	CIN	STA	1
CP6051	GRIT_PUMPS	GRIT PUMP 2 SUCTIOLOW PRESS	CIN	BAD	1
CP6051	GRIT_PUMPS	GRIT PUMP 2 DISCHAHIGH PRESSURE	CIN	BAD	1
CP6051	GRIT_PUMPS	GRIT PUMP 2 DISCHAHIGH PRESSURE	CIN	STA	1
CP6051	GRIT_PUMPS	GRIT PUMP 3 SUCTIOLOW PRESS	CIN	BAD	1
CP6051	GRIT_PUMPS	GRIT PUMP 3 SUCTIOLOW PRESS	CIN	STA	1
CP6051	GRIT_PUMPS	GRIT PUMP 3 DISCHAHIGH PRESSURE	CIN	STA	1
CP6051	GRIT_PUMPS	GRIT PUMP 3 DISCHAHIGH PRESSURE	CIN	BAD	1
CP6051	GRIT_PUMPS	GRIT PUMP 2 MOTOR HIGH TEMP	CIN	BAD	1
CP6051	GRIT_PUMPS	GRIT PUMP 2 MOTOR HIGH TEMP	CIN	STA	1
CP6051	GRIT_PUMPS	GRIT PUMP 3 MOTOR HIGH TEMP	CIN	STA	1
CP6051	GRIT_PUMPS	GRIT PUMP 3 MOTOR HIGH TEMP	CIN	BAD	1
CP6051	GRIT_PUMPS	GRIT PUMP 2 RUNNING	CIN	BAD	1
CP6051	GRIT_PUMPS	GRIT BASIN 1B RUNNING	CIN	BAD	1
CP6051	GRIT_PUMPS	GRIT PUMP 3 RUNNING	CIN	BAD	1
CP6051	GRIT_PUMPS	GRIT PUMP 2 IN REMOTE	CIN	BAD	1
CP6051	GRIT_PUMPS	GRIT PUMP 3 IN REMOTE	CIN	BAD	1
CP6051	GRIT_PUMPS	FLUFF WATER VALVE IN REMOTE	CIN	BAD	1
CP6051	GRIT_PUMPS	FLUFF WATER VALVE IN REMOTE	CIN	BAD	1
CP6051	GRIT_PUMPS	FLUFF WATER VALVE OPENED	CIN	BAD	1
CP6051	GRIT_PUMPS	FLUFF WATER VALVE OPENED	CIN	BAD	1
CP6051	GRIT_PUMPS	FLUFF WATER VALVE CLOSED	CIN	BAD	1
CP6051	GRIT_PUMPS	FLUFF WATER VALVE CLOSED	CIN	BAD	1
CP6051	HEADWORKS	BS OUTLET GATE 1A MOTOR FAILED	CIN	STA	1
CP6051	HEADWORKS	BS OUTLET GATE 1A MOTOR FAILED	CIN	BAD	1
CP6051	HEADWORKS	BS INLET GATE 1A MOTOR FAILED	CIN	BAD	1
CP6051	HEADWORKS	BS INLET GATE 1A MOTOR FAILED	CIN	STA	1
CP6051	HEADWORKS	BS INLET GATE 1B MOTOR FAILED	CIN	BAD	1
CP6051	HEADWORKS	BS INLET GATE 1B MOTOR FAILED	CIN	STA	1
CP6051	HEADWORKS	BS OUTLET GATE 1B MOTOR FAILED	CIN	BAD	1
CP6051	HEADWORKS	BS OUTLET GATE 1B MOTOR FAILED	CIN	STA	1
CP6051	HEADWORKS	BS INLET GATE 1C MOTOR FAILED	CIN	BAD	1
CP6051	HEADWORKS	BS INLET GATE 1C MOTOR FAILED	CIN	STA	1
CP6051	HEADWORKS	BS OUTLET GATE 1C MOTOR FAILED	CIN	BAD	1
CP6051	HEADWORKS	BS OUTLET GATE 1C MOTOR FAILED	CIN	STA	1
CP6051	HEADWORKS	HDWRKS SUPPLY FAN OVERLOAD	CIN	STA	1
CP6051	HEADWORKS	HDWRKS SUPPLY FAN OVERLOAD	CIN	BAD	1
CP6051	HEADWORKS	HDWRKS SUPPLY FAN MOTOR FAILED	CIN	STA	1

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6051	HEADWORKS	HDWRKS SUPPLY FAN MOTOR FAILED	CIN	BAD	1
CP6051	HEADWORKS	HW EXHST FAN 1 OVERLOAD	CIN	STA	1
CP6051	HEADWORKS	HW EXHST FAN 1 OVERLOAD	CIN	BAD	1
CP6051	HEADWORKS	HW EXHST FAN 1 MOTOR FAILED	CIN	BAD	1
CP6051	HEADWORKS	HW EXHST FAN 1 MOTOR FAILED	CIN	STA	1
CP6051	HEADWORKS	HW EXHST FAN 2 OVERLOAD	CIN	BAD	1
CP6051	HEADWORKS	HW EXHST FAN 2 OVERLOAD	CIN	STA	1
CP6051	HEADWORKS	HW EXHST FAN 2 MOTOR FAILED	CIN	STA	1
CP6051	HEADWORKS	HW EXHST FAN 2 MOTOR FAILED	CIN	BAD	1
CP6051	HEADWORKS	BARSCREEN COMBUST GAS	CIN	STA	2
CP6051	HEADWORKS	BARSCREEN COMBUST GAS	CIN	BAD	2
CP6051	HEADWORKS	BARSCREEN INLET FAILED	CIN	STA	1
CP6051	HEADWORKS	BARSCREEN INLET FAILED	CIN	BAD	1
CP6051	HEADWORKS	BARSCREEN OUTLET FAILED	CIN	STA	1
CP6051	HEADWORKS	BARSCREEN OUTLET FAILED	CIN	BAD	1
CP6051	HEADWORKS	BARSCREEN INLET HIGH	CIN	STA	2
CP6051	HEADWORKS	BARSCREEN INLET HIGH	CIN	BAD	2
CP6051	HEADWORKS	BARSCREEN INLET HIGH-HIGH	CIN	BAD	1
CP6051	HEADWORKS	BARSCREEN INLET HIGH-HIGH	CIN	STA	1
CP6051	HEADWORKS	BARSCREEN OUTLET HIGH	CIN	STA	2
CP6051	HEADWORKS	BARSCREEN OUTLET HIGH	CIN	BAD	2
CP6051	HEADWORKS	BARSCREEN OUTLET HIGH-HIGH	CIN	BAD	1
CP6051	HEADWORKS	BARSCREEN OUTLET HIGH-HIGH	CIN	STA	1
CP6051	HEADWORKS	HDWRKS SUPPLY FAN RUNNING	CIN	BAD	2
CP6051	HEADWORKS	HW EXHST FAN 1 RUNNING	CIN	BAD	2
CP6051	HEADWORKS	HW EXHST FAN 2 RUNNING	CIN	BAD	2
CP6051	HEADWORKS	BS INLET GATE 1A IN REMOTE	CIN	BAD	1
CP6051	HEADWORKS	BS OUTLET GATE 1A IN REMOTE	CIN	BAD	1
CP6051	HEADWORKS	BS INLET GATE 1B IN REMOTE	CIN	BAD	1
CP6051	HEADWORKS	BS OUTLET GATE 1B IN REMOTE	CIN	BAD	1
CP6051	HEADWORKS	BS INLET GATE 1C IN REMOTE	CIN	BAD	1
CP6051	HEADWORKS	BS OUTLET GATE 1C IN REMOTE	CIN	BAD	1
CP6051	HEADWORKS	BS INLET GATE 1A OPENED	CIN	BAD	1
CP6051	HEADWORKS	BS OUTLET GATE 1A OPENED	CIN	BAD	1
CP6051	HEADWORKS	BS INLET GATE 1B OPENED	CIN	BAD	1
CP6051	HEADWORKS	BS OUTLET GATE 1B OPENED	CIN	BAD	1
CP6051	HEADWORKS	BS INLET GATE 1C OPENED	CIN	BAD	1
CP6051	HEADWORKS	BS OUTLET GATE 1C OPENED	CIN	BAD	1
CP6051	HEADWORKS	BS INLET GATE 1A CLOSED	CIN	BAD	1
CP6051	HEADWORKS	BS OUTLET GATE 1A CLOSED	CIN	BAD	1
CP6051	HEADWORKS	BS INLET GATE 1B CLOSED	CIN	BAD	1
CP6051	HEADWORKS	BS OUTLET GATE 1B CLOSED	CIN	BAD	1
CP6051	HEADWORKS	BS INLET GATE 1C CLOSED	CIN	BAD	1
CP6051	HEADWORKS	BS OUTLET GATE 1C CLOSED	CIN	BAD	1
CP6051	INFLUENT	IPS PMP 2 VFD FAILED	CIN	BAD	1
CP6051	INFLUENT	IPS PMP 2 VFD FAILED	CIN	STA	1
CP6051	INFLUENT	IPS PMP 2 MOTOR FAILED	CIN	STA	1
CP6051	INFLUENT	IPS PMP 2 MOTOR FAILED	CIN	BAD	1
CP6051	INFLUENT	IPS PMP 3 VFD FAILED	CIN	BAD	1
CP6051	INFLUENT	IPS PMP 3 VFD FAILED	CIN	STA	1
CP6051	INFLUENT	IPS PMP 3 MOTOR FAILED	CIN	STA	1
CP6051	INFLUENT	IPS PMP 3 MOTOR FAILED	CIN	BAD	1
CP6051	INFLUENT	IPS PMP 4 VFD FAILED	CIN	BAD	1

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6051	INFLUENT	IPS PMP 4 VFD FAILED	CIN	STA	1
CP6051	INFLUENT	IPS PMP 4 MOTOR FAILED	CIN	STA	1
CP6051	INFLUENT	IPS PMP 4 MOTOR FAILED	CIN	BAD	1
CP6051	INFLUENT	INFLUENT PUMP STATION	CIN	STA	1
CP6051	INFLUENT	INFLUENT PUMP STATION	CIN	BAD	5
CP6051	INFLUENT	IPS WETWELL 1 FAILED	CIN	STA	1
CP6051	INFLUENT	IPS WETWELL 1 FAILED	CIN	BAD	1
CP6051	INFLUENT	IPS WETWELL 2 FAILED	CIN	STA	1
CP6051	INFLUENT	IPS WETWELL 2 FAILED	CIN	BAD	1
CP6051	INFLUENT	IPS JUNCT BOX HIGH LEVEL	CIN	BAD	1
CP6051	INFLUENT	IPS JUNCT BOX HIGH LEVEL	CIN	STA	1
CP6051	INFLUENT	IPS WETWELL 1 LOW LEVEL	CIN	STA	1
CP6051	INFLUENT	IPS WETWELL 1 LOW LEVEL	CIN	BAD	1
CP6051	INFLUENT	IPS WETWELL 1 LOW-LOW LEVEL	CIN	STA	1
CP6051	INFLUENT	IPS WETWELL 1 LOW-LOW LEVEL	CIN	BAD	1
CP6051	INFLUENT	IPS WETWELL 2 LOW LEVEL	CIN	STA	1
CP6051	INFLUENT	IPS WETWELL 2 LOW LEVEL	CIN	BAD	1
CP6051	INFLUENT	IPS WETWELL 2 LOW-LOW LEVEL	CIN	STA	2
CP6051	INFLUENT	IPS WETWELL 2 LOW-LOW LEVEL	CIN	BAD	2
CP6051	INFLUENT	IPS PMP 2 SEAL LEAK	CIN	STA	1
CP6051	INFLUENT	IPS PMP 2 SEAL LEAK	CIN	BAD	1
CP6051	INFLUENT	IPS PMP 3 SEAL LEAK	CIN	BAD	1
CP6051	INFLUENT	IPS PMP 3 SEAL LEAK	CIN	STA	1
CP6051	INFLUENT	IPS PMP 4 SEAL LEAK	CIN	STA	1
CP6051	INFLUENT	IPS PMP 4 SEAL LEAK	CIN	BAD	1
CP6051	INFLUENT	IPS PMP 2 DSCHRG HIGH PRESSURE	CIN	BAD	1
CP6051	INFLUENT	IPS PMP 2 DSCHRG HIGH PRESSURE	CIN	STA	1
CP6051	INFLUENT	IPS PMP 3 DSCHRG HIGH PRESSURE	CIN	BAD	1
CP6051	INFLUENT	IPS PMP 3 DSCHRG HIGH PRESSURE	CIN	STA	1
CP6051	INFLUENT	IPS PMP 4 DSCHRG HIGH PRESSURE	CIN	STA	1
CP6051	INFLUENT	IPS PMP 4 DSCHRG HIGH PRESSURE	CIN	BAD	1
CP6051	INFLUENT	IPS PMP 2 MOTOR HIGH TEMP	CIN	BAD	1
CP6051	INFLUENT	IPS PMP 2 MOTOR HIGH TEMP	CIN	STA	1
CP6051	INFLUENT	IPS PMP 3 MOTOR HIGH TEMP	CIN	STA	1
CP6051	INFLUENT	IPS PMP 3 MOTOR HIGH TEMP	CIN	BAD	1
CP6051	INFLUENT	IPS PMP 4 MOTOR HIGH TEMP	CIN	BAD	1
CP6051	INFLUENT	IPS PMP 4 MOTOR HIGH TEMP	CIN	STA	1
CP6051	INFLUENT	IPS PMP 2 RUNNING	CIN	BAD	1
CP6051	INFLUENT	IPS PMP 3 RUNNING	CIN	BAD	1
CP6051	INFLUENT	IPS PMP 4 RUNNING	CIN	BAD	1
CP6051	INFLUENT	IPS PMP 2 HOR IN REMOTE	CIN	BAD	1
CP6051	INFLUENT	IPS PMP 3 HOR IN REMOTE	CIN	BAD	1
CP6051	INFLUENT	IPS PMP 4 HOR IN REMOTE	CIN	BAD	1
CP6051	INFLUENT	IPS PMP 2 BACKFLOW ALARM	CIN	BAD	2
CP6051	INFLUENT	IPS PMP 2 BACKFLOW ALARM	CIN	STA	2
CP6051	INFLUENT	IPS PMP 3 BACKFLOW ALARM	CIN	BAD	2
CP6051	INFLUENT	IPS PMP 3 BACKFLOW ALARM	CIN	STA	2
CP6051	INFLUENT	IPS PMP 4 BACKFLOW ALARM	CIN	BAD	2
CP6051	INFLUENT	IPS PMP 4 BACKFLOW ALARM	CIN	STA	3
CP6051	POLYMER	VCF-6021 POLYMER MOTOR FAILED	CIN	BAD	1
CP6051	POLYMER	VCF-6021 POLYMER MOTOR FAILED	CIN	STA	1
CP6051	POLYMER	BP-6021 NO. 1A MOTOR FAILED	CIN	BAD	2
CP6051	POLYMER	BP-6021 NO. 1A MOTOR FAILED	CIN	STA	2

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6051	POLYMER	VCF-6022 POLYMER MOTOR FAILED	CIN	BAD	1
CP6051	POLYMER	VCF-6022 POLYMER MOTOR FAILED	CIN	STA	1
CP6051	POLYMER	BP-6022 NO. 1B MOTOR FAILED	CIN	BAD	1
CP6051	POLYMER	BP-6022 NO. 1B MOTOR FAILED	CIN	STA	1
CP6051	POLYMER	BP-6021 NO. 1A RUNNING	CIN	BAD	1
CP6051	POLYMER	BP-6022 NO. 1B RUNNING	CIN	BAD	1
CP6051	POLYMER	VCF-6021 POLYMER IN REMOTE	CIN	BAD	1
CP6051	POLYMER	BP-6021 NO. 1A IN REMOTE	CIN	BAD	1
CP6051	POLYMER	VCF-6022 POLYMER IN REMOTE	CIN	BAD	1
CP6051	POLYMER	BP-6022 NO. 1B IN REMOTE	CIN	BAD	1
CP6051	POLYMER	VCF-6021 POLYMER FULLY OPENED	CIN	BAD	1
CP6051	POLYMER	VCF-6022 POLYMER FULLY OPENED	CIN	BAD	1
CP6051	POLYMER	VCF-6021 POLYMER FULLY CLOSED	CIN	BAD	1
CP6051	POLYMER	VCF-6022 POLYMER FULLY CLOSED	CIN	BAD	1
CP6051	SCREENINGS	SCREENINGS CONVYR FAILED	CIN	BAD	1
CP6051	SCREENINGS	SCREENINGS CONVYR FAILED	CIN	STA	1
CP6051	SCREENINGS	WASH WATER FEED FAILED	CIN	BAD	1
CP6051	SCREENINGS	WASH WATER FEED FAILED	CIN	STA	1
CP6051	SCREENINGS	SCREENINGS CONVYR EMER SHUTDOWN	CIN	STA	1
CP6051	SCREENINGS	SCREENINGS CONVYR EMER SHUTDOWN	CIN	BAD	1
CP6051	SCREENINGS	SCREENINGS CONVYR RUNNING	CIN	BAD	1
CP6051	SCREENINGS	SCREENINGS CONVYR IN REMOTE	CIN	BAD	1
CP6051	SCREENINGS	WASH WATER FEED IN REMOTE	CIN	BAD	1
CP6051	SCREENINGS	SCREENINGS CONVYR ZERO MOTION SW	CIN	BAD	1
CP6051	SCREENINGS	SCREENINGS CONVYR ZERO MOTION SW	CIN	STA	1
CP6051	SCREENINGS	WASH WATER FEED OPENED	CIN	BAD	1
CP6051	SCREENINGS	WASH WATER FEED CLOSED	CIN	BAD	1
CP6051	SLUDGE_PUMPS	MPS-6022 MIXER FAILED	CIN	BAD	1
CP6051	SLUDGE_PUMPS	MPS-6022 MIXER FAILED	CIN	STA	1
CP6051	SLUDGE_PUMPS	GSC-6022 GRINDER OVERLOAD	CIN	BAD	1
CP6051	SLUDGE_PUMPS	GSC-6022 GRINDER OVERLOAD	CIN	STA	1
CP6051	SLUDGE_PUMPS	PSM-6023 PMP 3 OVERLOAD	CIN	STA	1
CP6051	SLUDGE_PUMPS	PSM-6023 PMP 3 OVERLOAD	CIN	BAD	1
CP6051	SLUDGE_PUMPS	VP-6023 DSCHRG VALVE FAILED	CIN	BAD	1
CP6051	SLUDGE_PUMPS	VP-6023 DSCHRG VALVE FAILED	CIN	STA	1
CP6051	SLUDGE_PUMPS	PSM-6024 PMP 4 OVERLOAD	CIN	STA	1
CP6051	SLUDGE_PUMPS	PSM-6024 PMP 4 OVERLOAD	CIN	BAD	1
CP6051	SLUDGE_PUMPS	VPS-6024 DSCHRG VALVE FAILED	CIN	BAD	1
CP6051	SLUDGE_PUMPS	VPS-6024 DSCHRG VALVE FAILED	CIN	STA	1
CP6051	SLUDGE_PUMPS	GS-6024 GRINDER 4 OVERLOAD	CIN	BAD	1
CP6051	SLUDGE_PUMPS	GS-6024 GRINDER 4 OVERLOAD	CIN	STA	1
CP6051	SLUDGE_PUMPS	PPS-6024 PMP 4 OVERLOAD	CIN	STA	1
CP6051	SLUDGE_PUMPS	PPS-6024 PMP 4 OVERLOAD	CIN	BAD	1
CP6051	SLUDGE_PUMPS	VP-6024 DSCHRG VALVE FAILED	CIN	BAD	1
CP6051	SLUDGE_PUMPS	VP-6024 DSCHRG VALVE FAILED	CIN	STA	1
CP6051	SLUDGE_PUMPS	VPS-6025 DSCHRG VALVE FAILED	CIN	STA	1
CP6051	SLUDGE_PUMPS	VPS-6025 DSCHRG VALVE FAILED	CIN	BAD	1
CP6051	SLUDGE_PUMPS	GS-6025 GRINDER 5 OVERLOAD	CIN	BAD	1
CP6051	SLUDGE_PUMPS	GS-6025 GRINDER 5 OVERLOAD	CIN	STA	1
CP6051	SLUDGE_PUMPS	PPS-6025 PMP 5 OVERLOAD	CIN	STA	1
CP6051	SLUDGE_PUMPS	PPS-6025 PMP 5 OVERLOAD	CIN	BAD	1
CP6051	SLUDGE_PUMPS	VPS-6026 DSCHRG VALVE FAILED	CIN	STA	1
CP6051	SLUDGE_PUMPS	VPS-6026 DSCHRG VALVE FAILED	CIN	BAD	1

