Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Inland Empire Utilities Agency
Regional Plant No. 1
Title 22 Engineering Report

REGISTERED PROFESSIONAL ENGINEER
Debra L. Burris
DEBRA L.
BURRIS
No. 28994
CIVIL
Exp. 3/31/11
STATE OF CALIFORNIA

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DDB ENGINEERING, INC.
25 Mauchly, Suite 323
Irvine, CA 92618
(949) 727-4008

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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)

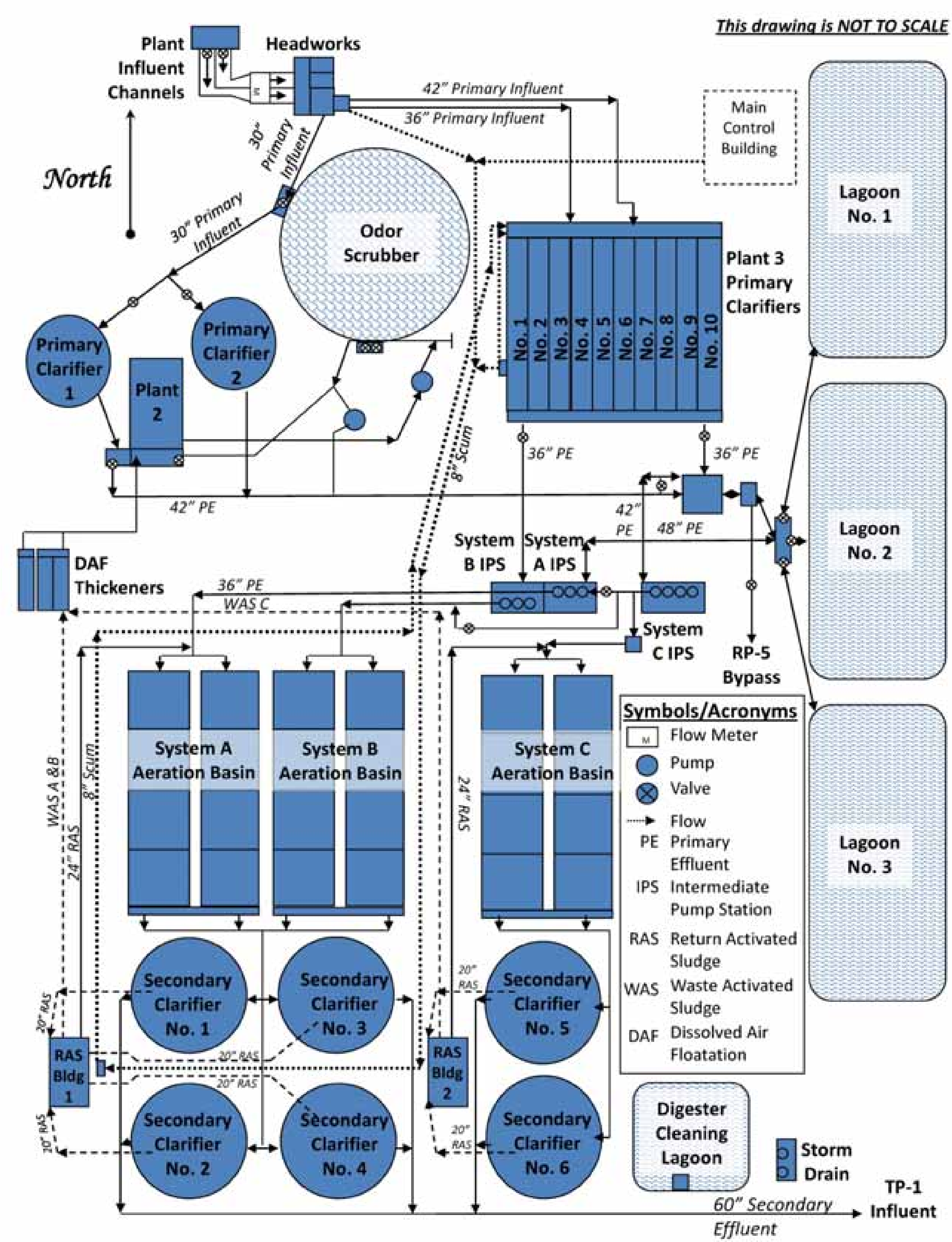


Figure 4-2 RP-1 Tertiary Treatment Process Flow Schematic

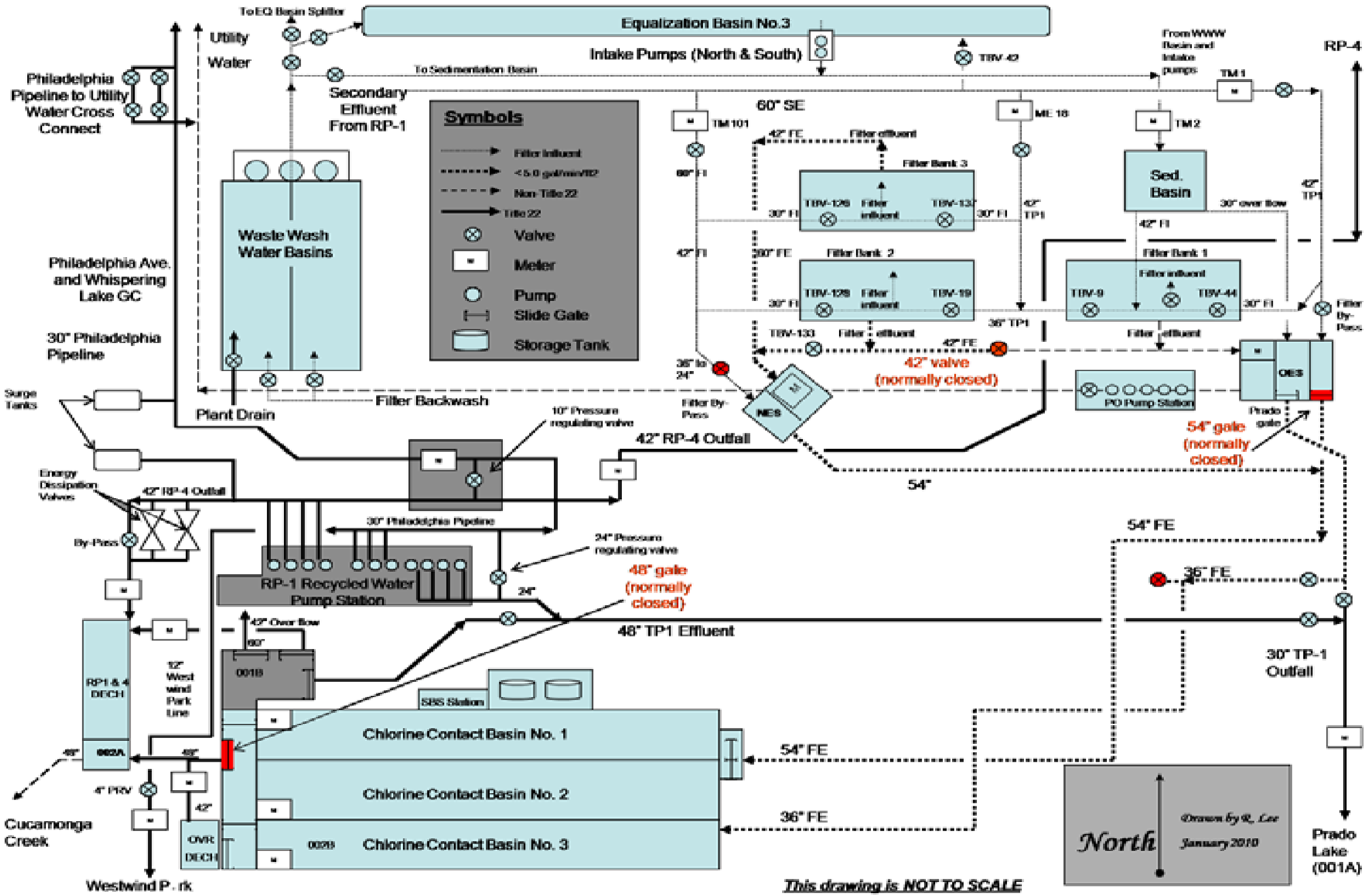
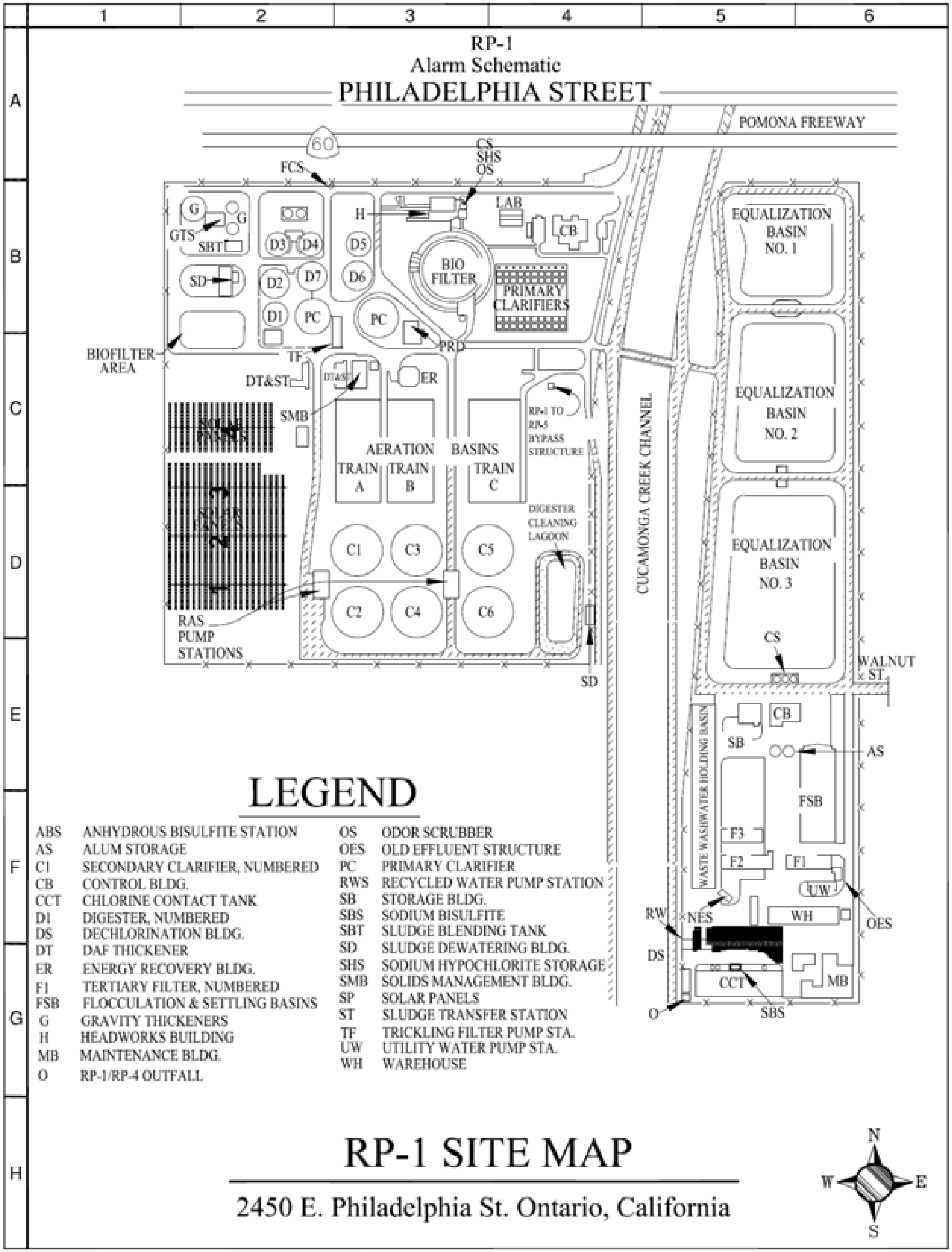


Figure 4-3 RP-1 Site Plan



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° 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

SANTA ANA REGION

