

Fiscal Year 2016/17 Ten-Year Capital Improvement Plan



Inland Empire Utilities Agency Fiscal Year 2016/17 Ten-Year Capital Improvement Plan

Inland Empire Utilities Agency

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Abbreviations

4R	Repair, Relocation, Reconstruction, and Rehabilitation
AFY	Acre-Feet of Water per Year
AMP	Asset Management Plan
ARRA	American Recovery Rehabilitation Act
BIP	Base Interruptible Program
BCU	Baseline Capacity Units
BMPTF	Basin Monitoring Program Task Force
CASA	California Association of Sanitation Districts
CBFIP	Chino Basin Facilities Improvement Project
CBWCD	Chino Basin Water Conservation District
CBWM	Chino Basin Watermaster
CCRA	Capital Capacity Reimbursement Account
CCTV	Closed Circuit Television
CCWRF	Carbon Canyon Wastewater Recycling Facility
CDA	Chino Desalter Authority
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CH₄	Methane
CO₂	Carbon Dioxide

CO2-eq	CO2 Equivalent
CPUC	California Public Utilities Commission
CSI	California Solar Incentive
CSDLAC	County Sanitation Districts of Los Angeles County
CUWCC	California Urban Water Conservation Council
CVWD	Cucamonga Valley Water District
DA	Direct Access
DCS	Distribution Control System
DR	Demand Response
DWR	Department of Water Resources
DYY	Dry Year Yield
EDU	Equivalent Dwelling Unit
ESP	Electricity Service Provider
FMP	Facilities Master Plan
FSL	Firm Service Level
FY	Fiscal Year
GG	Administrative Services Program
GPD	Gallons per Day
GPS	Global Positioning System
GWP	Global Warming Potential
H2S	Hydrogen Sulfide
HFC	Hydrofluorocarbon

HVAC	Heating/Ventilation/Air Conditioning
ICE	Internal Combustion Engine
IE	Inland Empire
IERCF	Inland Empire Regional Composting Facility
IEUA	Inland Empire Utilities Agency
IRP	Integrated Resource Plan
KPI	Key Performance Indicators
KW	Kilowatt
LOC	Lewis Operating Company
LOS	Level of Service
MACR	Modified Accelerated Cost-Recovery
mg/L	Milligrams per liter
MGD	Million Gallons per Day
MW	Megawatts
MG	Million Gallons
MWH	Megawatt Hours
MOU	Memorandum of Understanding
MVWD	Monte Vista Water District
MWD	Metropolitan Water District of Southern California
N2O	Nitrous Oxide
NC	Non-Reclaimable Wastewater Program Capital Fund
NEM	Net Energy Metering

NPDES	National Pollutant Discharge Elimination System
NRW	Non-Reclaimable Wastewater
NRWS	Non-Reclaimable Wastewater System
O&M	Operations & Maintenance
OBMP	Optimum Basin Management Plan
OBMP	Optimum Basin Management Plan
OCSD	Orange County Sanitation District
OWOW	One Water One Watershed
PPA	Power Purchase Agreement
PFC	Perfluorocarbon
PEIR	Program Environmental Impact Report
RC	Regional Capital Improvement (Wastewater) Fund
RCA	Regional Composting Authority
RDA	Redevelopment Agency
REC	Renewable Energy Credit
RO	Regional Operations and Maintenance (Wastewater) Fund
RP-1	Regional Plant No.1 in the City of Ontario
RP-2	Regional Plant No.2 in the City of Chino
RP-4	Regional Plant No.4 in the City of Rancho Cucamonga
RP-5	Regional Plant No.5 in the City of Chino
R&R	Repair and Replacement
RW	Groundwater Recharge Fund

RWC	Recycled Water Contribution
RWRP	Regional Water Recycling Plants
RWQCB	Regional Water Quality Control Board
SAWA	Santa Ana Watershed Association
SAWPA	Santa Ana Watershed Project Authority
SBCFCD	San Bernardino County Flood Control District
SCADA	Supervisory Control and Data Acquisition
SCAP	Southern California Alliance of Publicly-Owned Treatment Works
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SF6	Sulfur Hexafluoride
SGIP	Self-Generation Incentive Program
SHF	RP-5 Solids Handling Facility
SRF	State Revolving Fund
SWRCB	State Water Resources Control Board
TA&TI	Technical Assistance and Technology Incentives
TDS	Total Dissolved Solids
TIN	Total Inorganic Nitrogen
TOU-BIP	Time-of-Use Base Interruptible Program
TYCIP	Ten-Year Capital Improvement Plan
UPC	Unit Production Cost
USBR	United States Bureau of Reclamation

UWMP	Urban Water Management Plan
VFD	Variable Frequency Drives
WC	Recycled Water Program Fund
WFMP	Wastewater Facilities Master Plan
WSAP	Water Supply Allocation Plan
WUE	Water Use Efficiency

Introduction

PURPOSE OF TEN-YEAR CAPITAL IMPROVEMENT PLAN

The purpose of a capital improvement plan is to catalog and schedule capital improvement projects over a multiyear period. Each year, pursuant to the terms of the Regional Sewage Service Contract, the Inland Empire Utilities Agency (Agency/IEUA) submits a ten-year forecast of capacity demands and capital projects called the Ten-Year Capital Improvement Plan (TYCIP) to the Regional Technical and Policy Committees. This TYCIP identifies projects for the Fiscal Years (FY) 16/17 through FY 25/26 that are needed for the rehabilitation, replacement, or expansion of the facilities owned or operated by the Agency.

The TYCIP is a document which links the vision of the Agency with a list of physical projects to fulfill that purpose. Projects identified in the TYCIP are necessary to accomplish the Agency's goals based on physical conditions of assets and forecasted regional projections of water and wastewater needs. Based on these projections, the TYCIP proposes a schedule for the implementation of projects based on necessity. The timing of the projects identified in the TYCIP are further refined during the Capital Budget based on the availability of financial resources.

DEFINITION OF A CAPITAL PROJECT

The TYCIP is composed of a list of Capital Projects. Capital Projects are projects which involve the purchase, improvement or construction of major fixed assets and equipment, which are typically large in size, expensive, and permanent. Examples of capital projects include the expansion of treatment plants and the construction of pipeline and pump stations.

REGIONAL SEWAGE SERVICE CONTRACT REQUIREMENTS AND TYCIP ADOPTION

The Regional Sewage Service Contract is the guiding document that defines the terms of the services and facilities in the Agency's regional sewage system. The

contract was originally signed in January 1973, amended in April 1984, and is due for renewal in January 2023, 50 years after it was originally executed.