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6051	SLUDGE_PUMPS	GS-6026 GRINDER 6 OVERLOAD	CIN	BAD	1
CP6051	SLUDGE_PUMPS	GS-6026 GRINDER 6 OVERLOAD	CIN	STA	1
CP6051	SLUDGE_PUMPS	PPS-6026 PMP 6 OVERLOAD	CIN	STA	1
CP6051	SLUDGE_PUMPS	PPS-6026 PMP 6 OVERLOAD	CIN	BAD	1
CP6051	SLUDGE_PUMPS	PPS-6024 PMP 4 LOW SEAL WATER	CIN	STA	1
CP6051	SLUDGE_PUMPS	PPS-6024 PMP 4 LOW SEAL WATER	CIN	BAD	1
CP6051	SLUDGE_PUMPS	PPS-6025 PMP 5 LOW SEAL WATER	CIN	BAD	1
CP6051	SLUDGE_PUMPS	PPS-6025 PMP 5 LOW SEAL WATER	CIN	STA	1
CP6051	SLUDGE_PUMPS	PPS-6026 PMP 6 LOW SEAL WATER	CIN	BAD	1
CP6051	SLUDGE_PUMPS	PPS-6026 PMP 6 LOW SEAL WATER	CIN	STA	1
CP6051	SLUDGE_PUMPS	PSM-6023 PMP 3 LOW SEAL WATER	CIN	BAD	1
CP6051	SLUDGE_PUMPS	PSM-6023 PMP 3 LOW SEAL WATER	CIN	STA	1
CP6051	SLUDGE_PUMPS	PSM-6024 PMP 4 LOW SEAL WATER	CIN	STA	1
CP6051	SLUDGE_PUMPS	PSM-6024 PMP 4 LOW SEAL WATER	CIN	BAD	1
CP6051	SLUDGE_PUMPS	PPS-6024 PMP 4 SUCTION LOW	CIN	BAD	1
CP6051	SLUDGE_PUMPS	PPS-6024 PMP 4 SUCTION LOW	CIN	STA	1
CP6051	SLUDGE_PUMPS	PPS-6024 PMP 4 HIGH PRESSURE	CIN	BAD	1
CP6051	SLUDGE_PUMPS	PPS-6024 PMP 4 HIGH PRESSURE	CIN	STA	1
CP6051	SLUDGE_PUMPS	PPS-6025 PMP 5 SUCTION LOW	CIN	STA	1
CP6051	SLUDGE_PUMPS	PPS-6025 PMP 5 SUCTION LOW	CIN	BAD	1
CP6051	SLUDGE_PUMPS	PPS-6025 PMP 5 HIGH PRESSURE	CIN	STA	1
CP6051	SLUDGE_PUMPS	PPS-6025 PMP 5 HIGH PRESSURE	CIN	BAD	1
CP6051	SLUDGE_PUMPS	PPS-6026 PMP 6 SUCTION LOW	CIN	STA	1
CP6051	SLUDGE_PUMPS	PPS-6026 PMP 6 SUCTION LOW	CIN	BAD	1
CP6051	SLUDGE_PUMPS	PPS-6026 PMP 6 HIGH PRESSURE	CIN	BAD	1
CP6051	SLUDGE_PUMPS	PPS-6026 PMP 6 HIGH PRESSURE	CIN	STA	1
CP6051	SLUDGE_PUMPS	PSM-6023 PMP 3 SUCTION LOW	CIN	STA	1
CP6051	SLUDGE_PUMPS	PSM-6023 PMP 3 SUCTION LOW	CIN	BAD	1
CP6051	SLUDGE_PUMPS	PSM-6023 PMP 3 HI DSCHRG PRES	CIN	STA	1
CP6051	SLUDGE_PUMPS	PSM-6023 PMP 3 HI DSCHRG PRES	CIN	BAD	1
CP6051	SLUDGE_PUMPS	PSM-6024 PMP 4 SUCTION LOW	CIN	BAD	1
CP6051	SLUDGE_PUMPS	PSM-6024 PMP 4 SUCTION LOW	CIN	STA	1
CP6051	SLUDGE_PUMPS	PSM-6024 PMP 4 HI DSCHRG PRES	CIN	STA	1
CP6051	SLUDGE_PUMPS	PSM-6024 PMP 4 HI DSCHRG PRES	CIN	BAD	1
CP6051	SLUDGE_PUMPS	PPS-6024 PMP 4 MTR HIGH TEMP	CIN	BAD	1
CP6051	SLUDGE_PUMPS	PPS-6024 PMP 4 MTR HIGH TEMP	CIN	STA	1
CP6051	SLUDGE_PUMPS	PPS-6025 PMP 5 MTR HIGH TEMP	CIN	STA	1
CP6051	SLUDGE_PUMPS	PPS-6025 PMP 5 MTR HIGH TEMP	CIN	BAD	1
CP6051	SLUDGE_PUMPS	PPS-6026 PMP 6 MTR HIGH TEMP	CIN	STA	1
CP6051	SLUDGE_PUMPS	PPS-6026 PMP 6 MTR HIGH TEMP	CIN	BAD	1
CP6051	SLUDGE_PUMPS	PSM-6023 PMP 3 MTR HIGH TEMP	CIN	STA	1
CP6051	SLUDGE_PUMPS	PSM-6023 PMP 3 MTR HIGH TEMP	CIN	BAD	1
CP6051	SLUDGE_PUMPS	PSM-6024 PMP 4 MTR HIGH TEMP	CIN	BAD	1
CP6051	SLUDGE_PUMPS	PSM-6024 PMP 4 MTR HIGH TEMP	CIN	STA	1
CP6051	SLUDGE_PUMPS	MPS-6022 MIXER RUNNING	CIN	BAD	1
CP6051	SLUDGE_PUMPS	GSC-6022 GRINDER RUNNING	CIN	BAD	1
CP6051	SLUDGE_PUMPS	PSM-6023 PMP 3 RUNNING	CIN	BAD	1
CP6051	SLUDGE_PUMPS	PPS-6024 PMP 4 RUNNING	CIN	BAD	1
CP6051	SLUDGE_PUMPS	GS-6024 GRINDER 4 RUNNING	CIN	BAD	1
CP6051	SLUDGE_PUMPS	PSM-6024 PMP 4 RUNNING	CIN	BAD	1
CP6051	SLUDGE_PUMPS	PPS-6025 PMP 5 RUNNING	CIN	BAD	1
CP6051	SLUDGE_PUMPS	GS-6025 GRINDER 5 RUNNING	CIN	BAD	1
CP6051	SLUDGE_PUMPS	PPS-6026 PMP 6 RUNNING	CIN	BAD	1

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6051	SLUDGE_PUMPS	GS-6026 GRINDER 6 RUNNING	CIN	BAD	1
CP6051	SLUDGE_PUMPS	GSC-6022 GRINDER IN REMOTE	CIN	BAD	1
CP6051	SLUDGE_PUMPS	MPS-6022 MIXER IN REMOTE	CIN	BAD	1
CP6051	SLUDGE_PUMPS	VP-6023 DSCHRG IN REMOTE	CIN	BAD	1
CP6051	SLUDGE_PUMPS	PSM-6023 PMP 3 IN REMOTE	CIN	BAD	1
CP6051	SLUDGE_PUMPS	PPS-6024 PMP 4 IN REMOTE	CIN	BAD	1
CP6051	SLUDGE_PUMPS	VP-6024 DSCHRG IN REMOTE	CIN	BAD	1
CP6051	SLUDGE_PUMPS	GS-6024 GRINDER 4 IN REMOTE	CIN	BAD	1
CP6051	SLUDGE_PUMPS	PSM-6024 PMP 4 IN REMOTE	CIN	BAD	1
CP6051	SLUDGE_PUMPS	VPS-6024 DSCHRG IN REMOTE	CIN	BAD	1
CP6051	SLUDGE_PUMPS	PPS-6025 PMP 5 IN REMOTE	CIN	BAD	1
CP6051	SLUDGE_PUMPS	GS-6025 GRINDER 5 IN REMOTE	CIN	BAD	1
CP6051	SLUDGE_PUMPS	VPS-6025 DSCHRG IN REMOTE	CIN	BAD	1
CP6051	SLUDGE_PUMPS	PPS-6026 PMP 6 IN REMOTE	CIN	BAD	1
CP6051	SLUDGE_PUMPS	GS-6026 GRINDER 6 IN REMOTE	CIN	BAD	1
CP6051	SLUDGE_PUMPS	VPS-6026 DSCHRG IN REMOTE	CIN	BAD	1
CP6051	SLUDGE_PUMPS	VP-6023 DSCHRG OPENED	CIN	BAD	1
CP6051	SLUDGE_PUMPS	VPS-6024 DSCHRG FULLY OPENED	CIN	BAD	1
CP6051	SLUDGE_PUMPS	VP-6024 DSCHRG FULLY OPENED	CIN	BAD	1
CP6051	SLUDGE_PUMPS	VPS-6025 DSCHRG FULLY OPENED	CIN	BAD	1
CP6051	SLUDGE_PUMPS	VPS-6026 DSCHRG FULLY OPENED	CIN	BAD	1
CP6051	SLUDGE_PUMPS	VP-6023 DSCHRG FULLY CLOSED	CIN	BAD	1
CP6051	SLUDGE_PUMPS	VPS-6024 DSCHRG FULLY CLOSED	CIN	BAD	1
CP6051	SLUDGE_PUMPS	VP-6024 DSCHRG FULLY CLOSED	CIN	BAD	1
CP6051	SLUDGE_PUMPS	VPS-6025 DSCHRG FULLY CLOSED	CIN	BAD	1
CP6051	SLUDGE_PUMPS	VPS-6026 DSCHRG FULLY CLOSED	CIN	BAD	1
CP6051	TEST1	TEST SWICH	CIN	STA	1
CP6052	2_CLARIFIERS	PSM-6053 PMP 3 MOTOR LEAK	CIN	STA	1
CP6052	2_CLARIFIERS	PSM-6053 PMP 3 MOTOR LEAK	CIN	BAD	1
CP6052	2_CLARIFIERS	PSM-6054 PMP 4 MOTOR LEAK	CIN	STA	1
CP6052	2_CLARIFIERS	PSM-6054 PMP 4 MOTOR LEAK	CIN	BAD	1
CP6052	2_CLARIFIERS	PSM-6053 PMP 3 OVERLOAD	CIN	BAD	2
CP6052	2_CLARIFIERS	PSM-6053 PMP 3 OVERLOAD	CIN	STA	2
CP6052	2_CLARIFIERS	PSM-6054 PMP 4 OVERLOAD	CIN	STA	2
CP6052	2_CLARIFIERS	PSM-6054 PMP 4 OVERLOAD	CIN	BAD	2
CP6052	2_CLARIFIERS	DSC-6055 NO. 3A MOTOR FAILED	CIN	STA	1
CP6052	2_CLARIFIERS	DSC-6055 NO. 3A MOTOR FAILED	CIN	BAD	1
CP6052	2_CLARIFIERS	SSC-6055 NO. 3A MOTOR FAILED	CIN	BAD	1
CP6052	2_CLARIFIERS	SSC-6055 NO. 3A MOTOR FAILED	CIN	STA	1
CP6052	2_CLARIFIERS	SSC-6056 NO. 3B MOTOR FAILED	CIN	STA	1
CP6052	2_CLARIFIERS	SSC-6056 NO. 3B MOTOR FAILED	CIN	BAD	1
CP6052	2_CLARIFIERS	DSC-6056 NO. 3B MOTOR FAILED	CIN	STA	1
CP6052	2_CLARIFIERS	DSC-6056 NO. 3B MOTOR FAILED	CIN	BAD	1
CP6052	2_CLARIFIERS	SSC-6057 NO. 4A MOTOR FAILED	CIN	BAD	1
CP6052	2_CLARIFIERS	SSC-6057 NO. 4A MOTOR FAILED	CIN	STA	1
CP6052	2_CLARIFIERS	DSC-6057 NO. 4A MOTOR FAILED	CIN	STA	1
CP6052	2_CLARIFIERS	DSC-6057 NO. 4A MOTOR FAILED	CIN	BAD	1
CP6052	2_CLARIFIERS	SSC-6054 NO. 4B MOTOR FAILED	CIN	BAD	1
CP6052	2_CLARIFIERS	SSC-6054 NO. 4B MOTOR FAILED	CIN	STA	1
CP6052	2_CLARIFIERS	DSC-6058 NO. 4B MOTOR FAILED	CIN	STA	1
CP6052	2_CLARIFIERS	DSC-6058 NO. 4B MOTOR FAILED	CIN	BAD	1
CP6052	2_CLARIFIERS	SECONDARY SCUM SUMP HI LEVEL	CIN	STA	1
CP6052	2_CLARIFIERS	SECONDARY SCUM SUMP HI LEVEL	CIN	BAD	1