3737 Main Street, Suite 500, Riverside, California 92501-3348
Phone (951) 782-4130 - FAX (951) 781-6288– TDD (951) 782-3221

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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List of Tables

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).

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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.

[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)

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[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.

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[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:

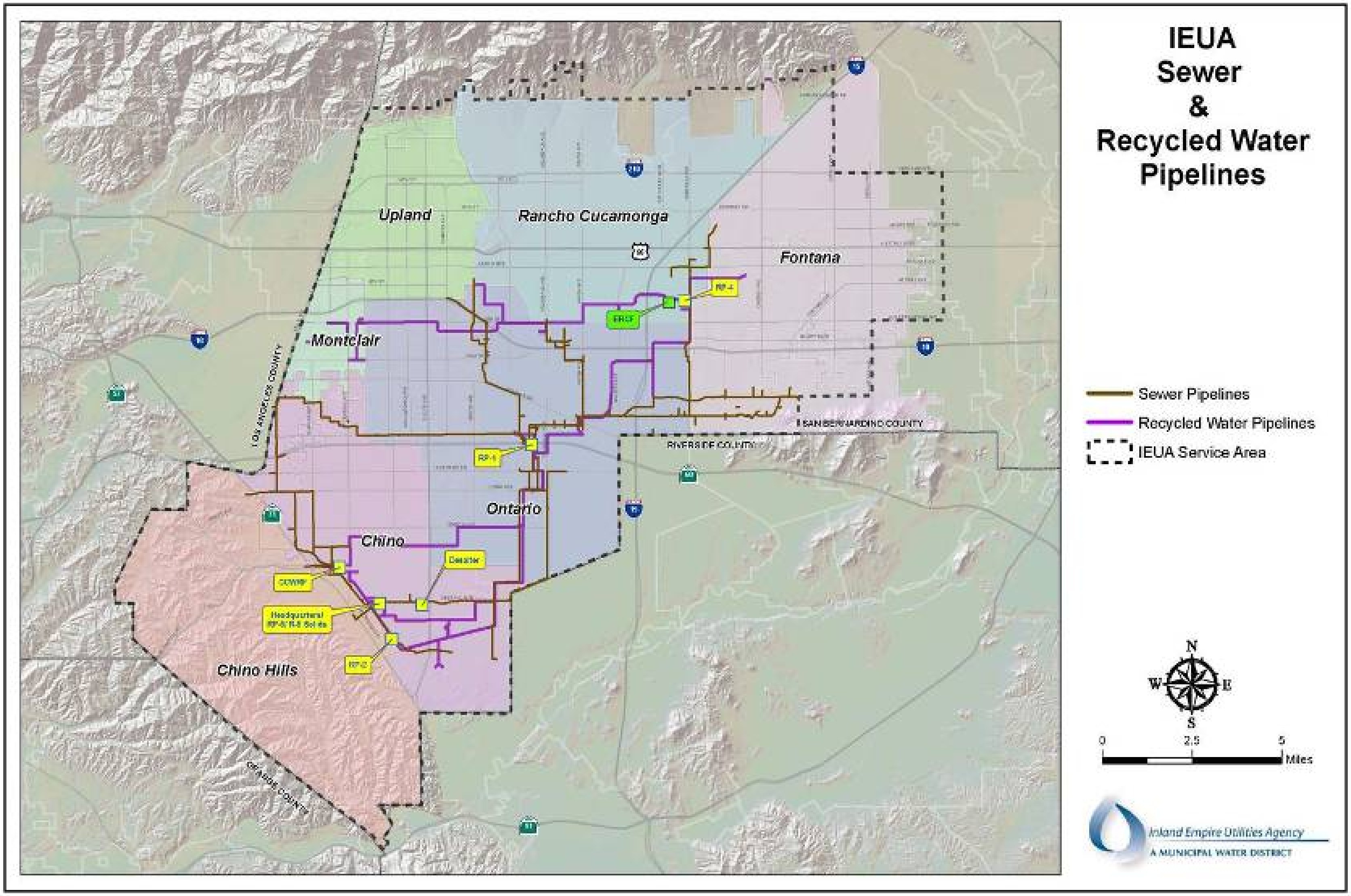
- x is the observed value;
- μ is the arithmetic mean of the observed values; and
- n is the number of samples.