Per the Regional Sewage Service Contract, the TYCIP includes wastewater flow forecasts and a description of planned capital projects, including any necessary facility expansions, major asset repair and rehabilitation, and major capital equipment purchases. Projected annual expenditures and financing will be developed in the Agency's annual Operating and Capital Program Budget. After comments and recommendations from the Regional Technical and Policy Committees have been considered and incorporated, the TYCIP is presented to the Agency's Board of Directors for adoption.

CONNECTION OF TYCIP TO OTHER AGENCY PLANNING INITIATIVES

The TYCIP is one of several critical planning documents involved in the formation of capital improvements. These include:

- IEUA Business Goals
- IEUA Strategic Plan
- Urban Water Management Plan
- Facilities Master Plan Program Environmental Impact Report
- Asset Management Plan
- Ten Year Capital Improvement Plan
- Operating and Capital Program Budget
- Long-Range Plan of Finance
- Integrated Water Resources Plan
- Recycled Water Program Strategy
- Groundwater Recharge Master Plan Update

The IEUA Business Goals (2013) guide the development of the capital improvement program, operational budget, and organizational goals and objectives. The objectives and commitments outlined in the document establish the framework for the direction of the Agency and subsequent planning efforts. The Goals reflect the Agency's commitment to deliver high-quality, reliable services to customers in a regional, cost-effective manner through prudent financial planning and strategic resource management. Goals were categorized into six main areas: Fiscal Responsibility, Workplace Environment, Business Practices, Water Reliability, Wastewater Management and Environmental Stewardship. To meet these commitments the Agency is also conducting studies to establish baseline conditions

at the regional water recycling plants (RWPS), such as an Odor Assessment Panel Study.

The IEUA Strategic Plan serves as a transitional document between the IEUA Business Goals and the annual Operating and Capital Program Budget (Budget). Every two years a Strengths, Weaknesses, Opportunities, Threats (SWOT) analysis based on the current business environment is completed by executive management to update strategies within the IEUA Strategic Plan. These strategies introduce actions and timeframes to the high level IEUA Business Goals. In turn, those strategies become specific work plans containing department goals and objectives referenced in the budget book. The Strategic Plan, with a rolling five-year timeframe, outlines the fundamental decisions that shape what the Agency plans to accomplish and sets a rational course of action.

The 2010 Urban Water Management Plan (UWMP) and 2002 Facilities Master Plan Program Environmental Impact Report (FMP PEIR) are long-range planning documents that provide a vision of the desired future water resources and wastewater facilities programs for the Agency. The FMP PEIR links together three major fundamental master planning documents: the Chino Basin Organics Management Strategy (May 2001), the Recycled Water System Feasibility Study (2002), and the Wastewater Facilities Master Plan (2002). Within these documents, projects are identified to accommodate changes within the service area, such as increasing and shifting population growth, wastewater flows, water and recycled water supply demands, and salinity management. The Agency is currently updating these documents and developing an Integrated Resources Plan (IRP), which will be the foundation for the Agency's major programs. The IRP is targeted to be published in August 2015. Once the updated planning documents have been completed, identified projects will be used to generate a new Programmatic Environmental Impact Report (PEIR) that will be used to guide the Agency's future planning initiatives.

The Agency's first Asset Management Plan (AMP) was completed in 2014. The AMP provides an up-to-date inventory and status assessment of the physical assets owned by the Agency to determine the future funding requirements needed to maintain, repair, and manage these assets. A key component of developing the AMP is assembling a comprehensive list of the Agency's assets at each of the regional water recycling plants, recycled water distribution system, Inland Empire Regional Composting Facility, regional sewer system, and non-reclaimable wastewater system. Projects identified in the AMP will be instrumental in prioritizing and

planning for the repair and replacement of equipment and facilities. AMP updates will be done on an annual basis and align with the TYCIP and budget processes.

The TYCIP identifies and prioritizes the capital assets required to successfully carry out the Agency's dual mission of providing wastewater treatment services and wholesale potable water supplies to the service area in an environmentally responsible manner over the next ten years. The TYCIP contains projects identified by the maintenance, operations, engineering, and planning departments and will be used to determine revenue requirements and long-term rates and financial impacts to fund the proposed projects and anticipated operating costs. The TYCIP has historically been updated annually, but will move to a biannual cycle effective FY 16/17.

The annual Budget is an implementation document that prioritizes the identified physical improvements in the TYCIP and links them with available financial resources for the upcoming year. The FY 16/17 Budget will be published in June, 2015.

The Long-Range Plan of Finance is a document analyzing the long-term implications of financial decisions. Short-term actions can have far reaching implications and impact the Agency's future financial standing and available options. As a result, the Finance Department is in the process of completing the Long-Range Plan of Finance which is projecting financial trends over a 50-year period. This way the Agency can better anticipate and prepare for necessary adjustments and reduce sudden budgetary impacts to stakeholders and operations. The Agency is also doing a rate study in conjunction with the Long-Range Plan of Finance to evaluate connection fees and rates.

The Integrated Water Resources Plan (IRP) is the region's blueprint for ensuring reliable, cost-effective and environmentally responsible water supplies through 2040. The IRP evaluated current and future water supplies, and accounted for possible fluctuations in demand forecasts due to climate change impacts. IRP Phase 1, which tested eight regional supply strategies was completed in March 2016. IRP Phase 2, which will begin in July 2016, will focus on detailed modeling of identified local and regional projects.

The Recycled Water Program Strategy (RWPS) provided an updated forecast of regional direct use and recycled water available for groundwater recharge. Priority projects were identified through 2040 and were incorporated into both the IRP Phase 1 baseline supply assessments and the TYCIP project lists.

The 2013 Groundwater Recharge Master Plan Update identified and prioritized recharge improvement projects, locations for new recharge basins, and locations for existing basin expansion projects. RMPU projects that the region have committed to are incorporated into both the IRP the IRP Phase 1 baseline supply assessments and the TYCIP project lists.





IEUA Overview

INTRODUCTION

The Agency is a regional wastewater treatment agency and wholesale distributor of imported water. The Agency is responsible for serving approximately 844,000 people¹ over 242 square miles in western San Bernardino County. The Agency is focused on providing three key services: (1) treating wastewater, developing recycled water, local water resources, and conservation programs to reduce the region's dependence on imported water supplies and provide local supply resiliency to the service area; (2) converting biosolids and waste products into a high-quality compost made from recycled materials; and (3) generating electrical energy from renewable sources. This Ten-Year Capital Improvement Plan, beyond being a requirement of the Regional Sewage Service Contract between the Agency and its Contracting Agencies, is also a means of communicating the future projects and capital spending needed for future demands in the service area.