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6052	2_CLARIFIERS	DSC-6055 NO. 3A 70% TORQUE	CIN	BAD	1
CP6052	2_CLARIFIERS	DSC-6055 NO. 3A 70% TORQUE	CIN	STA	1
CP6052	2_CLARIFIERS	DSC-6055 NO. 3A 90% TORQUE	CIN	STA	1
CP6052	2_CLARIFIERS	DSC-6055 NO. 3A 90% TORQUE	CIN	BAD	1
CP6052	2_CLARIFIERS	SSC-6055 NO. 3A WEIR	CIN	STA	2
CP6052	2_CLARIFIERS	SSC-6055 NO. 3A WEIR	CIN	BAD	1
CP6052	2_CLARIFIERS	SSC-6056 NO. 3B WEIR	CIN	BAD	1
CP6052	2_CLARIFIERS	SSC-6056 NO. 3B WEIR	CIN	STA	2
CP6052	2_CLARIFIERS	DSC-6056 NO. 3B 70% TORQUE	CIN	BAD	1
CP6052	2_CLARIFIERS	DSC-6056 NO. 3B 70% TORQUE	CIN	STA	1
CP6052	2_CLARIFIERS	DSC-6056 NO. 3B 90% TORQUE	CIN	BAD	1
CP6052	2_CLARIFIERS	DSC-6056 NO. 3B 90% TORQUE	CIN	STA	1
CP6052	2_CLARIFIERS	SSC-6057 NO. 4A WEIR	CIN	STA	2
CP6052	2_CLARIFIERS	SSC-6057 NO. 4A WEIR	CIN	BAD	1
CP6052	2_CLARIFIERS	DSC-6057 NO. 4A 70% TORQUE	CIN	BAD	1
CP6052	2_CLARIFIERS	DSC-6057 NO. 4A 70% TORQUE	CIN	STA	1
CP6052	2_CLARIFIERS	DSC-6057 NO. 4A 90% TORQUE	CIN	STA	1
CP6052	2_CLARIFIERS	DSC-6057 NO. 4A 90% TORQUE	CIN	BAD	1
CP6052	2_CLARIFIERS	SSC-6054 NO. 4B WEIR	CIN	BAD	1
CP6052	2_CLARIFIERS	SSC-6054 NO. 4B WEIR	CIN	STA	2
CP6052	2_CLARIFIERS	DSC-6058 NO. 4B 70% TORQUE	CIN	BAD	1
CP6052	2_CLARIFIERS	DSC-6058 NO. 4B 70% TORQUE	CIN	STA	1
CP6052	2_CLARIFIERS	DSC-6058 NO. 4B 90% TORQUE	CIN	STA	1
CP6052	2_CLARIFIERS	DSC-6058 NO. 4B 90% TORQUE	CIN	BAD	1
CP6052	2_CLARIFIERS	PSM-6053 PMP 3 RUNNING	CIN	BAD	1
CP6052	2_CLARIFIERS	PSM-6054 PMP 4 RUNNING	CIN	BAD	1
CP6052	2_CLARIFIERS	DSC-6055 NO. 3A RUNNING	CIN	BAD	1
CP6052	2_CLARIFIERS	SSC-6055 NO. 3A WEIR	CIN	BAD	1
CP6052	2_CLARIFIERS	DSC-6056 NO. 3B RUNNING	CIN	BAD	1
CP6052	2_CLARIFIERS	SSC-6056 NO. 3B WEIR	CIN	BAD	1
CP6052	2_CLARIFIERS	SSC-6057 NO. 4A WEIR	CIN	BAD	1
CP6052	2_CLARIFIERS	DSC-6057 NO. 4A RUNNING	CIN	BAD	1
CP6052	2_CLARIFIERS	SSC-6054 NO. 4B WEIR	CIN	BAD	1
CP6052	2_CLARIFIERS	DSC-6058 NO. 4B RUNNING	CIN	BAD	1
CP6052	2_CLARIFIERS	PSM-6053 PMP 3 IN AUTO	CIN	BAD	1
CP6052	2_CLARIFIERS	PSM-6054 PMP 4 IN AUTO	CIN	BAD	1
CP6052	2_SUMP_PUMP	PSP-6051 PMP 1 MOISTURE S/D	CIN	STA	1
CP6052	2_SUMP_PUMP	PSP-6051 PMP 1 MOISTURE S/D	CIN	BAD	1
CP6052	2_SUMP_PUMP	PSP-6052 PMP 2 MOISTURE S/D	CIN	BAD	1
CP6052	2_SUMP_PUMP	PSP-6052 PMP 2 MOISTURE S/D	CIN	STA	1
CP6052	2_SUMP_PUMP	RAS SUMP PUMP1 OVERLOAD	CIN	STA	1
CP6052	2_SUMP_PUMP	RAS SUMP PUMP1 OVERLOAD	CIN	BAD	1
CP6052	2_SUMP_PUMP	RAS SUMP PUMP2 OVERLOAD	CIN	BAD	1
CP6052	2_SUMP_PUMP	RAS SUMP PUMP2 OVERLOAD	CIN	STA	1
CP6052	2_SUMP_PUMP	RAS/WAS STATION SUMP HI LEVEL	CIN	STA	1
CP6052	2_SUMP_PUMP	RAS/WAS STATION SUMP HI LEVEL	CIN	BAD	1
CP6052	2_SUMP_PUMP	PSP-6051 PMP 1 RUNNING	CIN	BAD	1
CP6052	2_SUMP_PUMP	PSP-6052 PMP 2 RUNNING	CIN	BAD	1
CP6052	2_SUMP_PUMP	PSP-6051 PMP 1 IN AUTO	CIN	BAD	1
CP6052	2_SUMP_PUMP	PSP-6052 PMP 2 IN AUTO	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3A1A MOTOR FAILED	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3A1A MOTOR FAILED	CIN	STA	2
CP6052	AER_BASIN	MA MIXER Z-3A1B MOTOR FAILED	CIN	STA	2

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6052	AER_BASIN	MA MIXER Z-3A1B MOTOR FAILED	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3A2A MOTOR FAILED	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3A2A MOTOR FAILED	CIN	STA	2
CP6052	AER_BASIN	PML PMP 3 MOTOR OVERLOAD	CIN	STA	1
CP6052	AER_BASIN	PML PMP 3 MOTOR OVERLOAD	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3A2B MOTOR FAILED	CIN	STA	2
CP6052	AER_BASIN	MA MIXER Z-3A2B MOTOR FAILED	CIN	BAD	1
CP6052	AER_BASIN	PML PMP 4 MOTOR OVERLOAD	CIN	BAD	1
CP6052	AER_BASIN	PML PMP 4 MOTOR OVERLOAD	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3A3A MOTOR FAILED	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3A3A MOTOR FAILED	CIN	STA	2
CP6052	AER_BASIN	MA MIXER Z-3A3B MOTOR FAILED	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3A3B MOTOR FAILED	CIN	STA	2
CP6052	AER_BASIN	MA MIXER Z-3B1A MOTOR FAILED	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3B1A MOTOR FAILED	CIN	STA	2
CP6052	AER_BASIN	MA MIXER Z-3B1B MOTOR FAILED	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3B1B MOTOR FAILED	CIN	STA	2
CP6052	AER_BASIN	MA MIXER Z-3B2A MOTOR FAILED	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3B2A MOTOR FAILED	CIN	STA	2
CP6052	AER_BASIN	MA MIXER Z-3B2B MOTOR FAILED	CIN	STA	2
CP6052	AER_BASIN	MA MIXER Z-3B2B MOTOR FAILED	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3C1A MOTOR FAILED	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3C1A MOTOR FAILED	CIN	STA	2
CP6052	AER_BASIN	MA MIXER Z-3C1B MOTOR FAILED	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3C1B MOTOR FAILED	CIN	STA	2
CP6052	AER_BASIN	MA MIXER Z-3C2A MOTOR FAILED	CIN	STA	2
CP6052	AER_BASIN	MA MIXER Z-3C2A MOTOR FAILED	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3C2B MOTOR FAILED	CIN	STA	2
CP6052	AER_BASIN	MA MIXER Z-3C2B MOTOR FAILED	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3D1A MOTOR FAILED	CIN	STA	2
CP6052	AER_BASIN	MA MIXER Z-3D1A MOTOR FAILED	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3D1B MOTOR FAILED	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3D1B MOTOR FAILED	CIN	STA	2
CP6052	AER_BASIN	MA MIXER Z-4A1A MOTOR FAILED	CIN	STA	2
CP6052	AER_BASIN	MA MIXER Z-4A1A MOTOR FAILED	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4A1B MOTOR FAILED	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4A1B MOTOR FAILED	CIN	STA	2
CP6052	AER_BASIN	MA MIXER Z-4A2A MOTOR FAILED	CIN	STA	2
CP6052	AER_BASIN	MA MIXER Z-4A2A MOTOR FAILED	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4A2B MOTOR FAILED	CIN	STA	2
CP6052	AER_BASIN	MA MIXER Z-4A2B MOTOR FAILED	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4A3A MOTOR FAILED	CIN	STA	2
CP6052	AER_BASIN	MA MIXER Z-4A3A MOTOR FAILED	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4A3B MOTOR FAILED	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4A3B MOTOR FAILED	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4B1A MOTOR FAILED	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4B1A MOTOR FAILED	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4B1B MOTOR FAILED	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4B1B MOTOR FAILED	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4B2A MOTOR FAILED	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4B2A MOTOR FAILED	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4B2B MOTOR FAILED	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4B2B MOTOR FAILED	CIN	BAD	1

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6052	AER_BASIN	MA MIXER Z-4C1A MOTOR FAILED	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4C1A MOTOR FAILED	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4C1B MOTOR FAILED	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4C1B MOTOR FAILED	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4C2A MOTOR FAILED	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4C2A MOTOR FAILED	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4C2B MOTOR FAILED	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4C2B MOTOR FAILED	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4D1A MOTOR FAILED	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4D1A MOTOR FAILED	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4D1B MOTOR FAILED	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4D1B MOTOR FAILED	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3A1A MTR SEAL LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3A1A MTR SEAL LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3A1A PROP HUB LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3A1A PROP HUB LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3A1B MTR SEAL LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3A1B MTR SEAL LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3A1B PROP HUB LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3A1B PROP HUB LEAK	CIN	BAD	1
CP6052	AER_BASIN	PML PMP 3 MOTOR CASING LEAK	CIN	BAD	1
CP6052	AER_BASIN	PML PMP 3 MOTOR CASING LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3A2A MTR SEAL LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3A2A MTR SEAL LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3A2A PROP HUB LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3A2A PROP HUB LEAK	CIN	BAD	1
CP6052	AER_BASIN	PML PMP 4 MOTOR CASING LEAK	CIN	STA	1
CP6052	AER_BASIN	PML PMP 4 MOTOR CASING LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3A2B MTR SEAL LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3A2B MTR SEAL LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3A2B PROP HUB LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3A2B PROP HUB LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3A3A MTR SEAL LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3A3A MTR SEAL LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3A3A PROP HUB LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3A3A PROP HUB LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3A3B MTR SEAL LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3A3B MTR SEAL LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3A3B PROP HUB LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3A3B PROP HUB LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3B1A MTR SEAL LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3B1A MTR SEAL LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3B1A PROP HUB LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3B1A PROP HUB LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3B1B MTR SEAL LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3B1B MTR SEAL LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3B1B PROP HUB LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3B1B PROP HUB LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3B2A MTR SEAL LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3B2A MTR SEAL LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3B2A PROP HUB LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3B2A PROP HUB LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3B2B MTR SEAL LEAK	CIN	BAD	1

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6052	AER_BASIN	MA MIXER Z-3B2B MTR SEAL LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3B2B PROP HUB LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3B2B PROP HUB LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3C1A MTR SEAL LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3C1A MTR SEAL LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3C1A PROP HUB LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3C1A PROP HUB LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3C1B MTR SEAL LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3C1B MTR SEAL LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3C1B PROP HUB LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3C1B PROP HUB LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3C2B MTR SEAL LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3C2B MTR SEAL LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3C2A PROP HUB LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3C2A PROP HUB LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3C2B MTR SEAL LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3C2B MTR SEAL LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3C2B PROP HUB LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3C2B PROP HUB LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3D1A MTR SEAL LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3D1A MTR SEAL LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3D1A PROP HUB LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3D1A PROP HUB LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3D1B MTR SEAL LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3D1B MTR SEAL LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3D1B PROP HUB LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3D1B PROP HUB LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4A1A MTR SEAL LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4A1A MTR SEAL LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4A1A PROP HUB LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4A1A PROP HUB LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4A1B MTR SEAL LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4A1B MTR SEAL LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4A1B PROP HUB LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4A1B PROP HUB LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4A2A MTR SEAL LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4A2A MTR SEAL LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4A2A PROP HUB LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4A2A PROP HUB LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4A2B MTR SEAL LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4A2B MTR SEAL LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4A2B PROP HUB LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4A2B PROP HUB LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4A3A MTR SEAL LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4A3A MTR SEAL LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4A3A PROP HUB LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4A3A PROP HUB LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4A3B MTR SEAL LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4A3B MTR SEAL LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4A3B PROP HUB LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4A3B PROP HUB LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4B1A MTR SEAL LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4B1A MTR SEAL LEAK	CIN	STA	1

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6052	AER_BASIN	MA MIXER Z-4B1A PROP HUB LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4B1A PROP HUB LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4B1B MTR SEAL LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4B1B MTR SEAL LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4B1B PROP HUB LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4B1B PROP HUB LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4B2A MTR SEAL LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4B2A MTR SEAL LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4B2A PROP HUB LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4B2A PROP HUB LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4B2B MTR SEAL LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4B2B MTR SEAL LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4B2B PROP HUB LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4B2B PROP HUB LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4C1A MTR SEAL LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4C1A MTR SEAL LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4C1A PROP HUB LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4C1A PROP HUB LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4C1B MTR SEAL LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4C1B MTR SEAL LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4C1B PROP HUB LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4C1B PROP HUB LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4C2A MTR SEAL LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4C2A MTR SEAL LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4C2A PROP HUB LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4C2A PROP HUB LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4C2B MTR SEAL LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4C2B MTR SEAL LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4C2B PROP HUB LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4C2B PROP HUB LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4D1A MTR SEAL LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4D1A MTR SEAL LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4D1A PROP HUB LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4D1A PROP HUB LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4D1B MTR SEAL LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4D1B MTR SEAL LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4D1B PROP HUB LEAK	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4D1B PROP HUB LEAK	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3A1A MTR HIGH TEMP	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3A1A MTR HIGH TEMP	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3A1B MTR HIGH TEMP	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3A1B MTR HIGH TEMP	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3A2A MTR HIGH TEMP	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3A2A MTR HIGH TEMP	CIN	STA	1
CP6052	AER_BASIN	PML PMP 3 MOTOR HIGH TEMP	CIN	BAD	1
CP6052	AER_BASIN	PML PMP 3 MOTOR HIGH TEMP	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3A2B MTR HIGH TEMP	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3A2B MTR HIGH TEMP	CIN	BAD	1
CP6052	AER_BASIN	PML PMP 4 MOTOR HIGH TEMP	CIN	STA	1
CP6052	AER_BASIN	PML PMP 4 MOTOR HIGH TEMP	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3A3A MTR HIGH TEMP	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3A3A MTR HIGH TEMP	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3A3B MTR HIGH TEMP	CIN	STA	1

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6052	AER_BASIN	MA MIXER Z-3A3B MTR HIGH TEMP	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3B1A MTR HIGH TEMP	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3B1A MTR HIGH TEMP	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3B1B MTR HIGH TEMP	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3B1B MTR HIGH TEMP	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3B2A MTR HIGH TEMP	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3B2A MTR HIGH TEMP	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3B2B MTR HIGH TEMP	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3B2B MTR HIGH TEMP	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3C1A MTR HIGH TEMP	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3C1A MTR HIGH TEMP	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3C1B MTR HIGH TEMP	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3C1B MTR HIGH TEMP	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3C2A MTR HIGH TEMP	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3C2A MTR HIGH TEMP	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3C2B MTR HIGH TEMP	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3C2B MTR HIGH TEMP	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3D1A MTR HIGH TEMP	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3D1A MTR HIGH TEMP	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-3D1B MTR HIGH TEMP	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3D1B MTR HIGH TEMP	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4A1A MTR HIGH TEMP	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4A1A MTR HIGH TEMP	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4A1B MTR HIGH TEMP	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4A1B MTR HIGH TEMP	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4A2A MTR HIGH TEMP	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4A2A MTR HIGH TEMP	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4A2B MTR HIGH TEMP	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4A2B MTR HIGH TEMP	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4A3A MTR HIGH TEMP	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4A3A MTR HIGH TEMP	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4A3B MTR HIGH TEMP	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4A3B MTR HIGH TEMP	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4B1A MTR HIGH TEMP	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4B1A MTR HIGH TEMP	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4B1B MTR HIGH TEMP	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4B1B MTR HIGH TEMP	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4B2A MTR HIGH TEMP	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4B2A MTR HIGH TEMP	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4B2B MTR HIGH TEMP	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4B2B MTR HIGH TEMP	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4C1A MTR HIGH TEMP	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4C1A MTR HIGH TEMP	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4C1B MTR HIGH TEMP	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4C1B MTR HIGH TEMP	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4C2A MTR HIGH TEMP	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4C2A MTR HIGH TEMP	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4C2B MTR HIGH TEMP	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4C2B MTR HIGH TEMP	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4D1A MTR HIGH TEMP	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4D1A MTR HIGH TEMP	CIN	STA	1
CP6052	AER_BASIN	MA MIXER Z-4D1B MTR HIGH TEMP	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4D1B MTR HIGH TEMP	CIN	STA	1

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6052	AER_BASIN	MA MIXER Z-3A1A RUNNING	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3A1B RUNNING	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3A2A RUNNING	CIN	BAD	1
CP6052	AER_BASIN	PML PMP 3 MOTOR RUNNING	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3A2B RUNNING	CIN	BAD	1
CP6052	AER_BASIN	PML PMP 4 MOTOR RUNNING	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3A3A RUNNING	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3A3B RUNNING	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3B1A RUNNING	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3B1B RUNNING	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3B2A RUNNING	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3B2B RUNNING	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3C1A RUNNING	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3C1B RUNNING	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3C2A RUNNING	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3C2B RUNNING	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3D1A RUNNING	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-3D1B RUNNING	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4A1A RUNNING	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4A1B RUNNING	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4A2A RUNNING	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4A2B RUNNING	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4A3A RUNNING	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4A3B RUNNING	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4B1A RUNNING	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4B1B RUNNING	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4B2A RUNNING	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4B2B RUNNING	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4C1A RUNNING	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4C1B RUNNING	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4C2A RUNNING	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4C2B RUNNING	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4D1A RUNNING	CIN	BAD	1
CP6052	AER_BASIN	MA MIXER Z-4D1B RUNNING	CIN	BAD	1
CP6052	AER_BASIN	PML PMP 3 MOTOR IN REMOTE	CIN	BAD	1
CP6052	AER_BASIN	PML PMP 4 MOTOR IN REMOTE	CIN	BAD	1
CP6052	AERATION_AIR	VAA-6053 ZONE 3B OPENED	CIN	BAD	1
CP6052	AERATION_AIR	VAA-6054 ZONE 3C OPENED	CIN	BAD	1
CP6052	AERATION_AIR	VAA-6055 ZONE 3D OPENED	CIN	BAD	1
CP6052	AERATION_AIR	VAA-6060 ZONE 4A OPENED	CIN	BAD	1
CP6052	AERATION_AIR	VAA-6061 ZONE 4B OPENED	CIN	BAD	1
CP6052	AERATION_AIR	VAA-6062 ZONE 4C FULLY OPENED	CIN	BAD	1
CP6052	AERATION_AIR	VAA-6063 ZONE 4D FULLY OPENED	CIN	BAD	1
CP6052	AERATION_AIR	VAA-6051 HEADER IN REMOTE	CIN	BAD	1
CP6052	AERATION_AIR	VAA-6052 ZONE 3A IN REMOTE	CIN	BAD	1
CP6052	AERATION_AIR	VAA-6053 ZONE 3B IN REMOTE	CIN	BAD	1
CP6052	AERATION_AIR	VAA-6054 ZONE 3C IN REMOTE	CIN	BAD	1
CP6052	AERATION_AIR	VAA-6055 ZONE 3D IN REMOTE	CIN	BAD	1
CP6052	AERATION_AIR	VAA-6060 ZONE 4A IN REMOTE	CIN	BAD	1
CP6052	AERATION_AIR	VAA-6061 ZONE 4B IN REMOTE	CIN	BAD	1
CP6052	AERATION_AIR	VAA-6062 ZONE 4C IN REMOTE	CIN	BAD	1
CP6052	AERATION_AIR	VAA-6063 ZONE 4D IN REMOTE	CIN	BAD	1
CP6052	AERATION_AIR	VAA-6051 HEADER OPENED	CIN	BAD	1