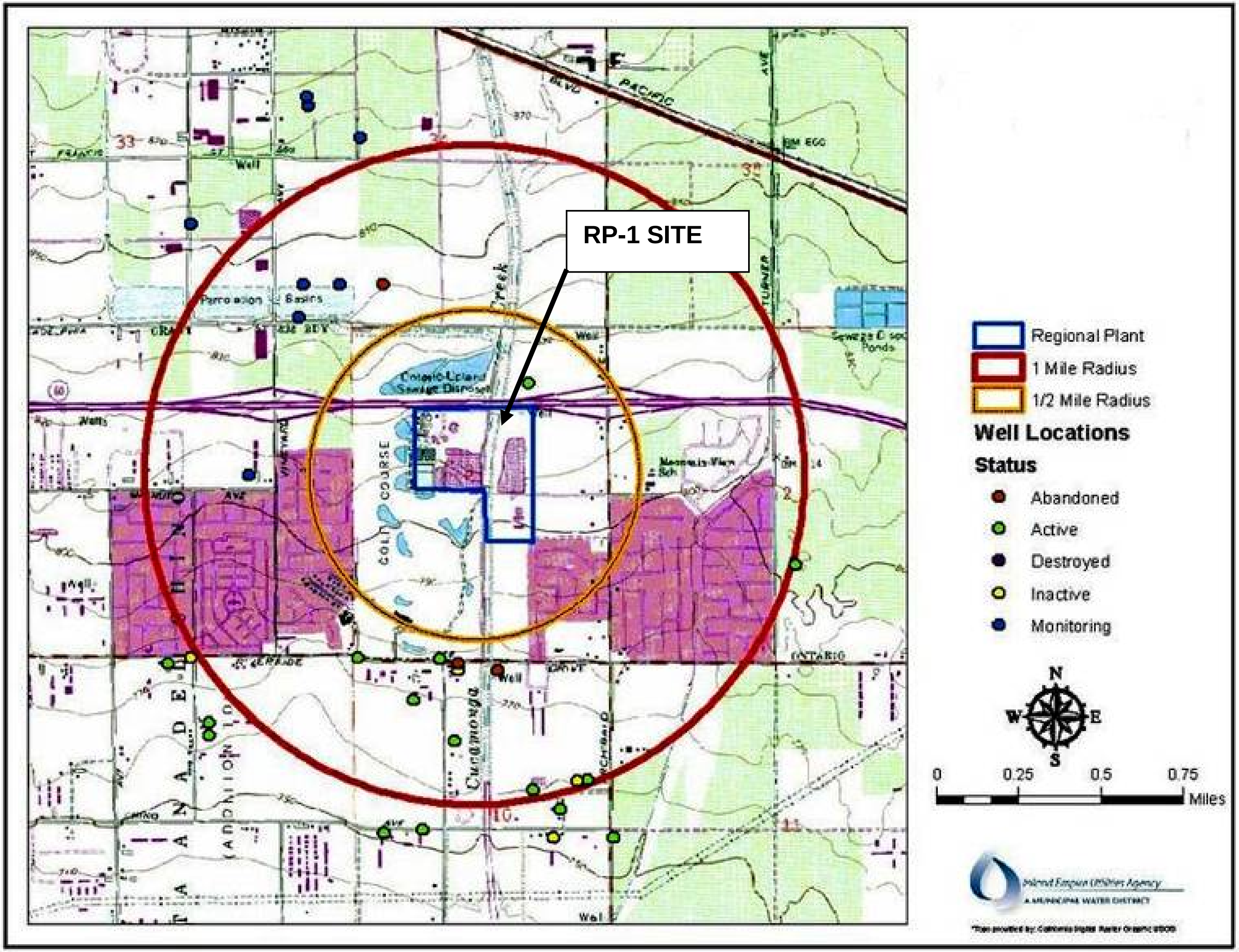
Toxicity Reduction Evaluation (TRE) is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps 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.