FORMATION & PURPOSE

The Agency was originally formed as the Chino Basin Municipal Water District on June 6, 1950 as a municipal corporation with the mission to supply supplemental imported water purchased from the Metropolitan Water District of Southern California (MWD) to municipalities in the Chino Basin. Since then, the Agency has expanded its mission from a supplemental water supplier to include regional wastewater treatment with both domestic and industrial disposal systems, and energy production facilities. In addition, the Agency has become a major provider of recycled water, a supplier of biosolids/compost materials, and continues its leading role in water quality management and environmental protection in the Inland Empire.

GOVERNANCE

The Agency is a special district which is governed by five publicly elected Board of Directors. Each director is assigned to one of the five divisions: Division 1- Upland/

¹Source: California Department of Finance

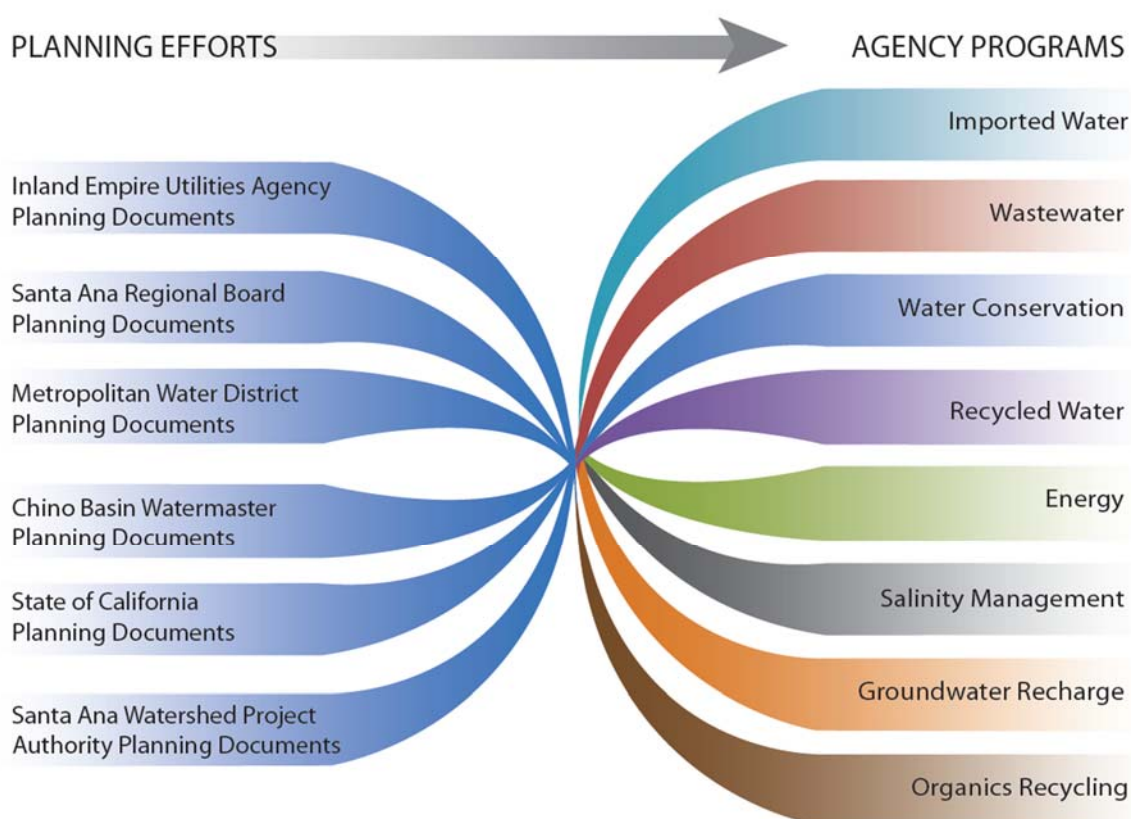
Montclair; Division 2- Ontario/Agricultural Preserve; Division 3- Chino/ Chino Hills; Division 4- Fontana; and Division 5- Rancho Cucamonga. Monthly meetings are also held with the Regional Technical and Policy Committees comprised of representatives from each of the Agency's Regional Sewer Service Contracting Agencies. These Committees discuss and provide information on technical and policy issues affecting the Agency.

INTER-AGENCY COORDINATION IN THE CHINO BASIN

The Agency joined the Santa Ana Watershed Project Authority (SAWPA) in 1972 to participate in regional watershed-scale planning. The Agency also sits on the Board of Directors for MWD, SAWPA, and Chino Basin Watermaster (CBWM).

The Agency collaborates with SAWPA, MWD, CBWM, and the Regional Water Quality Control Board (RWQCB) to develop regional planning documents. The Agency also works with state agencies, such as the Department of Water Resources and CalEPA in the development of State of California planning documents. Figure 2 below illustrates how the various regional and state planning documents are tied to the Agency's capital and operational programs.