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6052	AERATION_AIR	VAA-6052 ZONE 3A OPENED	CIN	BAD	1
CP6052	AERATION_AIR	VAA-6051 HEADER FULLY CLOSED	CIN	BAD	1
CP6052	AERATION_AIR	VAA-6052 ZONE 3A FULLY CLOSED	CIN	BAD	1
CP6052	AERATION_AIR	VAA-6053 ZONE 3B FULLY CLOSED	CIN	BAD	1
CP6052	AERATION_AIR	VAA-6054 ZONE 3C FULLY CLOSED	CIN	BAD	1
CP6052	AERATION_AIR	VAA-6055 ZONE 3D FULLY CLOSED	CIN	BAD	1
CP6052	AERATION_AIR	VAA-6060 ZONE 4A FULLY CLOSED	CIN	BAD	1
CP6052	AERATION_AIR	VAA-6061 ZONE 4B FULLY CLOSED	CIN	BAD	1
CP6052	AERATION_AIR	VAA-6062 ZONE 4C FULLY CLOSED	CIN	BAD	1
CP6052	AERATION_AIR	VAA-6063 ZONE 4D FULLY CLOSED	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6056 PMP 6 MOTOR FAILED	CIN	STA	1
CP6052	RAS_PUMPS	PRS-6056 PMP 6 MOTOR FAILED	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6056 PMP 6 VFD FAILED	CIN	STA	1
CP6052	RAS_PUMPS	PRS-6056 PMP 6 VFD FAILED	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6057 PMP 7 MOTOR FAILED	CIN	STA	1
CP6052	RAS_PUMPS	PRS-6057 PMP 7 MOTOR FAILED	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6057 PMP 7 VFD FAILED	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6057 PMP 7 VFD FAILED	CIN	STA	1
CP6052	RAS_PUMPS	PRS-6058 PMP 8 MOTOR FAILED	CIN	STA	1
CP6052	RAS_PUMPS	PRS-6058 PMP 8 MOTOR FAILED	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6058 PMP 8 VFD FAILED	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6058 PMP 8 VFD FAILED	CIN	STA	1
CP6052	RAS_PUMPS	PRS-6069 PMP 9 MOTOR FAILED	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6069 PMP 9 MOTOR FAILED	CIN	STA	1
CP6052	RAS_PUMPS	PRS-6069 PMP 9 VFD FAILED	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6069 PMP 9 VFD FAILED	CIN	STA	1
CP6052	RAS_PUMPS	PRS-6060 PMP 10 MOTOR FAILED	CIN	STA	1
CP6052	RAS_PUMPS	PRS-6060 PMP 10 MOTOR FAILED	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6060 PMP 10 VFD FAILED	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6060 PMP 10 VFD FAILED	CIN	STA	1
CP6052	RAS_PUMPS	PRS-6056 PMP 6 SEAL WATER LOW	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6056 PMP 6 SEAL WATER LOW	CIN	STA	1
CP6052	RAS_PUMPS	PRS-6057 PMP 7 SEAL WATER LOW	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6057 PMP 7 SEAL WATER LOW	CIN	STA	1
CP6052	RAS_PUMPS	PRS-6058 PMP 8 SEAL WATER LOW	CIN	STA	1
CP6052	RAS_PUMPS	PRS-6058 PMP 8 SEAL WATER LOW	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6069 PMP 9 SEAL WATER LOW	CIN	STA	1
CP6052	RAS_PUMPS	PRS-6069 PMP 9 SEAL WATER LOW	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6060 PMP 10 SEAL WATER LO	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6060 PMP 10 SEAL WATER LO	CIN	STA	1
CP6052	RAS_PUMPS	PRS-6056 PMP 6 LOW SUCT PRESS	CIN	STA	1
CP6052	RAS_PUMPS	PRS-6056 PMP 6 LOW SUCT PRESS	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6056 PMP 6 HI DSCHRG PRES	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6056 PMP 6 HI DSCHRG PRES	CIN	STA	1
CP6052	RAS_PUMPS	PRS-6057 PMP 7 LOW SUCT PRESS	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6057 PMP 7 LOW SUCT PRESS	CIN	STA	1
CP6052	RAS_PUMPS	PRS-6057 PMP 7 HI DSCHRG PRES	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6057 PMP 7 HI DSCHRG PRES	CIN	STA	1
CP6052	RAS_PUMPS	PRS-6058 PMP 8 LOW SUCT PRESS	CIN	STA	1
CP6052	RAS_PUMPS	PRS-6058 PMP 8 LOW SUCT PRESS	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6069 PMP 9 LOW SUCT PRESS	CIN	STA	1
CP6052	RAS_PUMPS	PRS-6069 PMP 9 LOW SUCT PRESS	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6060 PMP 10 LOW SUCT PRESS	CIN	STA	1

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6052	RAS_PUMPS	PRS-6060 PMP 10 LOW SUCT PRESS	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6058 PMP 8 HI DSCHRG PRES	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6058 PMP 8 HI DSCHRG PRES	CIN	STA	1
CP6052	RAS_PUMPS	PRS-6069 PMP 9 HI DSCHRG PRES	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6069 PMP 9 HI DSCHRG PRES	CIN	STA	1
CP6052	RAS_PUMPS	PRS-6060 PMP 10 HI DSCHRG PRES	CIN	STA	1
CP6052	RAS_PUMPS	PRS-6060 PMP 10 HI DSCHRG PRES	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6056 PMP 6 HIGH TEMP	CIN	STA	1
CP6052	RAS_PUMPS	PRS-6056 PMP 6 HIGH TEMP	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6057 PMP 7 HIGH TEMP	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6057 PMP 7 HIGH TEMP	CIN	STA	1
CP6052	RAS_PUMPS	PRS-6058 PMP 8 HIGH TEMP	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6058 PMP 8 HIGH TEMP	CIN	STA	1
CP6052	RAS_PUMPS	PRS-6069 PMP 9 HIGH TEMP	CIN	STA	1
CP6052	RAS_PUMPS	PRS-6069 PMP 9 HIGH TEMP	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6060 PMP 10 HIGH TEMP	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6060 PMP 10 HIGH TEMP	CIN	STA	1
CP6052	RAS_PUMPS	PRS-6056 PMP 6 RUNNING	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6057 PMP 7 RUNNING	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6058 PMP 8 RUNNING	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6069 PMP 9 RUNNING	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6060 PMP 10 RUNNING	CIN	BAD	1
CP6052	RAS_PUMPS	RAS TO AB NO. 3 IN REMOTE	CIN	BAD	1
CP6052	RAS_PUMPS	RAS TO AB NO. 4 IN REMOTE	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6056 PMP 6 IN REMOTE	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6057 PMP 7 IN REMOTE	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6058 PMP 8 IN REMOTE	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6069 PMP 9 IN REMOTE	CIN	BAD	1
CP6052	RAS_PUMPS	PRS-6060 PMP 10 IN REMOTE	CIN	BAD	1
CP6052	RAS_PUMPS	RAS TO AB NO. 3 FULLY OPENED	CIN	BAD	1
CP6052	RAS_PUMPS	RAS TO AB NO. 4 FULLY OPENED	CIN	BAD	1
CP6052	RAS_PUMPS	RAS TO AB NO. 3 FULLY CLOSED	CIN	BAD	1
CP6052	RAS_PUMPS	RAS TO AB NO. 4 FULLY CLOSED	CIN	BAD	1
CP6052	WAS_PUMPS	PWS-6053 PMP 3 MOTOR FAILED	CIN	BAD	1
CP6052	WAS_PUMPS	PWS-6053 PMP 3 MOTOR FAILED	CIN	STA	1
CP6052	WAS_PUMPS	PWS-6053 PMP 3 VFD FAILED	CIN	BAD	1
CP6052	WAS_PUMPS	PWS-6053 PMP 3 VFD FAILED	CIN	STA	1
CP6052	WAS_PUMPS	PWS-6054 PMP 4 MOTOR FAILED	CIN	STA	1
CP6052	WAS_PUMPS	PWS-6054 PMP 4 MOTOR FAILED	CIN	BAD	1
CP6052	WAS_PUMPS	PWS-6054 PMP 4 VFD FAILED	CIN	BAD	1
CP6052	WAS_PUMPS	PWS-6054 PMP 4 VFD FAILED	CIN	STA	1
CP6052	WAS_PUMPS	PWS-6053 PMP 3 SEAL WATER LOW	CIN	BAD	1
CP6052	WAS_PUMPS	PWS-6053 PMP 3 SEAL WATER LOW	CIN	STA	1
CP6052	WAS_PUMPS	PWS-6054 PMP 4 SEAL WATER LOW	CIN	BAD	1
CP6052	WAS_PUMPS	PWS-6054 PMP 4 SEAL WATER LOW	CIN	STA	1
CP6052	WAS_PUMPS	PWS-6053 PMP 3 LOW SUCT PRESS	CIN	BAD	1
CP6052	WAS_PUMPS	PWS-6053 PMP 3 LOW SUCT PRESS	CIN	STA	1
CP6052	WAS_PUMPS	PWS-6053 PMP 3 HI DSCHRG PRES	CIN	BAD	1
CP6052	WAS_PUMPS	PWS-6053 PMP 3 HI DSCHRG PRES	CIN	STA	1
CP6052	WAS_PUMPS	PWS-6054 PMP 4 LOW SUCT PRESS	CIN	BAD	1
CP6052	WAS_PUMPS	PWS-6054 PMP 4 LOW SUCT PRESS	CIN	STA	1
CP6052	WAS_PUMPS	PWS-6054 PMP 4 HI DSCHRG PRES	CIN	BAD	1
CP6052	WAS_PUMPS	PWS-6054 PMP 4 HI DSCHRG PRES	CIN	STA	1

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6052	WAS_PUMPS	PWS-6053 PMP 3 HIGH TEMP	CIN	BAD	1
CP6052	WAS_PUMPS	PWS-6053 PMP 3 HIGH TEMP	CIN	STA	1
CP6052	WAS_PUMPS	PWS-6054 PMP 4 HIGH TEMP	CIN	STA	1
CP6052	WAS_PUMPS	PWS-6054 PMP 4 HIGH TEMP	CIN	BAD	1
CP6052	WAS_PUMPS	PWS-6053 PMP 3 RUNNING	CIN	BAD	1
CP6052	WAS_PUMPS	PWS-6054 PMP 4 RUNNING	CIN	BAD	1
CP6052	WAS_PUMPS	PWS-6053 PMP 3 IN REMOTE	CIN	BAD	1
CP6052	WAS_PUMPS	PWS-6054 PMP 4 IN REMOTE	CIN	BAD	1
CP6053	3_SUMP_PUMP	RAS NAOCL SUMP1 MOISTURE S/D	CIN	STA	1
CP6053	3_SUMP_PUMP	RAS NAOCL SUMP1 MOISTURE S/D	CIN	BAD	1
CP6053	3_SUMP_PUMP	RAS NAOCL SUMP2 MOISTURE S/D	CIN	BAD	1
CP6053	3_SUMP_PUMP	RAS NAOCL SUMP2 MOISTURE S/D	CIN	STA	1
CP6053	3_SUMP_PUMP	ALUM SUMP PMP1 MOISTURE S/D	CIN	BAD	2
CP6053	3_SUMP_PUMP	ALUM SUMP PMP1 MOISTURE S/D	CIN	STA	2
CP6053	3_SUMP_PUMP	ALUM SUMP PMP2 MOISTURE S/D	CIN	STA	2
CP6053	3_SUMP_PUMP	ALUM SUMP PMP2 MOISTURE S/D	CIN	BAD	2
CP6053	3_SUMP_PUMP	PSP-6405 PMP 1 MOISTURE S/D	CIN	STA	2
CP6053	3_SUMP_PUMP	PSP-6405 PMP 1 MOISTURE S/D	CIN	BAD	2
CP6053	3_SUMP_PUMP	PSP-6406 PMP 2 MOISTURE S/D	CIN	STA	1
CP6053	3_SUMP_PUMP	PSP-6406 PMP 2 MOISTURE S/D	CIN	BAD	1
CP6053	3_SUMP_PUMP	PSP-6407 PMP 1 MOISTURE S/D	CIN	STA	1
CP6053	3_SUMP_PUMP	PSP-6407 PMP 1 MOISTURE S/D	CIN	BAD	1
CP6053	3_SUMP_PUMP	PSP-6408 PMP 2 MOISTURE S/D	CIN	STA	1
CP6053	3_SUMP_PUMP	PSP-6408 PMP 2 MOISTURE S/D	CIN	BAD	1
CP6053	3_SUMP_PUMP	RAS NAOCL SUMP1 OVERLOAD	CIN	STA	2
CP6053	3_SUMP_PUMP	RAS NAOCL SUMP1 OVERLOAD	CIN	BAD	2
CP6053	3_SUMP_PUMP	RAS NAOCL SUMP2 OVERLOAD	CIN	STA	2
CP6053	3_SUMP_PUMP	RAS NAOCL SUMP2 OVERLOAD	CIN	BAD	2
CP6053	3_SUMP_PUMP	ALUM SUMP PMP1 OVERLOAD	CIN	STA	2
CP6053	3_SUMP_PUMP	ALUM SUMP PMP1 OVERLOAD	CIN	BAD	2
CP6053	3_SUMP_PUMP	ALUM SUMP PMP2 OVERLOAD	CIN	BAD	2
CP6053	3_SUMP_PUMP	ALUM SUMP PMP2 OVERLOAD	CIN	STA	2
CP6053	3_SUMP_PUMP	PSP-6405 PMP 1 OVERLOAD	CIN	BAD	3
CP6053	3_SUMP_PUMP	PSP-6405 PMP 1 OVERLOAD	CIN	STA	2
CP6053	3_SUMP_PUMP	PSP-6406 PMP 2 OVERLOAD	CIN	BAD	2
CP6053	3_SUMP_PUMP	PSP-6406 PMP 2 OVERLOAD	CIN	STA	2
CP6053	3_SUMP_PUMP	PSP-6407 PMP 1 OVERLOAD	CIN	BAD	1
CP6053	3_SUMP_PUMP	PSP-6407 PMP 1 OVERLOAD	CIN	STA	1
CP6053	3_SUMP_PUMP	PSP-6408 PMP 2 OVERLOAD	CIN	STA	1
CP6053	3_SUMP_PUMP	PSP-6408 PMP 2 OVERLOAD	CIN	BAD	1
CP6053	3_SUMP_PUMP	NAOCL STATION SUMP HI LEVEL	CIN	STA	2
CP6053	3_SUMP_PUMP	NAOCL STATION SUMP HI LEVEL	CIN	BAD	2
CP6053	3_SUMP_PUMP	POLY/ALUM STAT SUMP HI LEVEL	CIN	BAD	2
CP6053	3_SUMP_PUMP	POLY/ALUM STAT SUMP HI LEVEL	CIN	STA	2
CP6053	3_SUMP_PUMP	SODIUM BISULFITE SUMP HI LEVEL	CIN	STA	2
CP6053	3_SUMP_PUMP	SODIUM BISULFITE SUMP HI LEVEL	CIN	BAD	2
CP6053	3_SUMP_PUMP	EFFLUENT SUMP HI LEVEL	CIN	BAD	1
CP6053	3_SUMP_PUMP	EFFLUENT SUMP HI LEVEL	CIN	STA	1
CP6053	3_SUMP_PUMP	PSP-6401 PMP 1 RUNNING	CIN	BAD	2
CP6053	3_SUMP_PUMP	PSP-6402 PMP 2 RUNNING	CIN	BAD	1
CP6053	3_SUMP_PUMP	PSP-6403 PMP 1 RUNNING	CIN	BAD	2
CP6053	3_SUMP_PUMP	PSP-6404 PMP 2 RUNNING	CIN	BAD	2
CP6053	3_SUMP_PUMP	PSP-6405 PMP 1 RUNNING	CIN	BAD	2