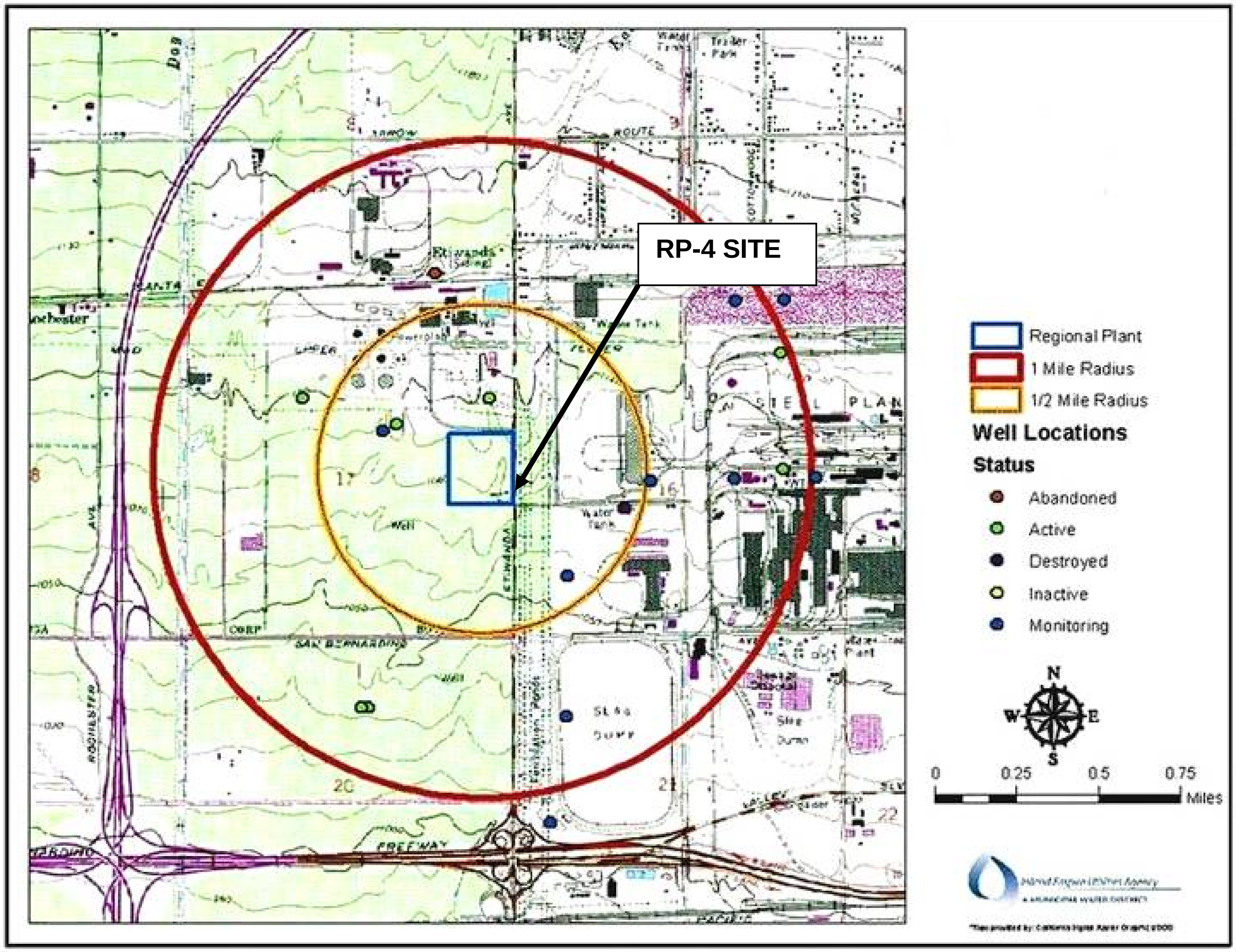
12-Month Running Average Effluent Limitation (12-MRAEL): the highest allowable average of monthly discharges over last twelve months, calculated as the sum of all monthly discharges measured during last twelve months divided by the number of monthly discharges measured during that time period.