FIGURE 2: COORDINATED REGIONAL PLANNING

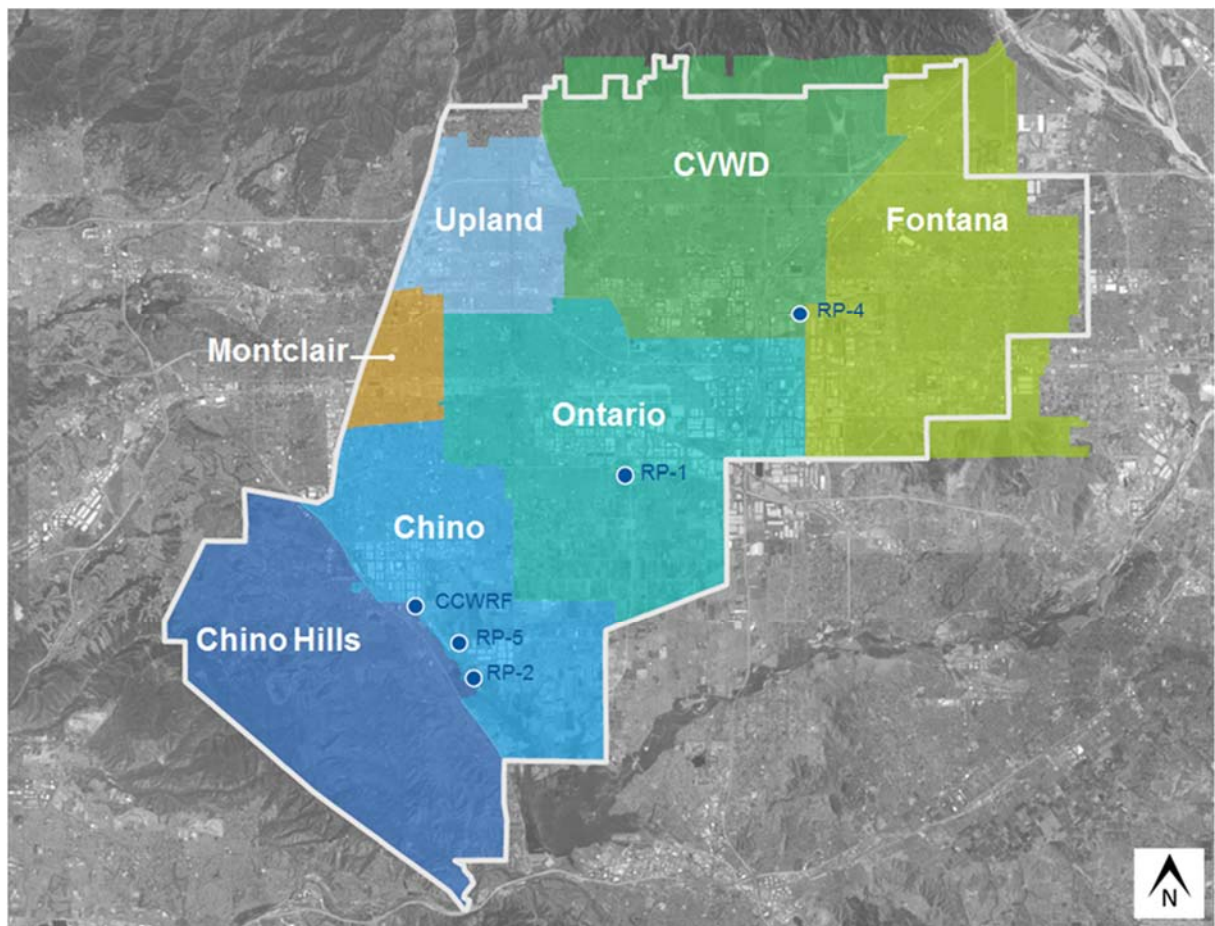


CONTRACTING AND RETAIL AGENCIES

As a regional wastewater treatment agency, the Agency provides sewage utility services to seven contracting agencies under the Chino Basin Regional Sewage Service Contract: the cities of Chino, Chino Hills, Fontana, Montclair, Ontario, Upland, and Cucamonga Valley Water District (CVWD) in the city of Rancho Cucamonga. Figure 3 depicts each Contracting Agency's sphere of influence within the Agency's service area.

In addition to the contracting agencies, the Agency provides wholesale imported water from MWD to seven retail agencies: the cities of Chino, Chino Hills, Ontario, Upland, CVWD in Rancho Cucamonga, Fontana Water Company in Fontana, and the Monte Vista Water District (MVWD) in the city of Montclair.

FIGURE 3: IEUA CONTRACTING AGENCIES



REGIONAL PROGRAMS & FACILITIES OVERVIEW

Industrial and municipal wastewater collections are provided through regional wastewater interceptors and two non-reclaimable wastewater pipeline systems. Recycled water is produced at four RWRPs. In addition, the Agency has three facilities where the biosolids from the water recycling plants are handled: RP-1 Solids Handling Facility, RP-2 Solids Handling Facility, and the Inland Empire Regional Composting Facility. The Agency also has a solids handling facility at RP-5 which is leased to a private enterprise that intends to produce biogas and energy from food and dairy waste.

Although the Agency is a wholesale water provider, the Agency has very little infrastructure or assets related to potable water treatment, conveyance, or use. Water resources-related assets are connected to the recycled water, drought-proofing, and demand management programs. In addition to recycled water and wastewater services, the Agency operates a network of groundwater recharge facilities in partnership with Chino Basin Watermaster (CBWM), San Bernardino County Flood Control District (SBCFCD), and Chino Basin Water Conservation District (CBWCD). The Chino Desalter I facility is operated by the Agency in coordination with the Chino Desalter Authority to manage the salinity of the Chino Basin.

Regional Wastewater Facilities

The Agency has four RWRPs which produce recycled water that meet Title 22 standards for indirect reuse and groundwater recharge. All of the RWRPs have primary, secondary, and tertiary treatment and recycled water pumping facilities that are interconnected in a regional network. Agency staff uses influent bypass and diversion facilities, such as the San Bernardino Lift Station, Montclair Diversion Structure, Etiwanda Trunk Line, and Carbon Canyon bypass, to optimize the Agency's flows and capacity utilization. In general, flows are routed between regional plants in order to maximize recycled water deliveries while minimizing overall pumping and treatment costs. Figure 5 illustrates the service area boundaries for the Agency's four RWRPs

The four Regional facilities are: Regional Water Recycling Plant No. 1 (RP-1), Regional Water Recycling Plant No. 4 (RP-4), Regional Water Recycling Plant No. 5 (RP-5), and Carbon Canyon Wastewater Recycling Facility (CCWRF). The biosolids produced at RP-4 and RP-1 are thickened, digested, and dewatered at solids

handling facilities located at RP-1. Similarly, the CCWRF and RP-5 biosolids are treated at Regional Water Recycling Plant No. 2 (RP-2). The stabilized and dewatered solids are then transported to the Inland Empire Regional Composting Facility for processing into soil amendment.

RP-5 began treating and discharging wastewater in March 2004. At that time, the RP-2 wastewater influent was diverted to RP-5 for treatment. Since portions of RP-2 are located in the 100-year flood plain, liquid wastewater processing at RP-2 was discontinued and the plant is currently used only for processing solids from RP-5 and CCWRF. Biosolids will continue to be processed at RP-2 until solids handling facilities are constructed at RP-5 around 2022.

The Agency has a network of regional interceptor sewers that can be used to bypass flow from one water recycling plant to another to balance and optimize the use of treatment capacity. Currently, the regional interceptors can bypass flow from RP-4 to RP-1 and from CCWRF to RP-5. In addition, primary effluent can be bypassed from the RP-1 equalization basins to RP-5.