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6053	3_SUMP_PUMP	PSP-6406 PMP 2 RUNNING	CIN	BAD	1
CP6053	3_SUMP_PUMP	PSP-6407 PMP 1 RUNNING	CIN	BAD	1
CP6053	3_SUMP_PUMP	PSP-6408 PMP 2 RUNNING	CIN	BAD	1
CP6053	3_SUMP_PUMP	PSP-6401 PMP 1 IN AUTO	CIN	BAD	1
CP6053	3_SUMP_PUMP	PSP-6402 PMP 2 IN AUTO	CIN	BAD	1
CP6053	3_SUMP_PUMP	PSP-6403 PMP 1 IN AUTO	CIN	BAD	1
CP6053	3_SUMP_PUMP	PSP-6404 PMP 2 IN AUTO	CIN	BAD	1
CP6053	3_SUMP_PUMP	PSP-6405 PMP 1 IN AUTO	CIN	BAD	1
CP6053	3_SUMP_PUMP	PSP-6406 PMP 2 IN AUTO	CIN	BAD	1
CP6053	3_SUMP_PUMP	PSP-6407 PMP 1 IN AUTO	CIN	BAD	1
CP6053	3_SUMP_PUMP	PSP-6408 PMP 2 IN AUTO	CIN	BAD	1
CP6053	ALUM	PA-6401 PMP 1A DSCHRG FLOW LO	CIN	STA	1
CP6053	ALUM	PA-6401 PMP 1A DSCHRG FLOW LO	CIN	BAD	1
CP6053	ALUM	PA-6402 PMP 2A DSCHRG FLOW LO	CIN	STA	1
CP6053	ALUM	PA-6402 PMP 2A DSCHRG FLOW LO	CIN	BAD	1
CP6053	ALUM	TNK-6402 NO. 1A ALUM LOW	CIN	BAD	2
CP6053	ALUM	TNK-6402 NO. 1A ALUM LOW	CIN	STA	2
CP6053	ALUM	TNK-6402 NO. 1A ALUM HIGH	CIN	STA	2
CP6053	ALUM	TNK-6402 NO. 1A ALUM HIGH	CIN	BAD	2
CP6053	ALUM	PA-6401 PMP 1A HI DSCHRG PRES	CIN	BAD	1
CP6053	ALUM	PA-6401 PMP 1A HI DSCHRG PRES	CIN	STA	1
CP6053	ALUM	PA-6402 PMP 2A HI DSCHRG PRES	CIN	BAD	1
CP6053	ALUM	PA-6402 PMP 2A HI DSCHRG PRES	CIN	STA	1
CP6053	ALUM	PA-6401 PMP 1A RUNNING	CIN	BAD	1
CP6053	ALUM	PA-6402 PMP 2A RUNNING	CIN	BAD	1
CP6053	ALUM	PA-6401 PMP 1A IN REMOTE	CIN	BAD	1
CP6053	ALUM	PA-6402 PMP 2A IN REMOTE	CIN	BAD	1
CP6053	CATI_POLYMER	BP-6401 NO. 1A MOTOR FAILED	CIN	BAD	1
CP6053	CATI_POLYMER	BP-6401 NO. 1A MOTOR FAILED	CIN	STA	1
CP6053	CATI_POLYMER	BP-6402 NO. 1B MOTOR FAILED	CIN	BAD	1
CP6053	CATI_POLYMER	BP-6402 NO. 1B MOTOR FAILED	CIN	STA	1
CP6053	CATI_POLYMER	BP-6401 NO. 1A RUNNING	CIN	BAD	1
CP6053	CATI_POLYMER	BP-6402 NO. 1B RUNNING	CIN	BAD	1
CP6053	CATI_POLYMER	BP-6401 NO. 1A IN REMOTE	CIN	BAD	1
CP6053	CATI_POLYMER	BP-6402 NO. 1B IN REMOTE	CIN	BAD	1
CP6053	CL2_CONTACT	GFE-6401 GATE MOTOR FAILED	CIN	STA	1
CP6053	CL2_CONTACT	GFE-6401 GATE MOTOR FAILED	CIN	BAD	1
CP6053	CL2_CONTACT	MCD-6402 MIXER 1 MOTOR FAILED	CIN	STA	1
CP6053	CL2_CONTACT	MCD-6402 MIXER 1 MOTOR FAILED	CIN	BAD	1
CP6053	CL2_CONTACT	MCD-6403 MIXER 1 MOTOR FAILED	CIN	BAD	1
CP6053	CL2_CONTACT	MCD-6403 MIXER 1 MOTOR FAILED	CIN	STA	1
CP6053	CL2_CONTACT	WATER CHAMP FAIL/STOPPED	CIN	STA	2
CP6053	CL2_CONTACT	WATER CHAMP FAIL/STOPPED	CIN	BAD	2
CP6053	CL2_CONTACT	MCD-6402 MIXER 1 RUNNING	CIN	BAD	1
CP6053	CL2_CONTACT	MCD-6403 MIXER 1 RUNNING	CIN	BAD	1
CP6053	CL2_CONTACT	WATER CHAMP RUNNING	CIN	BAD	2
CP6053	CL2_CONTACT	GFE-6401 GATE IN REMOTE	CIN	BAD	1
CP6053	CL2_CONTACT	GFE-6401 GATE OPENED	CIN	BAD	1
CP6053	CL2_CONTACT	GFE-6401 GATE FULLY CLOSED	CIN	BAD	1
CP6053	NA_BISULFITE	PSB-6401 PMP 1A DSCHRG FLOW LO	CIN	STA	1
CP6053	NA_BISULFITE	PSB-6401 PMP 1A DSCHRG FLOW LO	CIN	BAD	1
CP6053	NA_BISULFITE	PSB-6402 PMP 2A DSCHRG FLOW LO	CIN	STA	1
CP6053	NA_BISULFITE	PSB-6402 PMP 2A DSCHRG FLOW LO	CIN	BAD	1

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6053	NA_BISULFITE	PSB-6403 PMP 3A DSCHRG FLOW LO	CIN	BAD	1
CP6053	NA_BISULFITE	PSB-6403 PMP 3A DSCHRG FLOW LO	CIN	STA	1
CP6053	NA_BISULFITE	PSB-6404 PMP 4A DSCHRG FLOW LO	CIN	BAD	1
CP6053	NA_BISULFITE	PSB-6404 PMP 4A DSCHRG FLOW LO	CIN	STA	1
CP6053	NA_BISULFITE	TNK-6408 NO. 1A BISULFITE LOW	CIN	BAD	2
CP6053	NA_BISULFITE	TNK-6408 NO. 1A BISULFITE LOW	CIN	STA	2
CP6053	NA_BISULFITE	TNK-6408 NO. 1A BISULFITE HIGH	CIN	STA	1
CP6053	NA_BISULFITE	TNK-6408 NO. 1A BISULFITE HIGH	CIN	BAD	1
CP6053	NA_BISULFITE	TNK-6409 NO. 2A BISULFITE LOW	CIN	STA	2
CP6053	NA_BISULFITE	TNK-6409 NO. 2A BISULFITE LOW	CIN	BAD	2
CP6053	NA_BISULFITE	TNK-6409 NO. 2A BISULFITE HIGH	CIN	BAD	1
CP6053	NA_BISULFITE	TNK-6409 NO. 2A BISULFITE HIGH	CIN	STA	1
CP6053	NA_BISULFITE	PSB-6401 PMP 1A HI DSCHRG PRES	CIN	STA	1
CP6053	NA_BISULFITE	PSB-6401 PMP 1A HI DSCHRG PRES	CIN	BAD	1
CP6053	NA_BISULFITE	PSB-6402 PMP 2A HI DSCHRG PRES	CIN	STA	1
CP6053	NA_BISULFITE	PSB-6402 PMP 2A HI DSCHRG PRES	CIN	BAD	1
CP6053	NA_BISULFITE	PSB-6403 PMP 3A HI DSCHRG PRES	CIN	BAD	1
CP6053	NA_BISULFITE	PSB-6403 PMP 3A HI DSCHRG PRES	CIN	STA	1
CP6053	NA_BISULFITE	PSB-6404 PMP 4A HI DSCHRG PRES	CIN	STA	1
CP6053	NA_BISULFITE	PSB-6404 PMP 4A HI DSCHRG PRES	CIN	BAD	1
CP6053	NA_BISULFITE	PSB-6401 PMP 1A RUNNING	CIN	BAD	1
CP6053	NA_BISULFITE	PSB-6402 PMP 2A RUNNING	CIN	BAD	1
CP6053	NA_BISULFITE	PSB-6403 PMP 3A RUNNING	CIN	BAD	1
CP6053	NA_BISULFITE	PSB-6404 PMP 4A RUNNING	CIN	BAD	1
CP6053	NA_BISULFITE	PSB-6401 PMP 1A IN REMOTE	CIN	BAD	1
CP6053	NA_BISULFITE	PSB-6402 PMP 2A IN REMOTE	CIN	BAD	1
CP6053	NA_BISULFITE	PSB-6403 PMP 3A IN REMOTE	CIN	BAD	1
CP6053	NA_BISULFITE	PSB-6404 PMP 4A IN REMOTE	CIN	BAD	1
CP6053	NAOCL	PSH-6401 PMP 1A DSCHRG FLOW LO	CIN	STA	1
CP6053	NAOCL	PSH-6401 PMP 1A DSCHRG FLOW LO	CIN	BAD	1
CP6053	NAOCL	PSH-6402 PMP 2A DSCHRG FLOW LO	CIN	BAD	1
CP6053	NAOCL	PSH-6402 PMP 2A DSCHRG FLOW LO	CIN	STA	1
CP6053	NAOCL	PSH-6405 PMP 1B DSCHRG FLOW LO	CIN	BAD	1
CP6053	NAOCL	PSH-6405 PMP 1B DSCHRG FLOW LO	CIN	STA	1
CP6053	NAOCL	PSH-6406 PMP 2B DSCHRG FLOW LO	CIN	STA	1
CP6053	NAOCL	PSH-6406 PMP 2B DSCHRG FLOW LO	CIN	BAD	1
CP6053	NAOCL	PSH-6407 PMP 3B DSCHRG FLOW LO	CIN	STA	1
CP6053	NAOCL	PSH-6407 PMP 3B DSCHRG FLOW LO	CIN	BAD	1
CP6053	NAOCL	PSH-6408 PMP 4B DSCHRG FLOW LO	CIN	STA	1
CP6053	NAOCL	PSH-6408 PMP 4B DSCHRG FLOW LO	CIN	BAD	1
CP6053	NAOCL	PSH-6409 PMP 5B DSCHRG FLOW LO	CIN	STA	1
CP6053	NAOCL	PSH-6409 PMP 5B DSCHRG FLOW LO	CIN	BAD	1
CP6053	NAOCL	PSH-6412 PMP 3C DSCHRG FLOW LO	CIN	BAD	1
CP6053	NAOCL	PSH-6412 PMP 3C DSCHRG FLOW LO	CIN	STA	1
CP6053	NAOCL	PSH-6413 PMP 4C DSCHRG FLOW LO	CIN	STA	1
CP6053	NAOCL	PSH-6413 PMP 4C DSCHRG FLOW LO	CIN	BAD	1
CP6053	NAOCL	TNK-6404 NO. 1A NAOCL HIGH	CIN	BAD	1
CP6053	NAOCL	TNK-6404 NO. 1A NAOCL HIGH	CIN	STA	1
CP6053	NAOCL	TNK-6404 NO. 1A NAOCL LOW	CIN	BAD	2
CP6053	NAOCL	TNK-6404 NO. 1A NAOCL LOW	CIN	STA	2
CP6053	NAOCL	TNK-6403 NO. 2A NAOCL HIGH	CIN	STA	1
CP6053	NAOCL	TNK-6403 NO. 2A NAOCL HIGH	CIN	BAD	1
CP6053	NAOCL	TNK-6403 NO. 2A NAOCL LOW	CIN	STA	1

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6053	NAOCL	TNK-6403 NO. 2A NAOCL LOW	CIN	BAD	1
CP6053	NAOCL	TNK-6406 NO. 1B NAOCL HIGH	CIN	STA	1
CP6053	NAOCL	TNK-6406 NO. 1B NAOCL HIGH	CIN	BAD	1
CP6053	NAOCL	TNK-6406 NO. 1B NAOCL LOW	CIN	BAD	2
CP6053	NAOCL	TNK-6406 NO. 1B NAOCL LOW	CIN	STA	2
CP6053	NAOCL	TNK-6407 NO. 2B NAOCL HIGH	CIN	BAD	1
CP6053	NAOCL	TNK-6407 NO. 2B NAOCL HIGH	CIN	STA	1
CP6053	NAOCL	TNK-6407 NO. 2B NAOCL LOW	CIN	BAD	2
CP6053	NAOCL	TNK-6407 NO. 2B NAOCL LOW	CIN	STA	2
CP6053	NAOCL	PSH-6401 PMP 1A HI DSCHRG PRES	CIN	STA	1
CP6053	NAOCL	PSH-6401 PMP 1A HI DSCHRG PRES	CIN	BAD	1
CP6053	NAOCL	PSH-6402 PMP 2A HI DSCHRG PRES	CIN	STA	1
CP6053	NAOCL	PSH-6402 PMP 2A HI DSCHRG PRES	CIN	BAD	1
CP6053	NAOCL	PSH-6405 PMP 1B HI DSCHRG PRES	CIN	BAD	1
CP6053	NAOCL	PSH-6405 PMP 1B HI DSCHRG PRES	CIN	STA	1
CP6053	NAOCL	PSH-6406 PMP 2B HI DSCHRG PRES	CIN	STA	1
CP6053	NAOCL	PSH-6406 PMP 2B HI DSCHRG PRES	CIN	BAD	1
CP6053	NAOCL	PSH-6407 PMP 3B HI DSCHRG PRES	CIN	STA	1
CP6053	NAOCL	PSH-6407 PMP 3B HI DSCHRG PRES	CIN	BAD	1
CP6053	NAOCL	PSH-6408 PMP 4B HI DSCHRG PRES	CIN	BAD	1
CP6053	NAOCL	PSH-6408 PMP 4B HI DSCHRG PRES	CIN	STA	1
CP6053	NAOCL	PSH-6409 PMP 5B HI DSCHRG PRES	CIN	BAD	1
CP6053	NAOCL	PSH-6409 PMP 5B HI DSCHRG PRES	CIN	STA	1
CP6053	NAOCL	PSH-6412 PMP 3C HI DSCHRG PRES	CIN	STA	1
CP6053	NAOCL	PSH-6412 PMP 3C HI DSCHRG PRES	CIN	BAD	1
CP6053	NAOCL	PSH-6413 PMP 4C HI DSCHRG PRES	CIN	BAD	1
CP6053	NAOCL	PSH-6413 PMP 4C HI DSCHRG PRES	CIN	STA	1
CP6053	NAOCL	PSH-6401 PMP 1A RUNNING	CIN	BAD	1
CP6053	NAOCL	PSH-6402 PMP 2A RUNNING	CIN	BAD	1
CP6053	NAOCL	PSH-6405 PMP 1B RUNNING	CIN	BAD	1
CP6053	NAOCL	PSH-6406 PMP 2B RUNNING	CIN	BAD	1
CP6053	NAOCL	PSH-6407 PMP 3B RUNNING	CIN	BAD	1
CP6053	NAOCL	PSH-6408 PMP 4B RUNNING	CIN	BAD	1
CP6053	NAOCL	PSH-6409 PMP 5B RUNNING	CIN	BAD	1
CP6053	NAOCL	PSH-6412 PMP 3C RUNNING	CIN	BAD	1
CP6053	NAOCL	PSH-6413 PMP 4C RUNNING	CIN	BAD	1
CP6053	NAOCL	PSH-6401 PMP 1A IN REMOTE	CIN	BAD	1
CP6053	NAOCL	PSH-6402 PMP 2A IN REMOTE	CIN	BAD	1
CP6053	NAOCL	PSH-6405 PMP 1B IN REMOTE	CIN	BAD	1
CP6053	NAOCL	PSH-6406 PMP 2B IN REMOTE	CIN	BAD	1
CP6053	NAOCL	PSH-6407 PMP 3B IN REMOTE	CIN	BAD	1
CP6053	NAOCL	PSH-6408 PMP 4B IN REMOTE	CIN	BAD	1
CP6053	NAOCL	PSH-6409 PMP 5B IN REMOTE	CIN	BAD	1
CP6053	NAOCL	PSH-6412 PMP 3C IN REMOTE	CIN	BAD	1
CP6053	NAOCL	PSH-6413 PMP 4C IN REMOTE	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6401 FLTR 2A1 MOTOR FAILED	CIN	STA	1
CP6053	TER_FILTERS	VFF-6401 FLTR 2A1 MOTOR FAILED	CIN	BAD	1
CP6053	TER_FILTERS	PRE-6401 PMP 1 MOTOR FAILED	CIN	BAD	2
CP6053	TER_FILTERS	PRE-6401 PMP 1 MOTOR FAILED	CIN	STA	2
CP6053	TER_FILTERS	VFF-6402 FLTR 2A MOTOR FAILED	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6402 FLTR 2A MOTOR FAILED	CIN	STA	1
CP6053	TER_FILTERS	PRE-6402 PMP 2 MOTOR FAILED	CIN	BAD	1
CP6053	TER_FILTERS	PRE-6402 PMP 2 MOTOR FAILED	CIN	STA	1