ATTACHMENT B – LOCATION

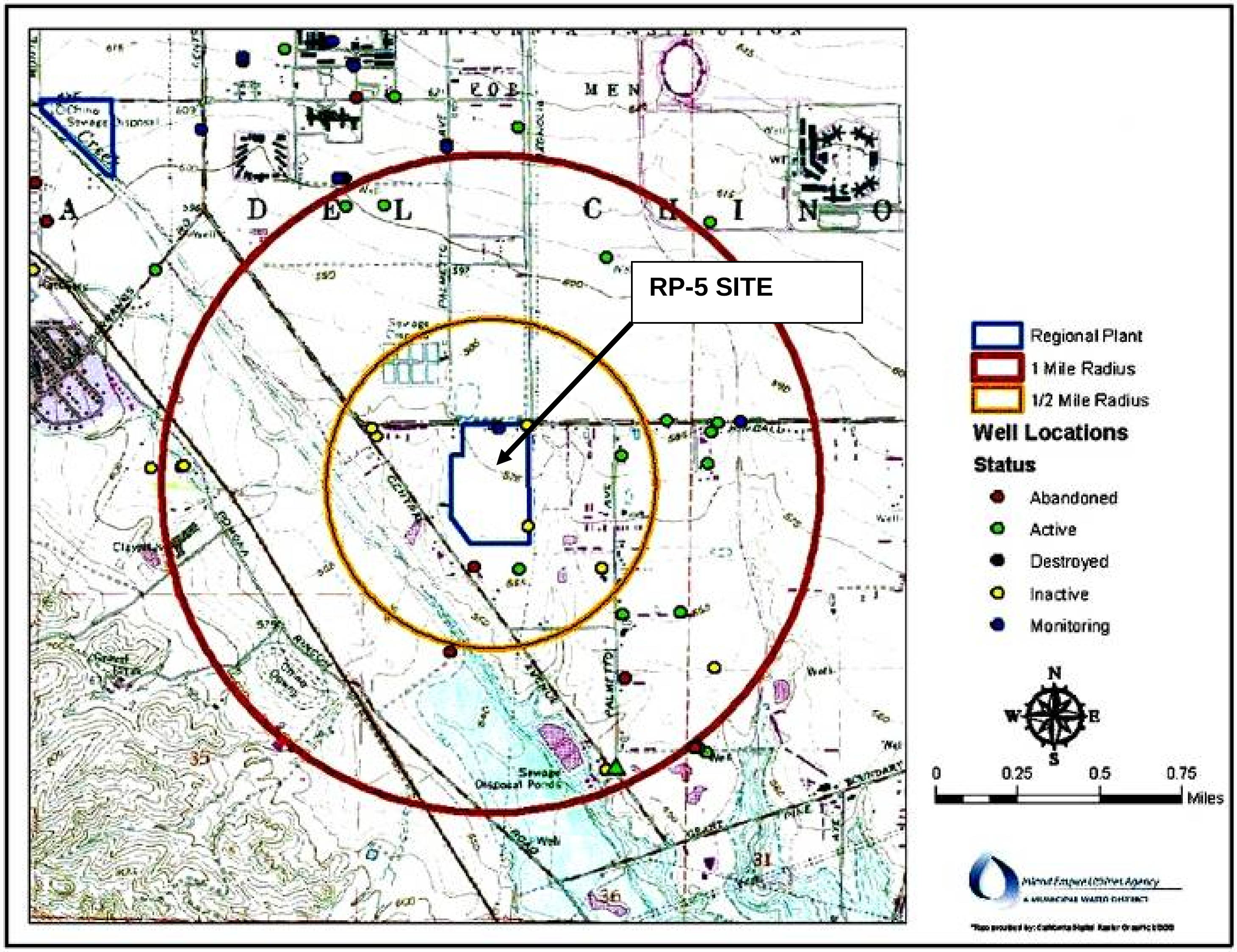




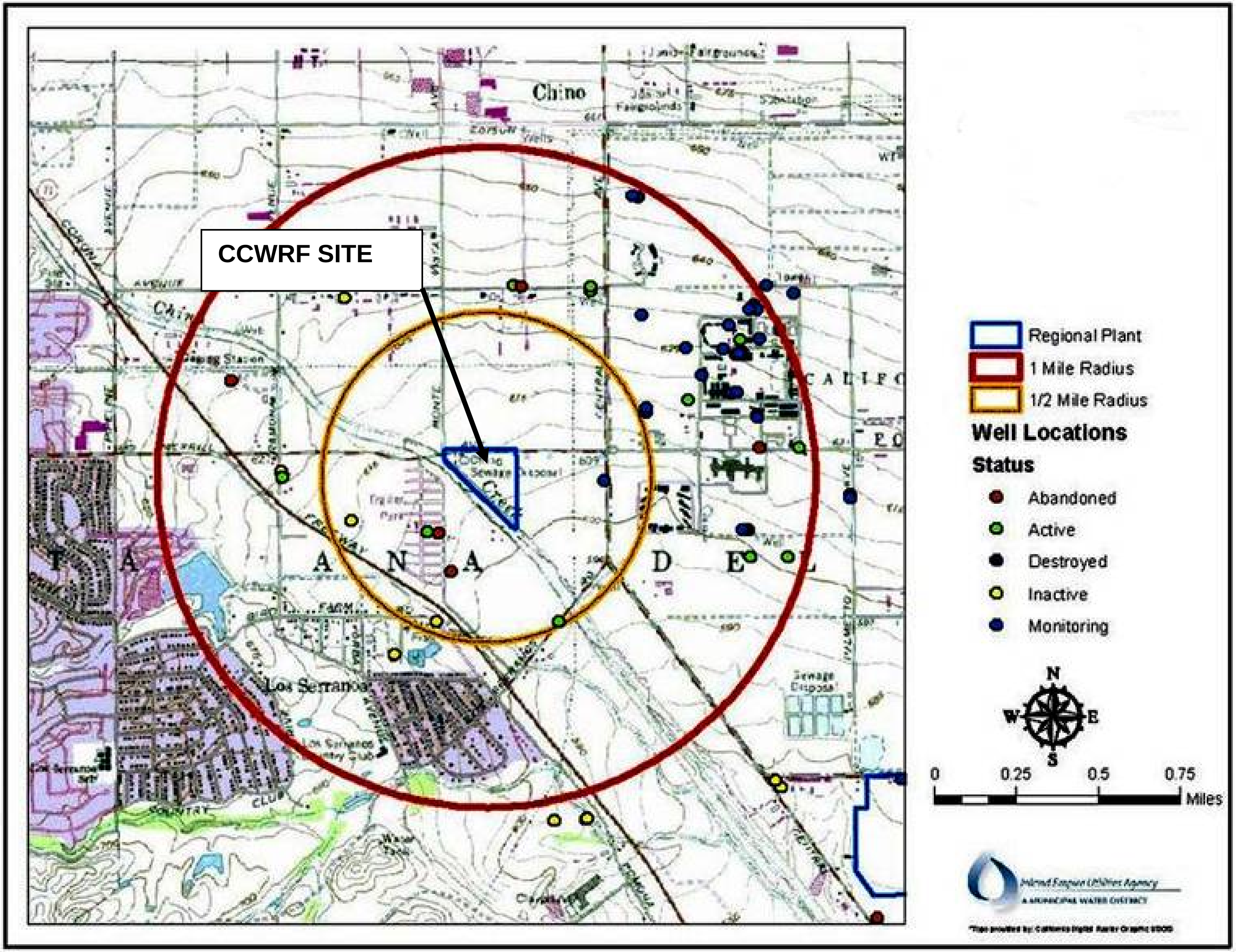
RP-1 LOCATION MAP



RP-4 LOCATION MAP

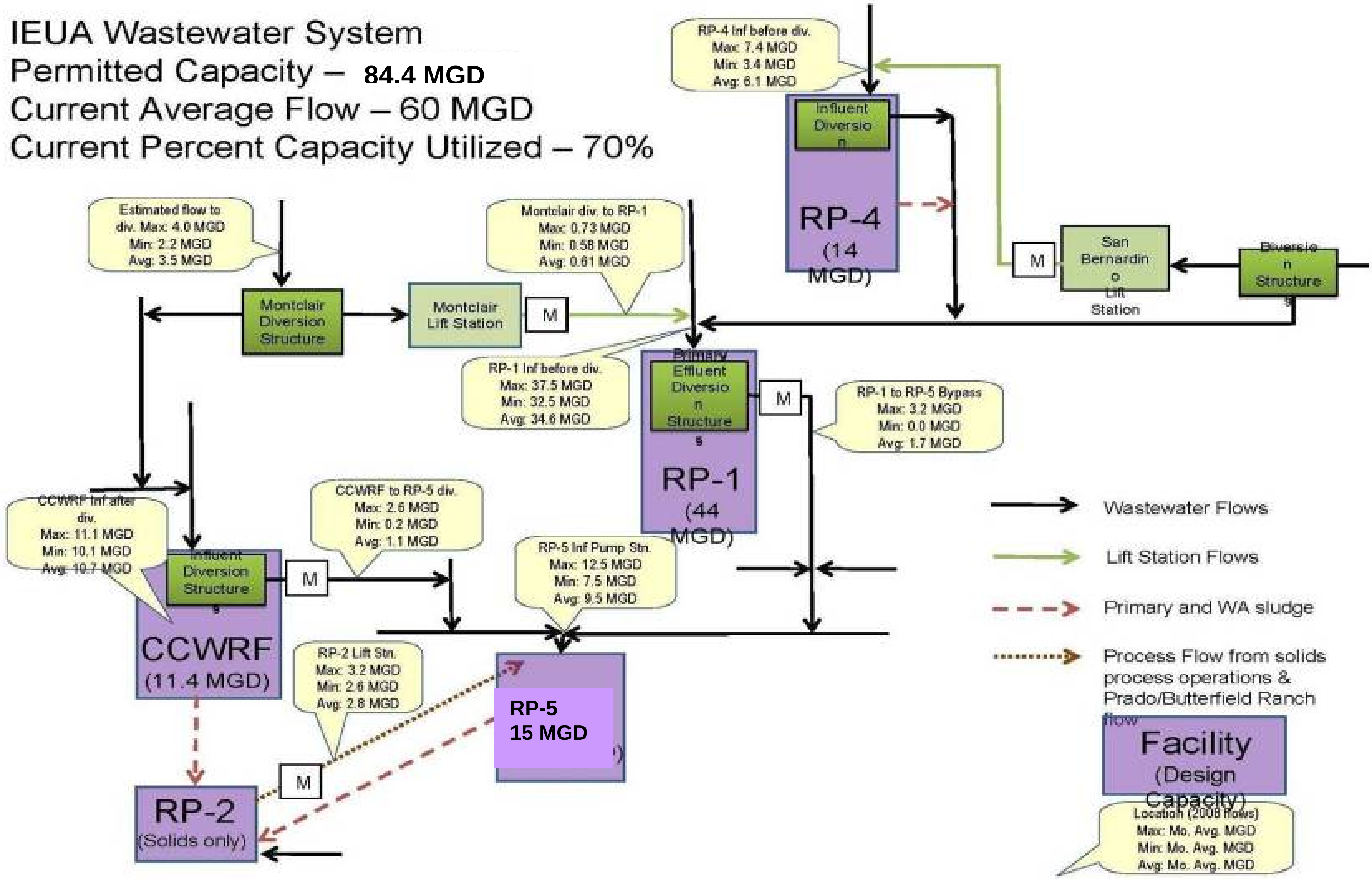


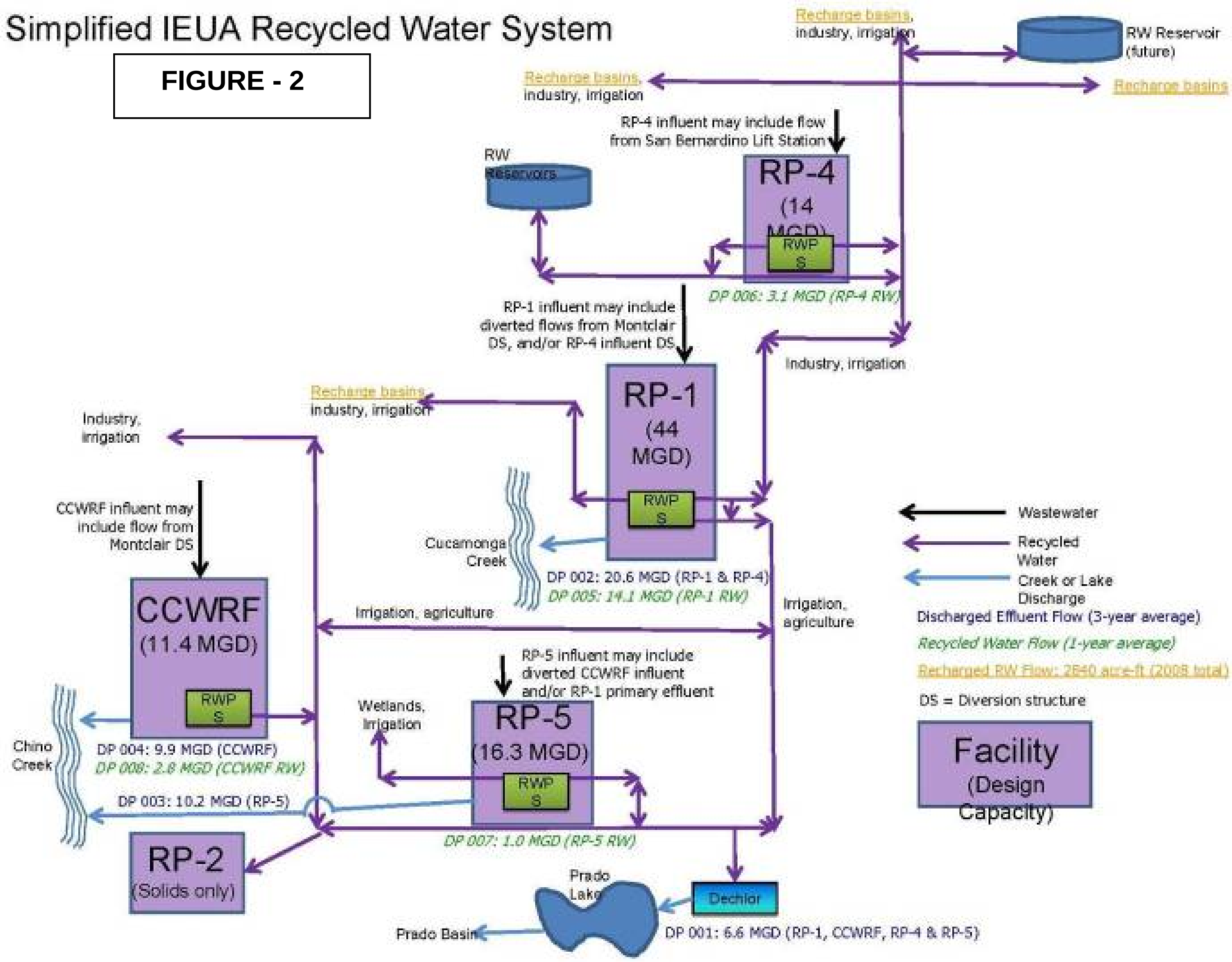
RP-5 LOCATION MAP

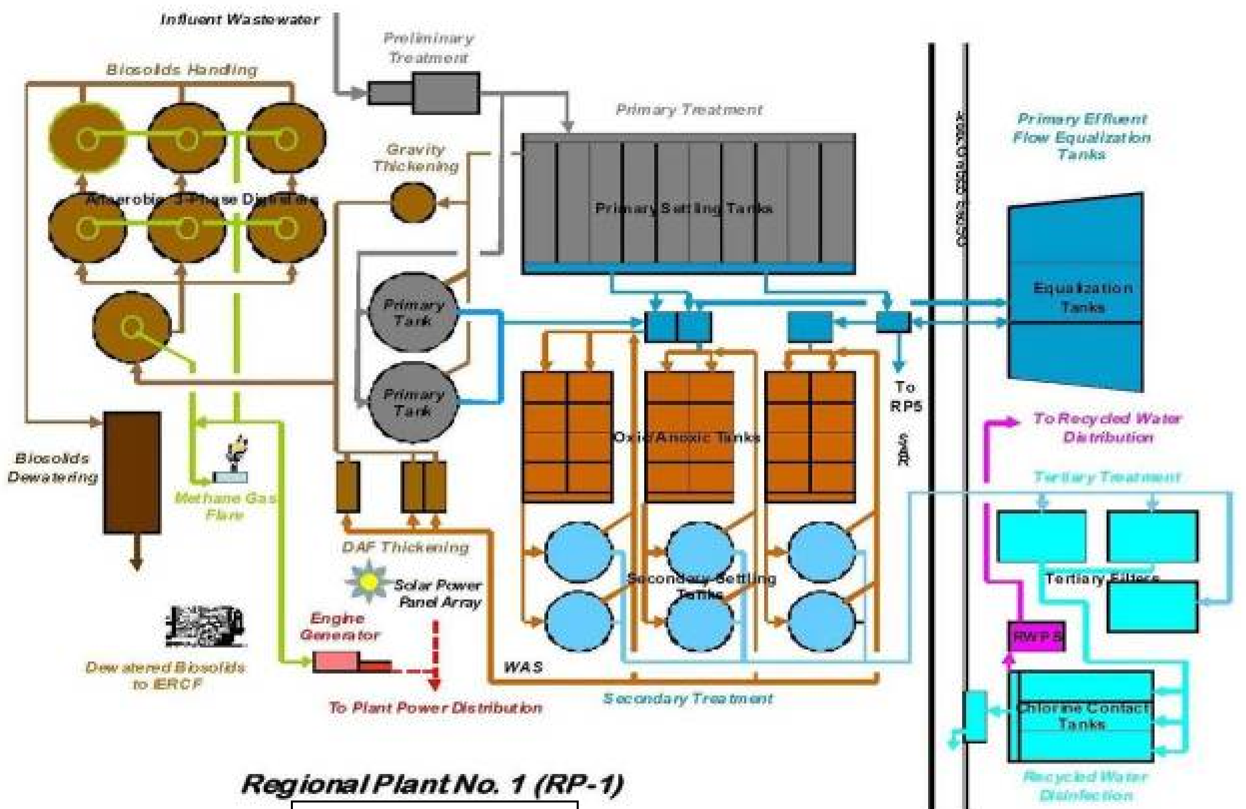


CCWRF LOCATION MAP

ATTACHMENT C – FIGURE 1

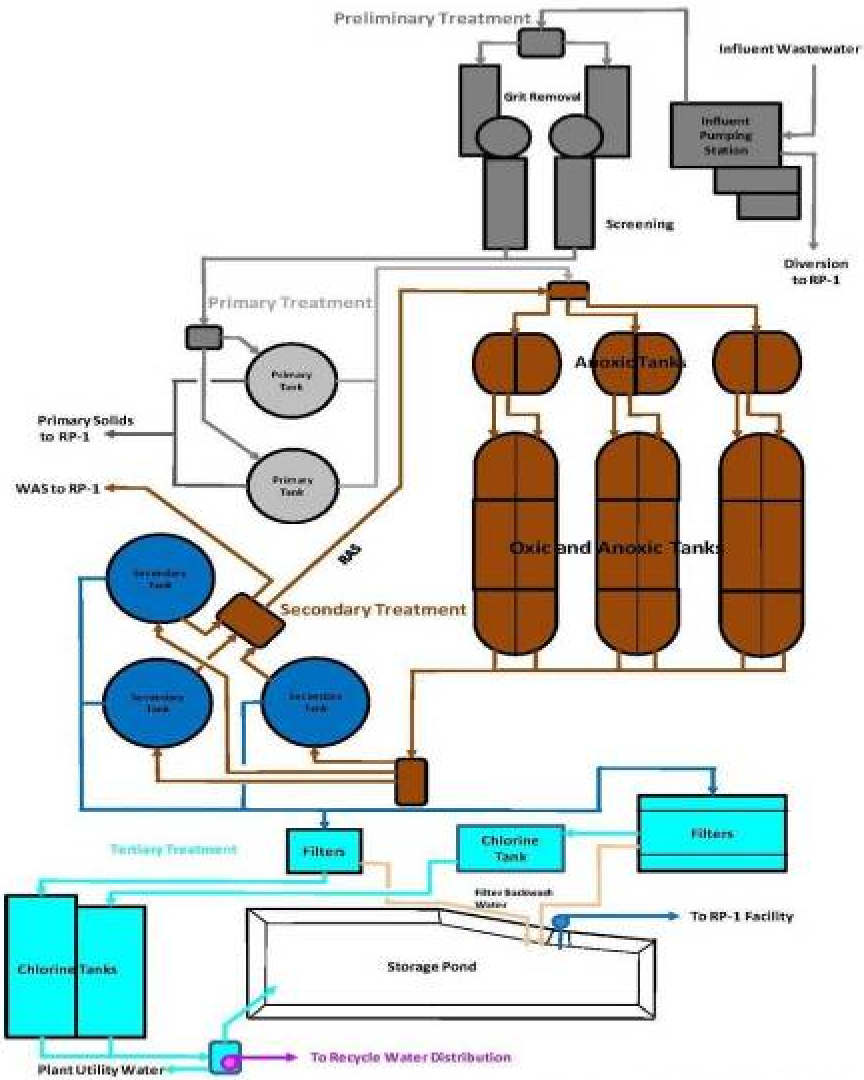



Simplified IEUA Recycled Water System
FIGURE - 2
Recharge basins, industry, irrigation
RW Reservoir (future)