The main routes for bypassing/diverting flow are:

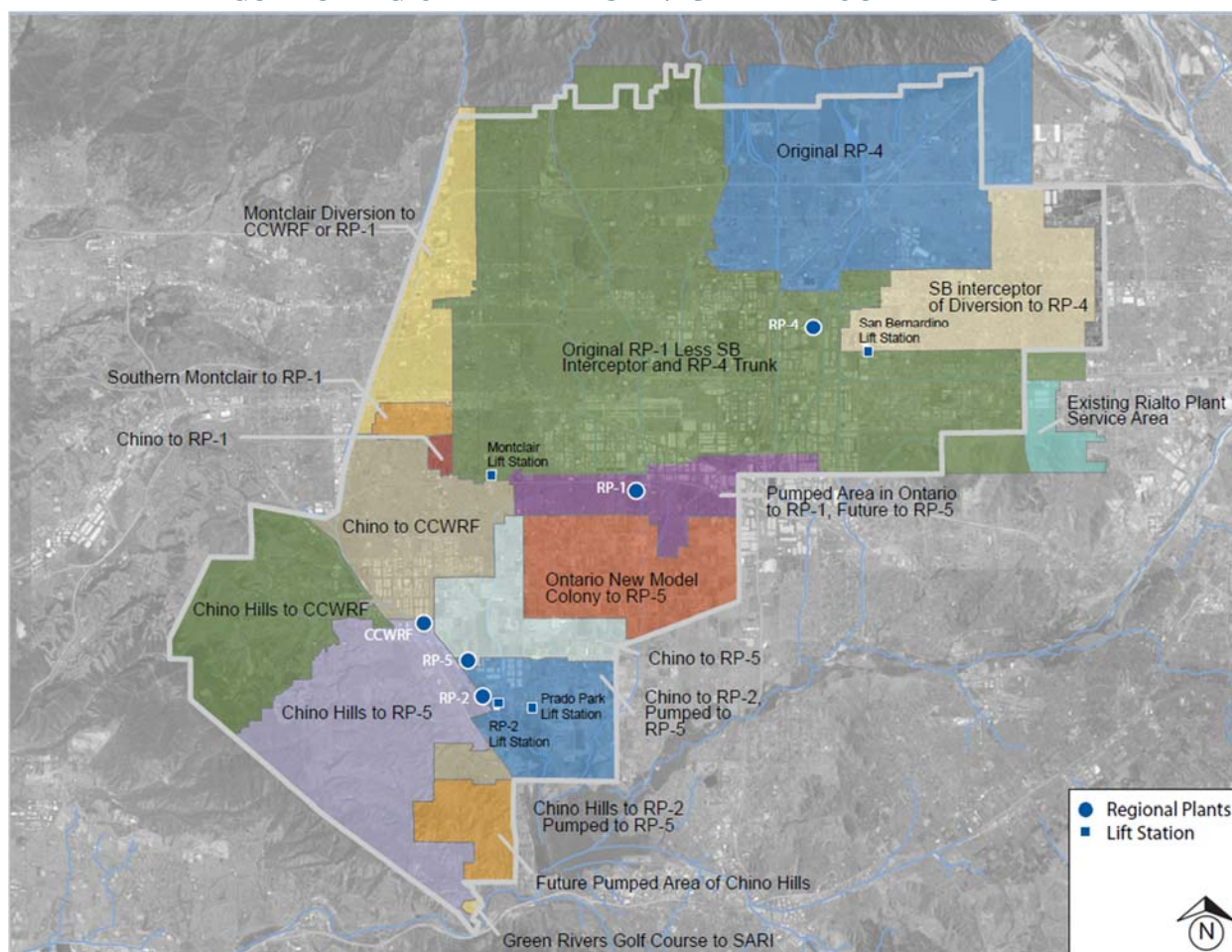
- Up to approximately 6 million gallons per day (MGD) can be bypassed from RP-4 to RP-1 through the Etiwanda Interceptor.
- 1 to 2 MGD is typically bypassed from CCWRF to RP-5 through the Chino Interceptor.
- A portion of the flow from the Cities of Upland and Montclair (approximately 4 MGD) can be diverted either to CCWRF, through the Westside Interceptor, or to RP-1, via the Montclair Lift Station and Montclair Interceptor. To optimize groundwater recharge in the northern service area, all flow from Upland to Montclair are diverted to RP-1 for treatment and distribution as discussed in the WFMP.
- Primary effluent and sludge can be diverted from the RP-1 equalization basins into the Eastern Trunk Sewer where it then flows by gravity to RP-5. The RP-1 to RP-5 Bypass is typically not used under normal operation in order to keep water north for GWR. In special circumstances (shutdowns, projects, upsets) the bypass is used and at these times average flows would be 1-2 MGD.

The Agency also has four wastewater lift stations, which are shown on Figure 6. These are used to shift flows that would naturally flow from one portion of the

service area to a different treatment plant to balance flows and keep water in the northern portion of the service area to maximize potential recycled water use. The lift stations are:

- Montclair Lift Station– pumps wastewater from portions of Montclair, Upland, and Chino to RP-1 and CCWRF.
- Prado Park Lift Station– pumps wastewater from the Prado Regional Park in the City of Chino to the RP-2 Lift Station
- RP-2 Lift Station– pumps wastewater from the southeastern portions of the cities of Chino and Chino Hills and the solids treatment side streams from RP-2 to RP-5.
- San Bernardino Avenue Pump Station– pumps a portion of the flow from the City of Fontana to RP-4.

FIGURE 5: REGIONAL PLANT SERVICE AREA BOUNDARIES



Recycled Water Distribution System

The Agency has served recycled water to its member agencies since formation of the Regional Sewage Service Contract in 1972. The Agency currently receives over 50 million gallons per day (MGD) of wastewater from its member agencies. The wastewater is treated to Title 22 regulations set forth by the California Department of Health Services and supplied to the recycled water distribution system.

Recycled water was originally delivered to Whispering Lakes Golf Course and Westwind Park in the city of Ontario, as well as to Prado Regional Park and El Prado Golf Course in San Bernardino County. In the early 1990's, the Agency built the first phase of the Carbon Canyon Recycled Water Project, which now serves customers in Chino and Chino Hills. In 2000 the region identified recycled water as a critical component in providing water supply resiliency for the region, including providing relief from drought and maintaining economic growth. With imported water rates increasing and long-term imported supply reliability in decline, the Agency committed to develop local water supplies to offset these impacts. This set the path for the development of a regional recycled water program. By 2014 over \$250 million has been invested into the regional recycled water program. The region has been successful at obtaining grant funding and reduced interest loans to help subsidize capital costs for the Agency and its member agencies.