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6053	TER_FILTERS	MF-6402 MIXER 2 MOTOR FAILED	CIN	STA	1
CP6053	TER_FILTERS	MF-6402 MIXER 2 MOTOR FAILED	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6403 FLTR 2A3 MOTOR FAILED	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6403 FLTR 2A3 MOTOR FAILED	CIN	STA	1
CP6053	TER_FILTERS	PRE-6403 PMP 3 MOTOR FAILED	CIN	STA	1
CP6053	TER_FILTERS	PRE-6403 PMP 3 MOTOR FAILED	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6404 FLTR 2A4 MOTOR FAILED	CIN	STA	1
CP6053	TER_FILTERS	VFF-6404 FLTR 2A4 MOTOR FAILED	CIN	BAD	1
CP6053	TER_FILTERS	FLO-6405 NO. 2A MOTOR FAILED	CIN	BAD	1
CP6053	TER_FILTERS	FLO-6405 NO. 2A MOTOR FAILED	CIN	STA	1
CP6053	TER_FILTERS	FLO-6405 NO. 2A VFD FAILED	CIN	BAD	1
CP6053	TER_FILTERS	FLO-6405 NO. 2A VFD FAILED	CIN	STA	1
CP6053	TER_FILTERS	FLO-6406 NO. 2B MOTOR FAILED	CIN	BAD	1
CP6053	TER_FILTERS	FLO-6406 NO. 2B MOTOR FAILED	CIN	STA	1
CP6053	TER_FILTERS	FLO-6406 NO. 2B VFD FAILED	CIN	STA	1
CP6053	TER_FILTERS	FLO-6406 NO. 2B VFD FAILED	CIN	BAD	1
CP6053	TER_FILTERS	FLO-6407 NO. 2C MOTOR FAILED	CIN	BAD	1
CP6053	TER_FILTERS	FLO-6407 NO. 2C MOTOR FAILED	CIN	STA	1
CP6053	TER_FILTERS	FLO-6407 NO. 2C VFD FAILED	CIN	BAD	1
CP6053	TER_FILTERS	FLO-6407 NO. 2C VFD FAILED	CIN	STA	1
CP6053	TER_FILTERS	FLO-6408 NO. 2D MOTOR FAILED	CIN	STA	1
CP6053	TER_FILTERS	FLO-6408 NO. 2D MOTOR FAILED	CIN	BAD	1
CP6053	TER_FILTERS	FLO-6408 NO. 2D VFD FAILED	CIN	STA	1
CP6053	TER_FILTERS	FLO-6408 NO. 2D VFD FAILED	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6415 FLTR 2B MOTOR FAILED	CIN	STA	1
CP6053	TER_FILTERS	VFF-6415 FLTR 2B MOTOR FAILED	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6416 FLTR 2B MOTOR FAILED	CIN	STA	1
CP6053	TER_FILTERS	VFF-6416 FLTR 2B MOTOR FAILED	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6417 FLTR 2B MOTOR FAILED	CIN	STA	1
CP6053	TER_FILTERS	VFF-6417 FLTR 2B MOTOR FAILED	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6418 FLTR 2B MOTOR FAILED	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6418 FLTR 2B MOTOR FAILED	CIN	STA	1
CP6053	TER_FILTERS	VFF-6419 FLTR 2C MOTOR FAILED	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6419 FLTR 2C MOTOR FAILED	CIN	STA	1
CP6053	TER_FILTERS	VFF-6420 FLTR 2C MOTOR FAILED	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6420 FLTR 2C MOTOR FAILED	CIN	STA	1
CP6053	TER_FILTERS	VFF-6421 FLTR 2C MOTOR FAILED	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6421 FLTR 2C MOTOR FAILED	CIN	STA	1
CP6053	TER_FILTERS	VFF-6422 FLTR 2C MOTOR FAILED	CIN	STA	1
CP6053	TER_FILTERS	VFF-6422 FLTR 2C MOTOR FAILED	CIN	BAD	1
CP6053	TER_FILTERS	PRE-6401 PMP 1 IN REMOTE	CIN	BAD	1
CP6053	TER_FILTERS	PRE-6402 PMP 2 IN REMOTE	CIN	BAD	1
CP6053	TER_FILTERS	PRE-6403 PMP 3 IN REMOTE	CIN	BAD	1
CP6053	TER_FILTERS	FLOCCULATOR BASIN HIGH LEVEL	CIN	BAD	1
CP6053	TER_FILTERS	FLOCCULATOR BASIN HIGH LEVEL	CIN	STA	1
CP6053	TER_FILTERS	FILTER RECYCLE WETWELL LO-LO	CIN	STA	2
CP6053	TER_FILTERS	FILTER RECYCLE WETWELL LO-LO	CIN	BAD	2
CP6053	TER_FILTERS	FILTER RECYCLE WETWELL HIGH	CIN	BAD	2
CP6053	TER_FILTERS	FILTER RECYCLE WETWELL HIGH	CIN	STA	2
CP6053	TER_FILTERS	MF-6402 MIXER 2 HIGH TEMP	CIN	BAD	1
CP6053	TER_FILTERS	MF-6402 MIXER 2 HIGH TEMP	CIN	STA	1
CP6053	TER_FILTERS	PRE-6401 PMP 1 RUNNING	CIN	BAD	1
CP6053	TER_FILTERS	MF-6402 MIXER 2 RUNNING	CIN	BAD	1

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6053	TER_FILTERS	PRE-6402 PMP 2 RUNNING	CIN	BAD	1
CP6053	TER_FILTERS	PRE-6403 PMP 3 RUNNING	CIN	BAD	1
CP6053	TER_FILTERS	FLO-6405 NO. 2A RUNNING	CIN	BAD	1
CP6053	TER_FILTERS	FLO-6406 NO. 2B RUNNING	CIN	BAD	1
CP6053	TER_FILTERS	FLO-6407 NO. 2C RUNNING	CIN	BAD	1
CP6053	TER_FILTERS	FLO-6408 NO. 2D RUNNING	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6401 FLTR 2A1 IN REMOTE	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6402 FLTR 2A2 IN REMOTE	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6403 FLTR 2A3 IN REMOTE	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6404 FLTR 2A4 IN REMOTE	CIN	BAD	1
CP6053	TER_FILTERS	FLO-6405 NO. 2A IN REMOTE	CIN	BAD	1
CP6053	TER_FILTERS	FLO-6406 NO. 2B IN REMOTE	CIN	BAD	1
CP6053	TER_FILTERS	FLO-6407 NO. 2C IN REMOTE	CIN	BAD	1
CP6053	TER_FILTERS	FLO-6408 NO. 2D IN REMOTE	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6415 FLTR 2B IN REMOTE	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6416 FLTR 2B IN REMOTE	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6417 FLTR 2B IN REMOTE	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6418 FLTR 2B IN REMOTE	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6419 FLTR 2C IN REMOTE	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6420 FLTR 2C IN REMOTE	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6421 FLTR 2C IN REMOTE	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6422 FLTR 2C IN REMOTE	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6401 FLTR 2A1 FULLY OPENED	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6402 FLTR 2A2 FULLY OPENED	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6403 FLTR 2A3 FULLY OPENED	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6404 FLTR 2A4 FULLY OPENED	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6415 FLTR 2B FULLY OPENED	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6416 FLTR 2B FULLY OPENED	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6417 FLTR 2B FULLY OPENED	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6418 FLTR 2B FULLY OPENED	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6419 FLTR 2C FULLY OPENED	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6420 FLTR 2C FULLY OPENED	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6421 FLTR 2C FULLY OPENED	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6422 FLTR 2C FULLY OPENED	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6401 FLTR 2A1 FULLY CLOSED	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6402 FLTR 2A2 FULLY CLOSED	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6403 FLTR 2A3 FULLY CLOSED	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6404 FLTR 2A4 FULLY CLOSED	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6415 FLTR 2B FULLY CLOSED	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6416 FLTR 2B FULLY CLOSED	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6417 FLTR 2B FULLY CLOSED	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6418 FLTR 2B FULLY CLOSED	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6419 FLTR 2C FULLY CLOSED	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6420 FLTR 2C FULLY CLOSED	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6421 FLTR 2C FULLY CLOSED	CIN	BAD	1
CP6053	TER_FILTERS	VFF-6422 FLTR 2C FULLY CLOSED	CIN	BAD	1
CP6053	WATER_PUMPS	PSW-6401 PMP 1 MOTOR FAILED	CIN	BAD	1
CP6053	WATER_PUMPS	PSW-6401 PMP 1 MOTOR FAILED	CIN	STA	1
CP6053	WATER_PUMPS	PSW-6401 PMP 1 VFD FAILED	CIN	BAD	1
CP6053	WATER_PUMPS	PSW-6401 PMP 1 VFD FAILED	CIN	STA	1
CP6053	WATER_PUMPS	PSW-6402 PMP 2 MOTOR FAILED	CIN	STA	1
CP6053	WATER_PUMPS	PSW-6402 PMP 2 MOTOR FAILED	CIN	BAD	1
CP6053	WATER_PUMPS	PSW-6402 PMP 2 VFD FAILED	CIN	BAD	1

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6053	WATER_PUMPS	PSW-6402 PMP 2 VFD FAILED	CIN	STA	1
CP6053	WATER_PUMPS	PSW-6403 PMP 3 MOTOR FAILED	CIN	STA	1
CP6053	WATER_PUMPS	PSW-6403 PMP 3 MOTOR FAILED	CIN	BAD	1
CP6053	WATER_PUMPS	PSW-6403 PMP 3 VFD FAILED	CIN	STA	1
CP6053	WATER_PUMPS	PSW-6403 PMP 3 VFD FAILED	CIN	BAD	1
CP6053	WATER_PUMPS	PSW-6404 PMP 4 MOTOR FAILED	CIN	BAD	1
CP6053	WATER_PUMPS	PSW-6404 PMP 4 MOTOR FAILED	CIN	STA	1
CP6053	WATER_PUMPS	PSW-6404 PMP 4 VFD FAILED	CIN	BAD	1
CP6053	WATER_PUMPS	PSW-6404 PMP 4 VFD FAILED	CIN	STA	1
CP6053	WATER_PUMPS	PSW-6405 PMP 5 MOTOR FAILED	CIN	STA	1
CP6053	WATER_PUMPS	PSW-6405 PMP 5 MOTOR FAILED	CIN	BAD	1
CP6053	WATER_PUMPS	PSW-6405 PMP 5 VFD FAILED	CIN	STA	1
CP6053	WATER_PUMPS	PSW-6405 PMP 5 VFD FAILED	CIN	BAD	1
CP6053	WATER_PUMPS	PUMP SERVICE WTR LOW LEVEL	CIN	STA	1
CP6053	WATER_PUMPS	PUMP SERVICE WTR LOW LEVEL	CIN	BAD	1
CP6053	WATER_PUMPS	PUMP SERVICE WTR HIGH LEVEL	CIN	BAD	1
CP6053	WATER_PUMPS	PUMP SERVICE WTR HIGH LEVEL	CIN	STA	1
CP6053	WATER_PUMPS	PSW-6401 PMP 1 RUNNING	CIN	BAD	1
CP6053	WATER_PUMPS	PSW-6402 PMP 2 RUNNING	CIN	BAD	1
CP6053	WATER_PUMPS	PSW-6403 PMP 3 RUNNING	CIN	BAD	1
CP6053	WATER_PUMPS	PSW-6404 PMP 4 RUNNING	CIN	BAD	1
CP6053	WATER_PUMPS	PSW-6405 PMP 5 RUNNING	CIN	BAD	1
CP6053	WATER_PUMPS	PSW-6401 PMP 1 IN REMOTE	CIN	BAD	1
CP6053	WATER_PUMPS	PSW-6402 PMP 2 IN REMOTE	CIN	BAD	1
CP6053	WATER_PUMPS	PSW-6403 PMP 3 IN REMOTE	CIN	BAD	1
CP6053	WATER_PUMPS	PSW-6404 PMP 4 IN REMOTE	CIN	BAD	1
CP6053	WATER_PUMPS	PSW-6405 PMP 5 IN REMOTE	CIN	BAD	1
ABST51	AB_BAR_SCRN2	BAR SCREEN 1C START/STOP	COUT	BAD	5
CP6051	FE_CHLORIDE	PF-6024 PMP 4 LOW LEVEL S/D	COUT	BAD	1
CP6051	FE_CHLORIDE	PF-6025 PMP 5 LOW LEVEL S/D	COUT	BAD	1
CP6051	GRIT_PUMPS	GRIT PUMP 2 PRESSRESET	COUT	BAD	1
CP6051	GRIT_PUMPS	GRIT PUMP 2 PRESSRESET	COUT	BAD	1
CP6051	GRIT_PUMPS	GRIT PUMP 3 PRESSRESET	COUT	BAD	1
CP6051	GRIT_PUMPS	GRIT PUMP 3 PRESSRESET	COUT	BAD	1
CP6051	INFLUENT	IPS PMP 2 PRESS RESET	COUT	BAD	1
CP6051	INFLUENT	IPS PMP 3 PRESS RESET	COUT	BAD	1
CP6051	INFLUENT	IPS PMP 4 PRESS RESET	COUT	BAD	1
CP6053	ALUM	TNK-6402 NO. 1A LO S/D JPA6401	COUT	BAD	1
CP6053	ALUM	TNK-6402 NO. 1A LO S/D JPA6402	COUT	BAD	1
ABST51	AB_BAR_SCRN1	BAR SCREEN 1B START/STOP	GDEV	BAD	1
ABST51	AB_BAR_SCRN1	BAR SCREEN 1B START/STOP	GDEV	STA	1
ABST51	AB_BAR_SCRN2	BAR SCREEN 1C START/STOP	GDEV	BAD	1
ABST51	AB_BAR_SCRN2	BAR SCREEN 1C START/STOP	GDEV	STA	1
CP6051	1_CLARIFIERS	GK-6021 AB INLET GATE CLOSED	GDEV	BAD	1
CP6051	1_CLARIFIERS	GK-6021 AB INLET GATE CLOSED	GDEV	STA	1
CP6051	DEWATERING	GRIT WASHER 1 START/STOP	GDEV	STA	2
CP6051	DEWATERING	GRIT WASHER 1 START/STOP	GDEV	BAD	2
CP6051	DEWATERING	GRIT WASHER 2 START/STOP	GDEV	BAD	2
CP6051	DEWATERING	GRIT WASHER 2 START/STOP	GDEV	STA	2
CP6051	ES_PUMPS	PES-6021 PMP 1 START/STOP	GDEV	BAD	2
CP6051	ES_PUMPS	PES-6021 PMP 1 START/STOP	GDEV	STA	2
CP6051	ES_PUMPS	PES-6022 PMP 2 START/STOP	GDEV	BAD	2
CP6051	ES_PUMPS	PES-6022 PMP 2 START/STOP	GDEV	STA	2

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6051	ES_PUMPS	PES-6023 PMP 3 START/STOP	GDEV	STA	2
CP6051	ES_PUMPS	PES-6023 PMP 3 START/STOP	GDEV	BAD	2
CP6051	FE_CHLORIDE	PF-6024 PMP 4 START/STOP	GDEV	STA	2
CP6051	FE_CHLORIDE	PF-6024 PMP 4 START/STOP	GDEV	BAD	2
CP6051	FE_CHLORIDE	PF-6025 PMP 5 START/STOP	GDEV	BAD	2
CP6051	FE_CHLORIDE	PF-6025 PMP 5 START/STOP	GDEV	STA	2
CP6051	GRIT_PUMPS	GRIT PUMP 2 START/STOP	GDEV	BAD	2
CP6051	GRIT_PUMPS	GRIT PUMP 2 START/STOP	GDEV	STA	2
CP6051	GRIT_PUMPS	GRIT PUMP 3 START/STOP	GDEV	STA	2
CP6051	GRIT_PUMPS	GRIT PUMP 3 START/STOP	GDEV	BAD	2
CP6051	GRIT_PUMPS	FLUFF WATER VALVE	GDEV	BAD	2
CP6051	GRIT_PUMPS	FLUFF WATER VALVE	GDEV	STA	2
CP6051	GRIT_PUMPS	FLUFF WATER VALVE	GDEV	BAD	2
CP6051	GRIT_PUMPS	FLUFF WATER VALVE	GDEV	STA	2
CP6051	HEADWORKS	BS INLET GATE 1A	GDEV	STA	1
CP6051	HEADWORKS	BS INLET GATE 1A	GDEV	BAD	1
CP6051	HEADWORKS	BS OUTLET GATE 1A	GDEV	BAD	1
CP6051	HEADWORKS	BS OUTLET GATE 1A	GDEV	STA	1
CP6051	HEADWORKS	BS INLET GATE 1B	GDEV	STA	1
CP6051	HEADWORKS	BS INLET GATE 1B	GDEV	BAD	1
CP6051	HEADWORKS	BS OUTLET GATE 1B	GDEV	STA	1
CP6051	HEADWORKS	BS OUTLET GATE 1B	GDEV	BAD	1
CP6051	HEADWORKS	BS INLET GATE 1C	GDEV	STA	1
CP6051	HEADWORKS	BS INLET GATE 1C	GDEV	BAD	1
CP6051	HEADWORKS	BS OUTLET GATE 1C	GDEV	STA	1
CP6051	HEADWORKS	BS OUTLET GATE 1C	GDEV	BAD	1
CP6051	INFLUENT	IPS PMP 2 START/STOP	GDEV	STA	1
CP6051	INFLUENT	IPS PMP 2 START/STOP	GDEV	BAD	1
CP6051	INFLUENT	IPS PMP 3 START/STOP	GDEV	BAD	1
CP6051	INFLUENT	IPS PMP 3 START/STOP	GDEV	STA	1
CP6051	INFLUENT	IPS PMP 4 START/STOP	GDEV	STA	1
CP6051	INFLUENT	IPS PMP 4 START/STOP	GDEV	BAD	1
CP6051	POLYMER	BP-6021 NO. 1A START/STOP	GDEV	BAD	2
CP6051	POLYMER	BP-6021 NO. 1A START/STOP	GDEV	STA	2
CP6051	POLYMER	VCF-6021 POLYMER FULLY CLOSED	GDEV	STA	1
CP6051	POLYMER	VCF-6021 POLYMER FULLY CLOSED	GDEV	BAD	1
CP6051	POLYMER	BP-6022 NO. 1B START/STOP	GDEV	STA	1
CP6051	POLYMER	BP-6022 NO. 1B START/STOP	GDEV	BAD	1
CP6051	POLYMER	VCF-6022 POLYMER FULLY CLOSED	GDEV	STA	1
CP6051	POLYMER	VCF-6022 POLYMER FULLY CLOSED	GDEV	BAD	1
CP6051	SCREENINGS	SCREENINGS CONVYR START/STOP	GDEV	BAD	1
CP6051	SCREENINGS	SCREENINGS CONVYR START/STOP	GDEV	STA	1
CP6051	SCREENINGS	WASH WATER FEED	GDEV	STA	1
CP6051	SCREENINGS	WASH WATER FEED	GDEV	BAD	1
CP6051	SLUDGE_PUMPS	MPS-6022 MIXER START/STOP	GDEV	STA	2
CP6051	SLUDGE_PUMPS	MPS-6022 MIXER START/STOP	GDEV	BAD	2
CP6051	SLUDGE_PUMPS	GSC-6022 GRINDER START/STOP	GDEV	STA	1
CP6051	SLUDGE_PUMPS	GSC-6022 GRINDER START/STOP	GDEV	BAD	1
CP6051	SLUDGE_PUMPS	VP-6023 DSCHRG	GDEV	STA	1
CP6051	SLUDGE_PUMPS	VP-6023 DSCHRG	GDEV	BAD	1
CP6051	SLUDGE_PUMPS	PSM-6023 PMP 3 START/STOP	GDEV	STA	1
CP6051	SLUDGE_PUMPS	PSM-6023 PMP 3 START/STOP	GDEV	BAD	1
CP6051	SLUDGE_PUMPS	VPS-6024 DSCHRG	GDEV	STA	1