Recharge basins, industry, irrigation
Recharge basins
RP-4 influent may include flow from San Bernardino Lift Station
RW Reservoirs
RP-4 (14 MGD)
RWPS
DP 006: 3.1 MGD (RP-4 RW)
RP-1 influent may include diverted flows from Montclair DS, and/or RP-4 influent DS
Industry, irrigation
Recharge basins industry, irrigation
RP-1 (44 MGD)
Industry, irrigation
RWPS
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)
Wastewater
Recycled Water
Creek or Lake Discharge
Discharged Effluent Flow (3-year average)
Recycled Water Flow (1-year average)
Recharged RW Flow: 2840 acre-ft (2008 total)
DS = Diversion structure
CCWRF (11.4 MGD)
Irrigation, agriculture
Irrigation, agriculture
RP-5 influent may include diverted CCWRF influent and/or RP-1 primary effluent
Wetlands, Irrigation
RWPS
Chino Creek
DP 004: 9.9 MGD (CCWRF)
DP 008: 2.8 MGD (CCWRF RW)
RP-5 (16.3 MGD)
DP 003: 10.2 MGD (RP-5)
Facility (Design Capacity)
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)



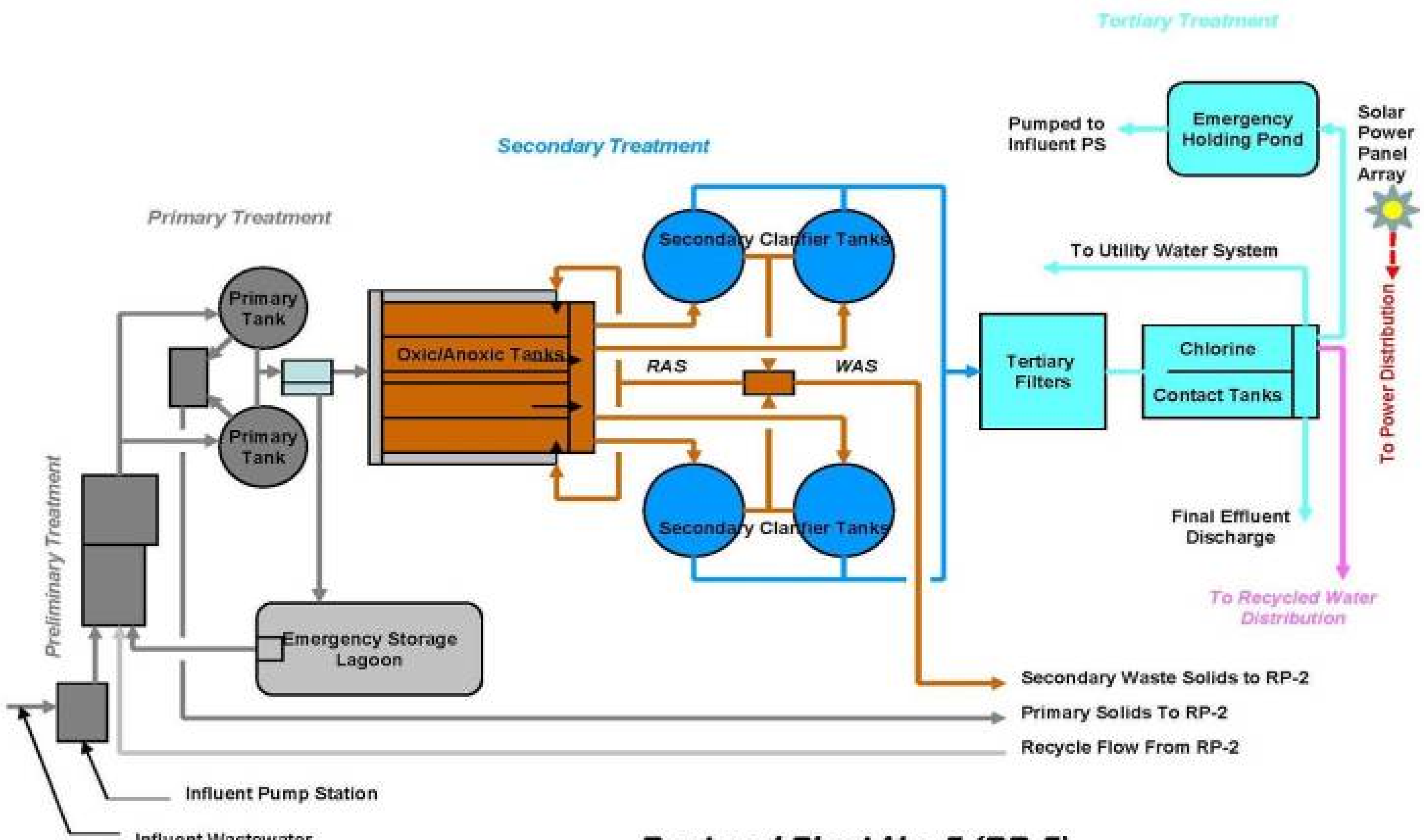
Regional Plant No. 1 (RP-1)