Since the early 2000's, recycled water and groundwater recharge sales increased to approximately 30,000 acre-feet per year (AFY). During the fiscal year 2014-15, the Agency delivered over 33,000 acre-feet of this reliable local water supply to the region. On average, the program has been able to utilize approximately 90% of the regions recycled water supply. Major benefits of the regional recycled water program include:

- New Water Supply – delivery of over 30,000 AFY of a local water supply
- Enhances Water Quality – improves the quality of the Chino Basin aquifer
- Reliable supply – is not directly impacted by drought or climate change and helps mitigate the impacts of regional and statewide water supply limitations
- Reduces dependence on imported supplies – increases local water supply reliability and decreases water imports from the Sacramento Bay Delta
- Reduces greenhouse gas emissions – requires significantly less energy to deliver to customers than imported water

The regional recycled water program is committed to maximizing the beneficial use

of recycled water. The Agency will continue to develop, expand, and provide flexibility to the program to allow the region to utilize of all available recycled water supplies. Expansion of the program relies upon the treatment capacities at the four regional treatment facilities and wastewater flow projections. These constraints must be considered and coordinated with future expansion needs for the regional recycled water program. The next phase of capital improvements and priorities will be developed as part of the 2015 Recycled Water Program Strategy and the Integrated Water Resources Plan.

Groundwater Recharge Basins

In conjunction with the CBWM, CBWCD, and SBCFCD, the Agency conducts the groundwater recharge program within Chino Basin to increase groundwater recharge using stormwater, recycled water, and imported water. By enhancing the recharge capacity in the Chino Basin, additional high-quality stormwater can be captured and stored. The stored water can subsequently be withdrawn from the groundwater basin as needed, during droughts, and during imported water shortages. Figure 6 is a map of the 18 recharge sites that are an active part of the recharge program. Annual recharge varies due to weather patterns and the availability of supplemental water supplies (imported water and recycled water). Estimated monthly recharge capacities for the recharge sites are listed in Table 1.

The Agency, CBWM, CBWCD, and their respective member agencies completed the 2013 Recharge Master Plan Update (Update) to the 2010 Recharge Master Plan. The Update evaluated 27 yield enhancing capital projects for the Chino Basin. The Agency has agreed to finance three of these projects and has included them in the TYCIP project lists. The remaining 24 projects require additional investigation to evaluate their feasibility and cost-effectiveness for incorporation into the recharge program. The Agency is working with CBWM and CBWCD toward this end.

Salinity Management

Maintaining a low salinity (total dissolved solids, TDS) level in recycled water is critical to ensure that recycled water can be used for groundwater recharge and other uses. To reduce the salinity, the Agency operates a Non-Reclaimable Wastewater System (NRWS) comprised of pipelines and pump stations which export high-salinity industrial wastewater generated within the Agency's service area to the Pacific Ocean (see Figure 7). This system also ensures that the Regional Water Recycling Plants do not exceed the TDS discharge limits established by the Regional

FIGURE 6: CHINO BASIN RECHARGE PROGRAM SITES



Water Quality Control Board. In addition, the Agency is implementing other salt management activities including the implementation of a water softener ordinance and by offering a water softener rebate to remove salt-based water softeners in order to reduce salt from being introduced into the wastewater treatment process.

The NRWS is comprised of a north and a south system. The north system conveys the non-reclaimable wastewater to County Sanitation Districts of Los Angeles County (CSDLAC) for treatment and disposal. The south system conveys wastewater through the Brine Line (owned by Santa Ana Watershed Project Authority, SAWPA), to the Orange County Sanitation District (OCSD).

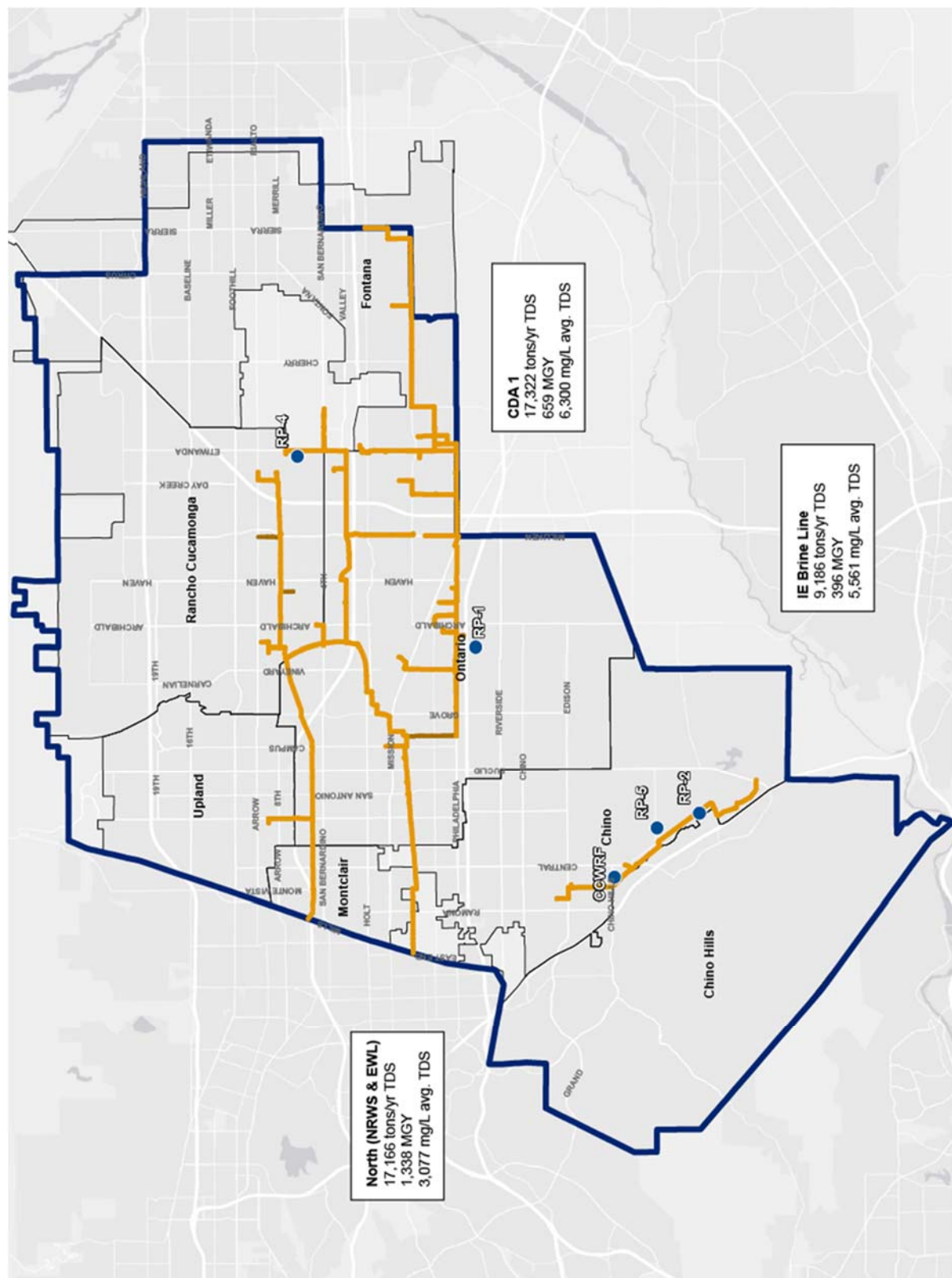
Wastewater discharged to the NRWS consists mainly of industrial and groundwater treatment brines. The Agency also discharges centrate resulting from the dewatering of the biosolids generated within the Agency's water recycling treatment facilities and some domestic wastewater from non-sewered areas. The NRWS is physically