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6051	SLUDGE_PUMPS	VPS-6024 DSCHRG	GDEV	BAD	1
CP6051	SLUDGE_PUMPS	PPS-6024 PMP 4 START/STOP	GDEV	BAD	1
CP6051	SLUDGE_PUMPS	PPS-6024 PMP 4 START/STOP	GDEV	STA	1
CP6051	SLUDGE_PUMPS	VP-6024 DSCHRG	GDEV	STA	1
CP6051	SLUDGE_PUMPS	VP-6024 DSCHRG	GDEV	BAD	1
CP6051	SLUDGE_PUMPS	GS-6024 GRINDER 4 START/STOP	GDEV	BAD	1
CP6051	SLUDGE_PUMPS	GS-6024 GRINDER 4 START/STOP	GDEV	STA	1
CP6051	SLUDGE_PUMPS	PSM-6024 PMP 4 START/STOP	GDEV	BAD	1
CP6051	SLUDGE_PUMPS	PSM-6024 PMP 4 START/STOP	GDEV	STA	1
CP6051	SLUDGE_PUMPS	VPS-6025 DSCHRG	GDEV	STA	1
CP6051	SLUDGE_PUMPS	VPS-6025 DSCHRG	GDEV	BAD	1
CP6051	SLUDGE_PUMPS	PPS-6025 PMP 5 START/STOP	GDEV	STA	1
CP6051	SLUDGE_PUMPS	PPS-6025 PMP 5 START/STOP	GDEV	BAD	1
CP6051	SLUDGE_PUMPS	GS-6025 GRINDER 5 START/STOP	GDEV	STA	1
CP6051	SLUDGE_PUMPS	GS-6025 GRINDER 5 START/STOP	GDEV	BAD	1
CP6051	SLUDGE_PUMPS	VPS-6026 DSCHRG FULLY CLOSED	GDEV	BAD	1
CP6051	SLUDGE_PUMPS	VPS-6026 DSCHRG FULLY CLOSED	GDEV	STA	1
CP6051	SLUDGE_PUMPS	PPS-6026 PMP 6 START/STOP	GDEV	BAD	1
CP6051	SLUDGE_PUMPS	PPS-6026 PMP 6 START/STOP	GDEV	STA	1
CP6051	SLUDGE_PUMPS	GS-6026 GRINDER 6 START/STOP	GDEV	STA	1
CP6051	SLUDGE_PUMPS	GS-6026 GRINDER 6 START/STOP	GDEV	BAD	1
CP6052	AER_BASIN	PML PMP 3 MOTOR START/STOP	GDEV	STA	1
CP6052	AER_BASIN	PML PMP 3 MOTOR START/STOP	GDEV	BAD	1
CP6052	AER_BASIN	PML PMP 4 MOTOR START/STOP	GDEV	BAD	1
CP6052	AER_BASIN	PML PMP 4 MOTOR START/STOP	GDEV	STA	1
CP6052	RAS_PUMPS	PRS-6056 PMP 6 START/STOP	GDEV	STA	2
CP6052	RAS_PUMPS	PRS-6056 PMP 6 START/STOP	GDEV	BAD	2
CP6052	RAS_PUMPS	PRS-6057 PMP 7 START/STOP	GDEV	BAD	1
CP6052	RAS_PUMPS	PRS-6057 PMP 7 START/STOP	GDEV	STA	1
CP6052	RAS_PUMPS	PRS-6058 PMP 8 START/STOP	GDEV	BAD	2
CP6052	RAS_PUMPS	PRS-6058 PMP 8 START/STOP	GDEV	STA	2
CP6052	RAS_PUMPS	PRS-6069 PMP 9 START/STOP	GDEV	BAD	1
CP6052	RAS_PUMPS	PRS-6069 PMP 9 START/STOP	GDEV	STA	1
CP6052	RAS_PUMPS	PRS-6060 PMP 10 START/STOP	GDEV	BAD	1
CP6052	RAS_PUMPS	PRS-6060 PMP 10 START/STOP	GDEV	STA	1
CP6052	WAS_PUMPS	PWS-6053 PMP 3 START/STOP	GDEV	BAD	1
CP6052	WAS_PUMPS	PWS-6053 PMP 3 START/STOP	GDEV	STA	1
CP6052	WAS_PUMPS	PWS-6054 PMP 4 START/STOP	GDEV	STA	1
CP6052	WAS_PUMPS	PWS-6054 PMP 4 START/STOP	GDEV	BAD	1
CP6053	ALUM	PA-6401 PMP 1A START/STOP	GDEV	BAD	1
CP6053	ALUM	PA-6401 PMP 1A START/STOP	GDEV	STA	1
CP6053	ALUM	PA-6402 PMP 2A START/STOP	GDEV	BAD	1
CP6053	ALUM	PA-6402 PMP 2A START/STOP	GDEV	STA	1
CP6053	CATI_POLYMER	BP-6401 NO. 1A START/STOP	GDEV	STA	2
CP6053	CATI_POLYMER	BP-6401 NO. 1A START/STOP	GDEV	BAD	2
CP6053	CATI_POLYMER	BP-6402 NO. 1B START/STOP	GDEV	STA	2
CP6053	CATI_POLYMER	BP-6402 NO. 1B START/STOP	GDEV	BAD	2
CP6053	CL2_CONTACT	GFE-6401 GATE OPENED/CLOSED	GDEV	STA	2
CP6053	CL2_CONTACT	GFE-6401 GATE OPENED/CLOSED	GDEV	BAD	2
CP6053	CL2_CONTACT	MCD-6402 MIXER 1 START/STOP	GDEV	BAD	1
CP6053	CL2_CONTACT	MCD-6402 MIXER 1 START/STOP	GDEV	STA	1
CP6053	CL2_CONTACT	MCD-6403 MIXER 1 START/STOP	GDEV	STA	1
CP6053	CL2_CONTACT	MCD-6403 MIXER 1 START/STOP	GDEV	BAD	1

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6053	NA_BISULFITE	PSB-6401 PMP 1A START/STOP	GDEV	BAD	1
CP6053	NA_BISULFITE	PSB-6401 PMP 1A START/STOP	GDEV	STA	1
CP6053	NA_BISULFITE	PSB-6402 PMP 2A START/STOP	GDEV	STA	1
CP6053	NA_BISULFITE	PSB-6402 PMP 2A START/STOP	GDEV	BAD	1
CP6053	NA_BISULFITE	PSB-6403 PMP 3A START/STOP	GDEV	STA	1
CP6053	NA_BISULFITE	PSB-6403 PMP 3A START/STOP	GDEV	BAD	1
CP6053	NA_BISULFITE	PSB-6404 PMP 4A START/STOP	GDEV	BAD	1
CP6053	NA_BISULFITE	PSB-6404 PMP 4A START/STOP	GDEV	STA	1
CP6053	NAOCL	PSH-6401 PMP 1A START/STOP	GDEV	BAD	1
CP6053	NAOCL	PSH-6401 PMP 1A START/STOP	GDEV	STA	1
CP6053	NAOCL	PSH-6402 PMP 2A START/STOP	GDEV	BAD	1
CP6053	NAOCL	PSH-6402 PMP 2A START/STOP	GDEV	STA	1
CP6053	NAOCL	PSH-6405 PMP 1B START/STOP	GDEV	STA	1
CP6053	NAOCL	PSH-6405 PMP 1B START/STOP	GDEV	BAD	1
CP6053	NAOCL	PSH-6406 PMP 2B START/STOP	GDEV	STA	1
CP6053	NAOCL	PSH-6406 PMP 2B START/STOP	GDEV	BAD	1
CP6053	NAOCL	PSH-6407 PMP 3B START/STOP	GDEV	BAD	1
CP6053	NAOCL	PSH-6407 PMP 3B START/STOP	GDEV	STA	1
CP6053	NAOCL	PSH-6408 PMP 4B START/STOP	GDEV	BAD	1
CP6053	NAOCL	PSH-6408 PMP 4B START/STOP	GDEV	STA	1
CP6053	NAOCL	PSH-6409 PMP 5B START/STOP	GDEV	STA	1
CP6053	NAOCL	PSH-6409 PMP 5B START/STOP	GDEV	BAD	1
CP6053	NAOCL	PSH-6412 PMP 3C START/STOP	GDEV	STA	1
CP6053	NAOCL	PSH-6412 PMP 3C START/STOP	GDEV	BAD	1
CP6053	NAOCL	PSH-6413 PMP 4C START/STOP	GDEV	BAD	1
CP6053	NAOCL	PSH-6413 PMP 4C START/STOP	GDEV	STA	1
CP6053	TER_FILTERS	VFF-6401 FLTR 2A1	GDEV	STA	1
CP6053	TER_FILTERS	VFF-6401 FLTR 2A1	GDEV	BAD	1
CP6053	TER_FILTERS	PRE-6401 PMP 1 START/STOP	GDEV	BAD	2
CP6053	TER_FILTERS	PRE-6401 PMP 1 START/STOP	GDEV	STA	2
CP6053	TER_FILTERS	VFF-6402 FLTR 2A2	GDEV	BAD	1
CP6053	TER_FILTERS	VFF-6402 FLTR 2A2	GDEV	STA	1
CP6053	TER_FILTERS	PRE-6402 PMP 2 START/STOP	GDEV	STA	2
CP6053	TER_FILTERS	PRE-6402 PMP 2 START/STOP	GDEV	BAD	2
CP6053	TER_FILTERS	MF-6402 MIXER 2 START/STOP	GDEV	BAD	2
CP6053	TER_FILTERS	MF-6402 MIXER 2 START/STOP	GDEV	STA	1
CP6053	TER_FILTERS	VFF-6403 FLTR 2A3	GDEV	STA	1
CP6053	TER_FILTERS	VFF-6403 FLTR 2A3	GDEV	BAD	1
CP6053	TER_FILTERS	PRE-6403 PMP 3 START/STOP	GDEV	STA	2
CP6053	TER_FILTERS	PRE-6403 PMP 3 START/STOP	GDEV	BAD	2
CP6053	TER_FILTERS	VFF-6404 FLTR 2A4	GDEV	BAD	1
CP6053	TER_FILTERS	VFF-6404 FLTR 2A4	GDEV	STA	1
CP6053	TER_FILTERS	FLO-6405 NO. 2A START/STOP	GDEV	STA	1
CP6053	TER_FILTERS	FLO-6405 NO. 2A START/STOP	GDEV	BAD	2
CP6053	TER_FILTERS	FLO-6406 NO. 2B START/STOP	GDEV	STA	1
CP6053	TER_FILTERS	FLO-6406 NO. 2B START/STOP	GDEV	BAD	2
CP6053	TER_FILTERS	FLO-6407 NO. 2C START/STOP	GDEV	BAD	2
CP6053	TER_FILTERS	FLO-6407 NO. 2C START/STOP	GDEV	STA	1
CP6053	TER_FILTERS	FLO-6408 NO. 2D START/STOP	GDEV	BAD	2
CP6053	TER_FILTERS	FLO-6408 NO. 2D START/STOP	GDEV	STA	1
CP6053	TER_FILTERS	VFF-6415 FLTR 2B FULLY CLOSED	GDEV	STA	1
CP6053	TER_FILTERS	VFF-6415 FLTR 2B FULLY CLOSED	GDEV	BAD	1
CP6053	TER_FILTERS	VFF-6416 FLTR 2B FULLY CLOSED	GDEV	BAD	1

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6053	TER_FILTERS	VFF-6416 FLTR 2B FULLY CLOSED	GDEV	STA	1
CP6053	TER_FILTERS	VFF-6417 FLTR 2B FULLY CLOSED	GDEV	STA	1
CP6053	TER_FILTERS	VFF-6417 FLTR 2B FULLY CLOSED	GDEV	BAD	1
CP6053	TER_FILTERS	VFF-6418 FLTR 2B FULLY CLOSED	GDEV	BAD	1
CP6053	TER_FILTERS	VFF-6418 FLTR 2B FULLY CLOSED	GDEV	STA	1
CP6053	TER_FILTERS	VFF-6419 FLTR 2C	GDEV	BAD	1
CP6053	TER_FILTERS	VFF-6419 FLTR 2C	GDEV	STA	1
CP6053	TER_FILTERS	VFF-6420 FLTR 2C	GDEV	STA	1
CP6053	TER_FILTERS	VFF-6420 FLTR 2C	GDEV	BAD	1
CP6053	TER_FILTERS	VFF-6421 FLTR 2C	GDEV	STA	1
CP6053	TER_FILTERS	VFF-6421 FLTR 2C	GDEV	BAD	1
CP6053	TER_FILTERS	VFF-6422 FLTR 2C	GDEV	BAD	1
CP6053	TER_FILTERS	VFF-6422 FLTR 2C	GDEV	STA	1
CP6053	WATER_PUMPS	PSW-6401 PMP 1 START/STOP	GDEV	STA	1
CP6053	WATER_PUMPS	PSW-6401 PMP 1 START/STOP	GDEV	BAD	1
CP6053	WATER_PUMPS	PSW-6402 PMP 2 START/STOP	GDEV	STA	1
CP6053	WATER_PUMPS	PSW-6402 PMP 2 START/STOP	GDEV	BAD	1
CP6053	WATER_PUMPS	PSW-6403 PMP 3 START/STOP	GDEV	BAD	1
CP6053	WATER_PUMPS	PSW-6403 PMP 3 START/STOP	GDEV	STA	1
CP6053	WATER_PUMPS	PSW-6404 PMP 4 START/STOP	GDEV	BAD	1
CP6053	WATER_PUMPS	PSW-6404 PMP 4 START/STOP	GDEV	STA	1
CP6053	WATER_PUMPS	PSW-6405 PMP 5 START/STOP	GDEV	STA	1
CP6053	WATER_PUMPS	PSW-6405 PMP 5 START/STOP	GDEV	BAD	1
CP6051	ES_PUMPS	EMERGENCY STORAGE BASIN	PIDA	HHA	2
CP6051	ES_PUMPS	EMERGENCY STORAGE BASIN	PIDA	HMA	2
CP6051	ES_PUMPS	EMERGENCY STORAGE BASIN	PIDA	LMA	2
CP6051	ES_PUMPS	EMERGENCY STORAGE BASIN	PIDA	LLA	2
CP6051	ES_PUMPS	EMERGENCY STORAGE BASIN	PIDA	LLA	2
CP6051	ES_PUMPS	EMERGENCY STORAGE BASIN	PIDA	HHA	2
CP6051	ES_PUMPS	EMERGENCY STORAGE BASIN	PIDA	HMA	2
CP6051	ES_PUMPS	EMERGENCY STORAGE BASIN	PIDA	LMA	2
CP6051	ES_PUMPS	EMERGENCY STORAGE BASIN	PIDA	HHA	2
CP6051	ES_PUMPS	EMERGENCY STORAGE BASIN	PIDA	HMA	2
CP6051	ES_PUMPS	EMERGENCY STORAGE BASIN	PIDA	LLA	2
CP6051	ES_PUMPS	EMERGENCY STORAGE BASIN	PIDA	LMA	2
CP6051	ES_PUMPS	EMERGENCY STORAGE BASIN	PIDA	LMA	2
CP6051	ES_PUMPS	EMERGENCY STORAGE BASIN	PIDA	LLA	2
CP6051	ES_PUMPS	EMERGENCY STORAGE BASIN	PIDA	HHA	2
CP6051	ES_PUMPS	EMERGENCY STORAGE BASIN	PIDA	HMA	2
CP6051	INFLUENT	INFLUENT PUMP STATION	PIDA	LMA	1
CP6051	INFLUENT	INFLUENT PUMP STATION	PIDA	HHA	1
CP6051	INFLUENT	INFLUENT PUMP STATION	PIDA	LLA	1
CP6051	INFLUENT	INFLUENT PUMP STATION	PIDA	HMA	1
CP6051	INFLUENT	INFLUENT PUMP STATION	PIDA	HMA	2
CP6051	INFLUENT	INFLUENT PUMP STATION	PIDA	LMA	2
CP6051	INFLUENT	INFLUENT PUMP STATION	PIDA	HHA	2
CP6051	INFLUENT	INFLUENT PUMP STATION	PIDA	LLA	2
CP6051	INFLUENT	INFLUENT PUMP STATION	PIDA	HMA	2
CP6051	INFLUENT	INFLUENT PUMP STATION	PIDA	LMA	2
CP6051	INFLUENT	INFLUENT PUMP STATION	PIDA	HHA	2
CP6051	INFLUENT	INFLUENT PUMP STATION	PIDA	LLA	2
CP6051	INFLUENT	INFLUENT PUMP STATION	PIDA	LMA	2
CP6051	INFLUENT	INFLUENT PUMP STATION	PIDA	LLA	2