FIGURE - 3



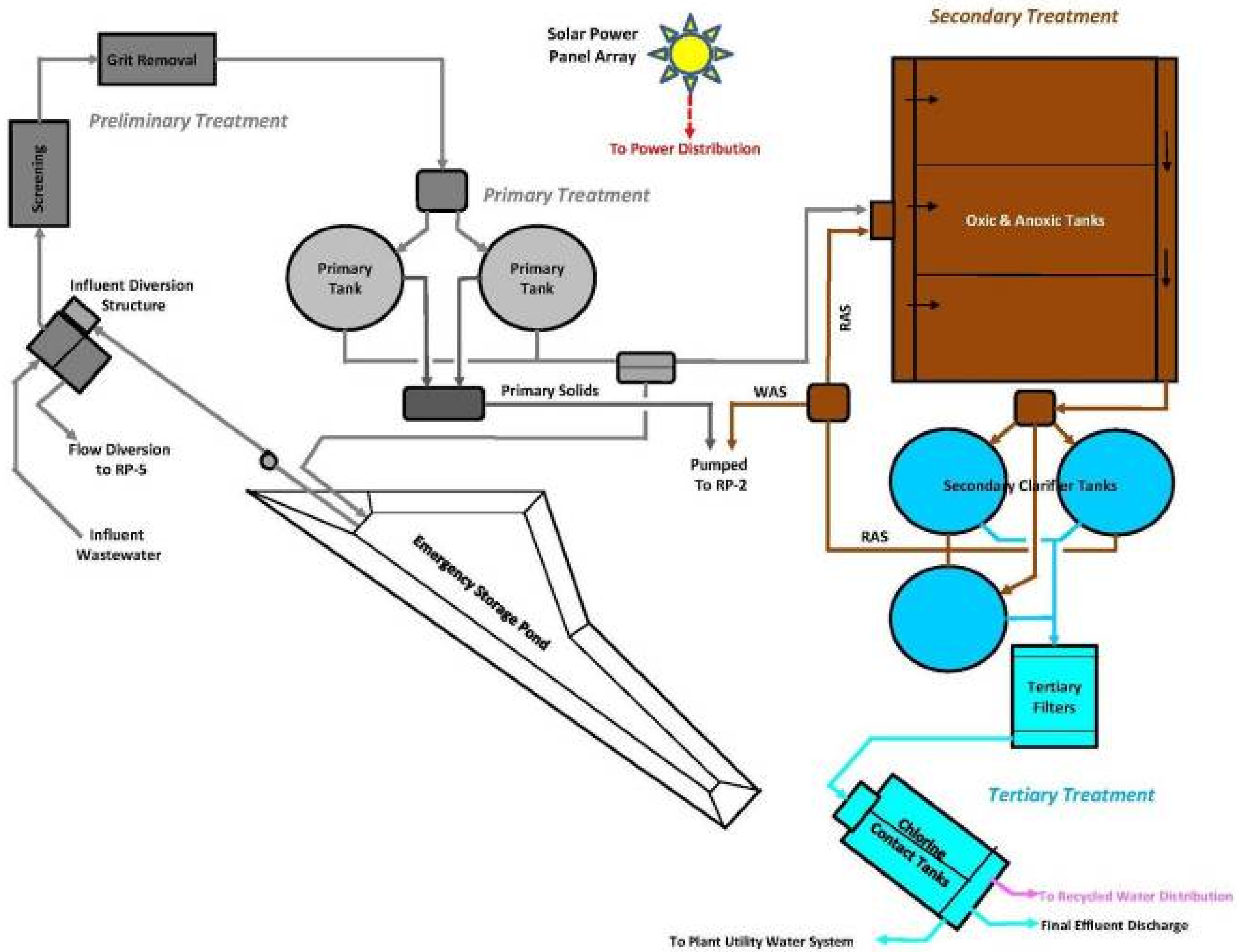
Regional Plant No. 4 (RP-4)

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

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:

---

[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	^0C	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.

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[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:

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[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.

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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 131.38[33]). 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.

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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 Reproduction			
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)					5th 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)					5th 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)					5^{th} 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

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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.

[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.

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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	***<u>Naphthalene</u>***	***<u>17</u>***
95	Nitrobenzene	950
96	***<u>N-Nitrosodimethylamine</u>***	***<u>0.01</u>***
97	***<u>N-Nitrosodi-N-propylamine</u>***	***<u>0.01</u>***
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 5^{th} percentile of effluent flows and for pentachlorophenol, the pH value used is 7.5 standard units.

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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***

	CONSTITUENT	µg/L
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. <u>Site Map</u>

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]

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.

Comment [dlb5]: 4 units*27.5 mgd/unit = 110 mgd

Comment [dlb6]: 2 units * 27.5 mgd/unit = 55 mgd

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]: π/4*(100 ft)^2 * 9 ft*2 units = 141,372 cu ft

Comment [dlb15]: π/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

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.

Comment [dlb22]: 14 mg/L*44 mgd*8.34 lb/mil gal/mg/L = 5,137 lb/day

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

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.

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

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]

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.

Comment [dlb37]: 44 mgd*0.32 = 14.1 mgd

Comment [dlb38]: 14.1 mgd * 1.36 peaking factor = 19.2 mgd

Comment [dlb39]: $\pi/4*(120\ ft)^2$ = 11,310 sq ft

Comment [dlb40]: 2 units* $\pi/4*(120\ ft)^2$ = 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

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

1. For more information on calculated values, see comments in right margin.
2. Black & Veatch, 1996.
3. IEUA, 1996.

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

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]

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.

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

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]

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.

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

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

1. For more information on calculated values, see comments in right margin.
2. Black & Veatch, 1996.
3. RWQCB, 2009a.
4. Carollo Engineers, 2002.

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

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]

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.

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

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]

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.

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

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

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.

Comment [dlb128]: 4 pumps*150 gpm/pump = 600 gpm

Comment [dlb129]: (4-1 pumps) * 150 gpm/pump = 450 gpm

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_B		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.IO0001
CP4012	PCB_INPUTS	BACKUP GEN MASTER CONTROL	OPEN	CLOSED	GEN #1 CB	:IP_CNTL_SEQ.IO0001
CP4012	PCB_INPUTS	BACKUP GEN MASTER CONTROL	OPEN	CLOSED	GEN #3 CB	:IP_CNTL_SEQ.IO0001

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.IO0001
CP4012	PCB_INPUTS	BACKUP GEN MASTER CONTROL	BREAKER CLOSED	BREAKER OPEN	UTIL MAIN	:IP_CNTL_SEQ.IO0002
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 TURBIDTY 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	RECLAIMED WATER ZONE 2B	ZONE 2B PUMP 2 MOTOR FAIL OK	ZONE 2B PUMP 2 MOTOR FAIL	RECLAIMED WATER	5
ABST01	REC_WATER	ALARMS_2	RECLAIMED WATER ZONE 2B	ZONE 2B PUMP 2 VFD FAIL OK	ZONE 2B PUMP 2 VFD FAIL	RECLAIMED WATER	5
ABST01	REC_WATER	ALARMS_2	RECLAIMED WATER ZONE 2B	ZONE 2B PUMP 3 MOTOR OK	ZONE 2B PUMP 3 MOTOR FAIL	RECLAIMED WATER	5
ABST01	REC_WATER	ALARMS_2	RECLAIMED 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	RECLAIMED WATER ZONE 2B	ZONE 2B PUMP 3 START OK	ZONE 2B PUMP 3 FAIL TO START	RECLAIMED WATER	5
ABST01	REC_WATER	ALARMS_2	RECLAIMED 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					
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6					
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12					
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REASON