TABLE 1: ESTIMATED MONTHLY RECHARGE CAPACITY

Recharge Site	Recycled Water Recharge Capacity (Acre-Feet per Month)
7th and 8th St. Basins	170
Banana Basin	117
Brooks Basin	188
College Heights Basins*	457
Declez Basin	151
Ely Basins	193
Etiwanda Debris Basin*	263
Grove Basin*	38
Hickory Basin	136
Lower Day Basin	340
Montclair Basins*	559
RP3 Basin	760
San Sevaine Basins	108
Turner Basins	161
Upland Basin*	187
Victoria Basin	160
Wineville Basin*	409
Total	4,397

* Basin not permitted for recycled water recharge

FIGURE 7: SALT EXPORT THROUGH THE CHINO BASIN'S 60 MILE NON-RECLAIMABLE WASTEWATER SYSTEM (NRWS)



The NRWS removes a total of 43,674 tons of TDS each year from the Agency's service area.

separated from the Regional Wastewater System and provides a means for segregating non-reclaimable wastewater for export out of the Agency's service area. By maximizing the use of the NRWS, the quality of recycled water is improved for local use and helps ensure that the Agency can comply with the final effluent TDS and total nitrogen limits listed in the National Pollutant Discharge Elimination System (NPDES) permit.

The CSDLAC and the Agency entered into agreements dating back to 1966 under which the CSDLAC agreed to accept a portion of the Agency's industrial wastewater flows from the NRWS. In 2013, the Agency and CSDLAC executed a new NRWS Agreement, effective July 1, 2014. The new Agreement includes a 30-year term with up to four additional 5-year extensions and provides 15,000 initial Baseline Capacity Units (BCU) for allocation amongst the existing NRWS customers. Additional Capacity Units may be purchased or leased, and payment of remaining capital charges funded by SRF loans, will be paid in full over a 6-year term.

Inland Empire Regional Composting Facility

The IERCF was constructed in 2007 under a Joint Powers Authority agreement between the Agency and the CSDLAC. The IERCF, located in Rancho Cucamonga, is completely enclosed to control odors to meet stringent air quality regulations and is the nation's largest indoor biosolids composting facility.

The IERCF uses the Aerated Static Pile composting process to recycle approximately 150,000 wet tons/year of dewatered and stabilized biosolids from the Agency and CSDLAC's wastewater treatment processes as well as wood waste from local communities. It produces over 230,000 cubic yards of high quality compost each year for local landscaping and horticultural use. The composted product, marketed as SoilPro® Premium Compost, is sold as a soil conditioner which helps improve water retention, resulting in better plant growth and water savings.

The facility is currently operating at its design capacity, receiving nearly 600 tons per day of biosolids and recycled waste products. The potential of freeing up 50 wet tons per day of additional capacity at the IERCF can be achieved by the RP-1 Dewatering Facility capital improvement project. This project includes will use centrifuges to dry solids to a higher percentage.

Renewable Energy

The Agency has made significant strides in decreasing energy costs, enhancing the Agency's ability to help achieve the State's goals of improving the reliability of the energy grid, and reducing greenhouse gasses by investing in renewable energy. In an effort to diversify and maximize renewable energy generation, the Agency installed 3.5 megawatts (MW) of solar power in 2008, a 1 MW wind turbine in 2011 and a 2.8 MW biogas fuel cell in 2012. Combined, these projects have provided more than 50% of peak energy demand Agency wide, and net energy export at RP-2.

The Agency is continually evaluating new technologies that can increase sustainability. Full utilization of renewable digester gas to support sustainability and minimize gas flaring is a primary goal. Third party audits were conducted in 2015 to assess equipment performance and identify opportunities for increased efficiency. The Agency has implemented projects to improve efficiency as recommended in these audits. Agency personnel will assess operational processes and strive for optimization to reduce energy wherever possible.

To continue toward the goal of increasing the Agency's use of renewable energy by 2020, the Agency developed an Energy Management Plan (EMP) in 2015. The EMP focuses on energy conservation and sustainable operations of the regional facilities. To do this, past performance, new technologies, and anticipated regional needs were evaluated to construct a blueprint for continued reliability and enhanced efficiency for the Agency.





Wastewater Flow Projections

Wastewater flow forecasts are conducted annually and are based on three components: (1) historical wastewater flow trends; (2) per dwelling unit wastewater generation factors; and (3) expected future growth numbers provided by Contracting Agencies. Projections are used to determine future demands on the Agency's facilities in order to anticipate the need for modifications to Regional Water Recycling Plants (RWRP) and Solids Handling facilities.