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6051	INFLUENT	INFLUENT PUMP STATION	PIDA	HHA	2
CP6051	INFLUENT	INFLUENT PUMP STATION	PIDA	HMA	2
CP6051	POLYMER	PRIMARY CHEMICAL POLYMER SYSTEM	PIDA	HHA	2
CP6051	POLYMER	PRIMARY CHEMICAL POLYMER SYSTEM	PIDA	LLA	2
CP6051	POLYMER	PRIMARY CHEMICAL POLYMER SYSTEM	PIDA	HMA	2
CP6051	POLYMER	PRIMARY CHEMICAL POLYMER SYSTEM	PIDA	LMA	2
CP6051	POLYMER	PRIMARY CHEMICAL POLYMER SYSTEM	PIDA	LLA	2
CP6051	POLYMER	PRIMARY CHEMICAL POLYMER SYSTEM	PIDA	HMA	2
CP6051	POLYMER	PRIMARY CHEMICAL POLYMER SYSTEM	PIDA	LMA	2
CP6051	POLYMER	PRIMARY CHEMICAL POLYMER SYSTEM	PIDA	HHA	2
CP6052	RAS_PUMPS	AERATION BASIN NO. 3	PIDA	LMA	2
CP6052	RAS_PUMPS	AERATION BASIN NO. 3	PIDA	HHA	2
CP6052	RAS_PUMPS	AERATION BASIN NO. 3	PIDA	LLA	2
CP6052	RAS_PUMPS	AERATION BASIN NO. 3	PIDA	HMA	2
CP6052	RAS_PUMPS	AERATION BASIN NO. 4	PIDA	LLA	2
CP6052	RAS_PUMPS	AERATION BASIN NO. 4	PIDA	HHA	2
CP6052	RAS_PUMPS	AERATION BASIN NO. 4	PIDA	LMA	2
CP6052	RAS_PUMPS	AERATION BASIN NO. 4	PIDA	HMA	2
CP6052	RAS_PUMPS	RETURN WASTE SLUDGE CONTROL	PIDA	LLA	2
CP6052	RAS_PUMPS	RETURN WASTE SLUDGE CONTROL	PIDA	HHA	2
CP6052	RAS_PUMPS	RETURN WASTE SLUDGE CONTROL	PIDA	LMA	2
CP6052	RAS_PUMPS	RETURN WASTE SLUDGE CONTROL	PIDA	HMA	2
CP6052	RAS_PUMPS	RETURN WASTE SLUDGE CONTROL	PIDA	LLA	2
CP6052	RAS_PUMPS	RETURN WASTE SLUDGE CONTROL	PIDA	LMA	2
CP6052	RAS_PUMPS	RETURN WASTE SLUDGE CONTROL	PIDA	HHA	2
CP6052	RAS_PUMPS	RETURN WASTE SLUDGE CONTROL	PIDA	HMA	2
CP6052	RAS_PUMPS	RETURN WASTE SLUDGE CONTROL	PIDA	LLA	2
CP6052	RAS_PUMPS	RETURN WASTE SLUDGE CONTROL	PIDA	HHA	2
CP6052	RAS_PUMPS	RETURN WASTE SLUDGE CONTROL	PIDA	HMA	2
CP6052	RAS_PUMPS	RETURN WASTE SLUDGE CONTROL	PIDA	LMA	2
CP6052	RAS_PUMPS	RETURN WASTE SLUDGE CONTROL	PIDA	LLA	2
CP6052	RAS_PUMPS	RETURN WASTE SLUDGE CONTROL	PIDA	HHA	2
CP6052	RAS_PUMPS	RETURN WASTE SLUDGE CONTROL	PIDA	LMA	2
CP6052	RAS_PUMPS	RETURN WASTE SLUDGE CONTROL	PIDA	HMA	2
CP6052	RAS_PUMPS	RETURN WASTE SLUDGE CONTROL	PIDA	HMA	2
CP6052	RAS_PUMPS	RETURN WASTE SLUDGE CONTROL	PIDA	LMA	2
CP6052	RAS_PUMPS	RETURN WASTE SLUDGE CONTROL	PIDA	LLA	2
CP6052	RAS_PUMPS	RETURN WASTE SLUDGE CONTROL	PIDA	HHA	2
CP6052	RAS_PUMPS	AERATION BASIN NO. 4	PIDA	LLA	2
CP6052	RAS_PUMPS	AERATION BASIN NO. 4	PIDA	HHA	2
CP6052	RAS_PUMPS	AERATION BASIN NO. 4	PIDA	LMA	2
CP6052	RAS_PUMPS	AERATION BASIN NO. 4	PIDA	HMA	2
CP6052	RAS_PUMPS	AERATION BASIN NO. 4	PIDA	LMA	2
CP6052	RAS_PUMPS	AERATION BASIN NO. 4	PIDA	LLA	2
CP6052	RAS_PUMPS	AERATION BASIN NO. 4	PIDA	HHA	2
CP6052	RAS_PUMPS	AERATION BASIN NO. 4	PIDA	HMA	2
CP6052	WAS_PUMPS	WASTE ACTIVATED SLUDGE PUMP3	PIDA	HMA	2
CP6052	WAS_PUMPS	WASTE ACTIVATED SLUDGE PUMP3	PIDA	HHA	2
CP6052	WAS_PUMPS	WASTE ACTIVATED SLUDGE PUMP3	PIDA	LLA	2
CP6052	WAS_PUMPS	WASTE ACTIVATED SLUDGE PUMP3	PIDA	LDA	1
CP6052	WAS_PUMPS	WASTE ACTIVATED SLUDGE PUMP3	PIDA	HDA	1
CP6052	WAS_PUMPS	WASTE ACTIVATED SLUDGE PUMP3	PIDA	LMA	2
CP6052	WAS_PUMPS	WASTE ACTIVATED SLUDGE PUMP4	PIDA	HHA	2

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6052	WAS_PUMPS	WASTE ACTIVATED SLUDGE PUMP4	PIDA	LDA	1
CP6052	WAS_PUMPS	WASTE ACTIVATED SLUDGE PUMP4	PIDA	HDA	1
CP6052	WAS_PUMPS	WASTE ACTIVATED SLUDGE PUMP4	PIDA	LLA	2
CP6052	WAS_PUMPS	WASTE ACTIVATED SLUDGE PUMP4	PIDA	LMA	2
CP6052	WAS_PUMPS	WASTE ACTIVATED SLUDGE PUMP4	PIDA	HMA	2
CP6052	WAS_PUMPS	WASTE ACTIVATED SLUDGE PUMP3	PIDA	LLA	2
CP6052	WAS_PUMPS	WASTE ACTIVATED SLUDGE PUMP3	PIDA	HHA	2
CP6052	WAS_PUMPS	WASTE ACTIVATED SLUDGE PUMP3	PIDA	LMA	2
CP6052	WAS_PUMPS	WASTE ACTIVATED SLUDGE PUMP3	PIDA	HMA	2
CP6052	WAS_PUMPS	WASTE ACTIVATED SLUDGE PUMP4	PIDA	HMA	2
CP6052	WAS_PUMPS	WASTE ACTIVATED SLUDGE PUMP4	PIDA	LMA	2
CP6052	WAS_PUMPS	WASTE ACTIVATED SLUDGE PUMP4	PIDA	HHA	2
CP6052	WAS_PUMPS	WASTE ACTIVATED SLUDGE PUMP4	PIDA	LLA	2
CP6053	ALUM	TERTIARY CHEMICAL ALUM	PIDA	LMA	2
CP6053	ALUM	TERTIARY CHEMICAL ALUM	PIDA	HMA	2
CP6053	ALUM	TERTIARY CHEMICAL ALUM	PIDA	HHA	2
CP6053	ALUM	TERTIARY CHEMICAL ALUM	PIDA	LLA	2
CP6053	ALUM	TERTIARY CHEMICAL ALUM	PIDA	LLA	2
CP6053	ALUM	TERTIARY CHEMICAL ALUM	PIDA	HMA	2
CP6053	ALUM	TERTIARY CHEMICAL ALUM	PIDA	HHA	2
CP6053	ALUM	TERTIARY CHEMICAL ALUM	PIDA	LMA	2
CP6053	CATI_POLYMER	TERTIARY CHEMICAL POLYMER SYSTEM	PIDA	LLA	2
CP6053	CATI_POLYMER	TERTIARY CHEMICAL POLYMER SYSTEM	PIDA	LMA	2
CP6053	CATI_POLYMER	TERTIARY CHEMICAL POLYMER SYSTEM	PIDA	HMA	2
CP6053	CATI_POLYMER	TERTIARY CHEMICAL POLYMER SYSTEM	PIDA	HHA	2
CP6053	CATI_POLYMER	TERTIARY CHEMICAL POLYMER SYSTEM	PIDA	LMA	2
CP6053	CATI_POLYMER	TERTIARY CHEMICAL POLYMER SYSTEM	PIDA	LLA	2
CP6053	CATI_POLYMER	TERTIARY CHEMICAL POLYMER SYSTEM	PIDA	HMA	2
CP6053	CATI_POLYMER	TERTIARY CHEMICAL POLYMER SYSTEM	PIDA	HHA	2
CP6053	NAOCL	TERT CHEM NAOCL RAS FD SYS	PIDA	HMA	2
CP6053	NAOCL	TERT CHEM NAOCL RAS FD SYS	PIDA	LMA	2
CP6053	NAOCL	TERT CHEM NAOCL RAS FD SYS	PIDA	HHA	2
CP6053	NAOCL	TERT CHEM NAOCL RAS FD SYS	PIDA	LLA	2
CP6053	NAOCL	TERT CHEM NAOCL RAS FD SYS	PIDA	LMA	2
CP6053	NAOCL	TERT CHEM NAOCL RAS FD SYS	PIDA	HMA	2
CP6053	NAOCL	TERT CHEM NAOCL RAS FD SYS	PIDA	HHA	2
CP6053	NAOCL	TERT CHEM NAOCL RAS FD SYS	PIDA	LLA	2
CP6053	NAOCL	TERT CHEM NAOCL RAS FD SYS	PIDA	LMA	2
CP6053	NAOCL	TERT CHEM NAOCL RAS FD SYS	PIDA	HHA	2
CP6053	NAOCL	TERT CHEM NAOCL RAS FD SYS	PIDA	LLA	2
CP6053	NAOCL	TERT CHEM NAOCL RAS FD SYS	PIDA	HMA	2
CP6053	NAOCL	TERT CHEM NAOCL RAS FD SYS	PIDA	LLA	2
CP6053	NAOCL	TERT CHEM NAOCL RAS FD SYS	PIDA	HHA	2
CP6053	NAOCL	TERT CHEM NAOCL RAS FD SYS	PIDA	LMA	2
CP6053	NAOCL	TERT CHEM NAOCL RAS FD SYS	PIDA	HMA	2
CP6053	TEST3	EMERGENCY STORAGE BASIN	PIDA	HMA	2
CP6053	TEST3	EMERGENCY STORAGE BASIN	PIDA	HHA	1
CP6053	TEST3	EMERGENCY STORAGE BASIN	PIDA	LLA	1
CP6053	TEST3	EMERGENCY STORAGE BASIN	PIDA	LMA	2
CP6052	RAS_PUMPS	RETURN WASTE SLUDGE CONTROL	RATIO	LLA	2
CP6052	RAS_PUMPS	RETURN WASTE SLUDGE CONTROL	RATIO	HMA	2
CP6052	RAS_PUMPS	RETURN WASTE SLUDGE CONTROL	RATIO	HHA	2
CP6053	CL2_CONTACT	CL2 ANALYZER 4A	REALM	HMA	1

CP	COMPOUND	DESCRIPTION	TYPE	ALARM TYPE	PRIORITY
CP6053	CL2_CONTACT	CL2 ANALYZER 4A	REALM	LLA	2
CP6053	CL2_CONTACT	CL2 ANALYZER 4B	REALM	LMA	2
CP6053	CL2_CONTACT	CL2 ANALYZER 4B	REALM	LLA	2
CP6053	CL2_CONTACT	CL2 ANALYZER 4B	REALM	HMA	2
CP6053	NO_ALARM3	CL BASIN NO. 2 CL RESIDUAL 1A	REALM	HDA	5
CP6053	NO_ALARM3	CL BASIN NO. 2 CL RESIDUAL 1A	REALM	LDA	5
CP6053	NO_ALARM3	CL BASIN NO. 3 CL RESIDUAL 1B	REALM	HDA	5
CP6053	NO_ALARM3	CL BASIN NO. 3 CL RESIDUAL 1B	REALM	LDA	5
CP6053	NO_ALARM3	CHLORINE RESIDUAL DETECTION	REALM	HDA	5
CP6053	NO_ALARM3	CHLORINE RESIDUAL DETECTION	REALM	LDA	5
CP6053	NO_ALARM3	CL BASIN NO. 2 CL RESIDUAL 2	REALM	LDA	5
CP6053	NO_ALARM3	CL BASIN NO. 2 CL RESIDUAL 2	REALM	HDA	5
CP6053	NO_ALARM3	CL BASIN NO. 3 CL RESIDUAL 3	REALM	HDA	5
CP6053	NO_ALARM3	CL BASIN NO. 3 CL RESIDUAL 3	REALM	LDA	5
CP6053	NO_ALARM3	CL SUMP CL RESIDUAL 4A	REALM	LDA	5
CP6053	NO_ALARM3	CL SUMP CL RESIDUAL 4A	REALM	HDA	5
CP6053	NO_ALARM3	CL SUMP CL RESIDUAL 4B	REALM	HMA	5
CP6053	NO_ALARM3	CL SUMP CL RESIDUAL 4B	REALM	HDA	5
CP6053	NO_ALARM3	CL SUMP CL RESIDUAL 4B	REALM	LMA	5
CP6053	NO_ALARM3	CL SUMP CL RESIDUAL 4B	REALM	LDA	5
CP6053	WATER_PUMPS	W-3 PUMPS START/STOP	REALM	LLA	5
CP6053	WATER_PUMPS	W-3 PUMPS START/STOP	REALM	HHA	5
CP6053	WATER_PUMPS	W-3 PUMPS START/STOP	REALM	LMA	5
CP6053	WATER_PUMPS	PUMP 1 & 2 START/STOP	REALM	LMA	5
CP6053	WATER_PUMPS	PUMP 1 & 2 START/STOP	REALM	HHA	5
CP6053	WATER_PUMPS	PUMP 1 & 2 START/STOP	REALM	HMA	5
CP6053	WATER_PUMPS	PUMP 1 & 2 START/STOP	REALM	LLA	5

Appendix F

INLAND EMPIRE UTILITIES AGENCY

RECYCLED WATER DISTRIBUTION SYSTEM

Recycled Water Capital Projects Business Plan

December 2010

Legend

- Treatment Plant

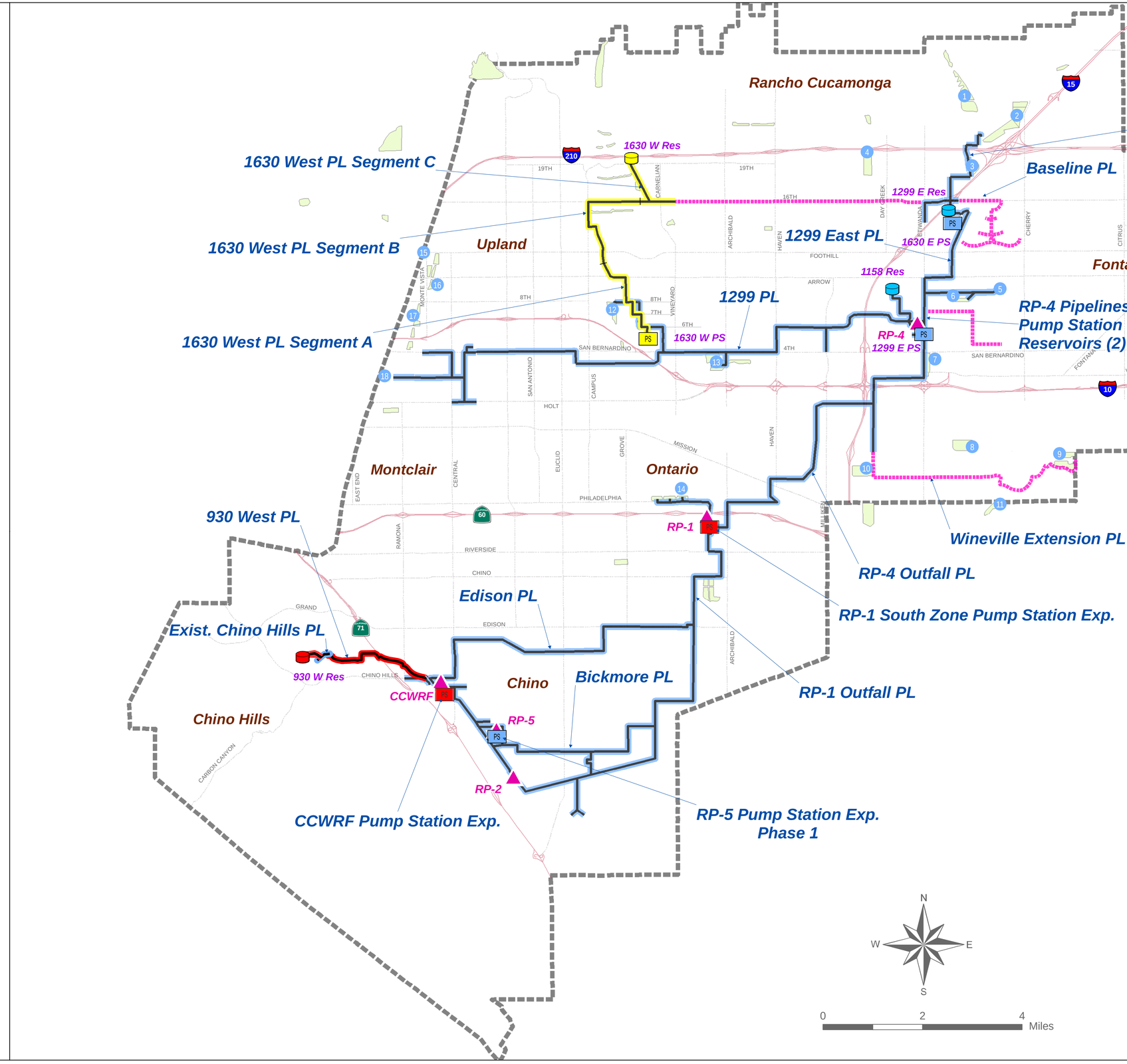
Pump Station and Reservoirs

- Bid
- Design
- Operating
- Construction
- Bid
- Design
- Construction
- Operating

Project Status Legend Key

- Planning
- Bid
- Construction
- Operating
- Design

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT



Recharge Basins (Owners)

1. Etiwanda Debris Basin - (SBCFCD)
2. San Sevaine Basins - (SBCFCD)
3. Victoria Basin - (SBCFCD)
4. Lower Day Basin - (SBCFCD)
5. Banana Basin - (SBCFCD)
6. Hickory Basin - (SBCFCD)
7. Etiwanda Conservation Basins - (SCE)
8. Jurupa Basin - (SBCFCD)
9. RP-3 Basin - (IEUA)
10. Wineville Basin - (SBCFCD)
11. Declez Basin - (SBCFCD)
12. 8th Street Basin - (SBCFCD)
13. Turner Basins - (SBCFCD/CBWCD)
14. Ely Basins - (SBCFCD/CBWCD)
15. College Heights Basins - (CBWCD)
16. Upland Basin - (Upland)
17. Montclair Basins - (CBWCD)
18. Brooks Street Basins - (CBWCD)
19. Grove Basin - (SBCFCD)

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