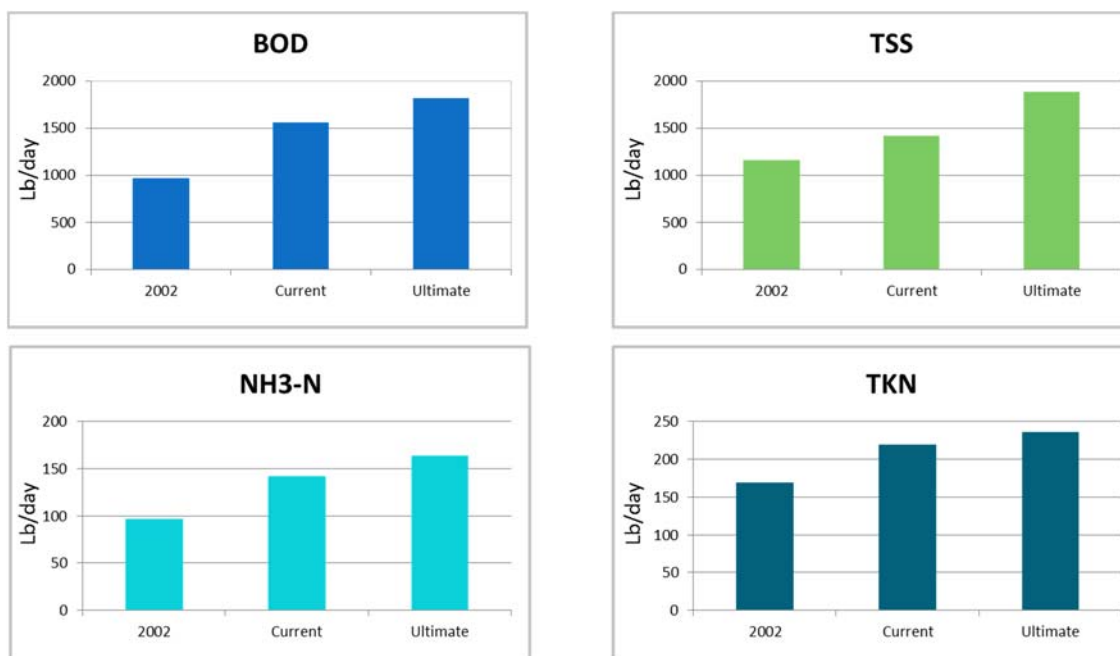
Based on analyses of the components, 10-year flow projections have been made for each of the Agency's RWRPs, and for the Agency's service area. The projected flows are then compared to current and future planned plant capacities. For these forecasts, the "tributary area flow" is defined as raw sewage flow from the service area that is naturally tributary to a particular RWRP without pumping, diversion or bypassing. In contrast, the treated influent flow is the actual flow that is received and treated at the RWRP. The treated influent flow is different than the tributary area flow because the RWRPs are interconnected, allowing some of the tributary flow to be re-routed between plants. In addition, treated influent flow includes the recycle streams generated during solids processing that are sent back to the plant headworks for additional treatment.

Member Agency's ten-year flow forecast for FY16/17 indicated that the total system capacity would exceed 75% of regional capacity. This initiated the in-development Wastewater Facilities Master Plan Update (WWFMPU) to conduct treatment plant flow monitoring, strength loading, evaluate treatment plant capacities and identify expansion needs, through ultimate build-out based on city master plans and SCAG data.

WASTEWATER FLOW TRENDS

Since FY06/07, the Agency's wastewater flows have declined by approximately 10%, but strength has increased. This is believed to reflect the effects of water conservation, the recession, and drought conditions. As part of the WWFMPU, wastewater flow monitoring of influent flows show that loading has significantly

FIGURE 8: INFLUENT WASTEWATER LOADING INCREASES



Source: draft 2015 Wastewater Facilities Master Plan

increased from the 2002 Wastewater Facilities Master Plan, and are projected to increase due to a continued reduction of flows per EDU (see Figure 8).

Although wastewater flows have decreased, the Agency has been able to increase the amount of recycled water supplied to users by using the San Bernardino Avenue Lift Station and the Montclair Lift Station to route additional raw wastewater to the recycling plants in the northern service area where the system has been expanded and where groundwater recharge basins are located.

Figure 9 illustrates the wastewater flow pattern within the Agency in FY13/14 and the current flows being treated at each of the Agency's RWRPs. For FY13/14, the average raw wastewater flow treated was 52.2 MGD and the treated influent flow was 54.4 MGD. The difference was due to 2.2 MGD of solids processing recycle flow sent from RP-2 to the RP-5 headworks for additional treatment. Figure 10 shows the projected flows to the treatment plants in 2035 and 2060 (ultimate) based on the WWFMPU. The WWFMPU estimates that there will be a regional flow of 73.5 MGD by 2035 and an ultimate/build-out flow of 87.9 MGD by 2060. Although these periods are beyond the 10-year window of the current TYCIP, this implies that there will be a number of facilities expansions over the next 20 years. A rough timeline based on the WWFMPU findings for plant expansions is shown in Table 2.

Expansions at RP-5, the relocation of RP-2 solids handling to RP-5, and RP-1 Liquid Treatment Expansion are included in the 10-year window.

WASTEWATER FLOW GENERATION FACTORS

The regional collection system and RWRPs were planned and designed using the raw wastewater generation factor of 270 gallons per day per equivalent dwelling unit (GPD/EDU), as specified in the Regional Sewerage Service Contract, Exhibit J. Although the Agency still plans its regional system around Exhibit J, new developments are using less water due to water-conserving devices and new water use efficiency laws. Even as the economy improves the Agency expects average flows throughout the service area to remain well below the 270 GPD/EDU due to the rising water costs, reduced imported water supply availability, and increased water conservation measures.

Recent flow monitoring conducted by the Agency as part of the WWFMPU suggests that the current average influent flow rate is 200 GPD/EDU, although long-term the flow may decrease to 195 GPD/EDU. As a result, the future flow projections for the RWRPs illustrated on the following pages were calculated using both 200 and 270 GPD/EDU. However, when combined with the expected increased wastewater loading strength of BOD, TSS, NH₃-N, and TKN relative total flow, increased treatment capacity will be needed or require investments in new treatment processes.

ANTICIPATED SERVICE AREA GROWTH

The results of the 10-year capacity demand forecast based on the August 2013 Member Agency survey are summarized in Table 3. For FY16/17, the forecasted activity was 5,277 EDUs. Over the next ten years, activity was projected to total 34,090 EDUs. Approximately 60% of this activity was projected to occur in the cities of Ontario and Fontana as the result of new development. Over the next ten years,

TABLE 2: PRELIMINARY TREATMENT PLANT EXPANSION SCHEDULE

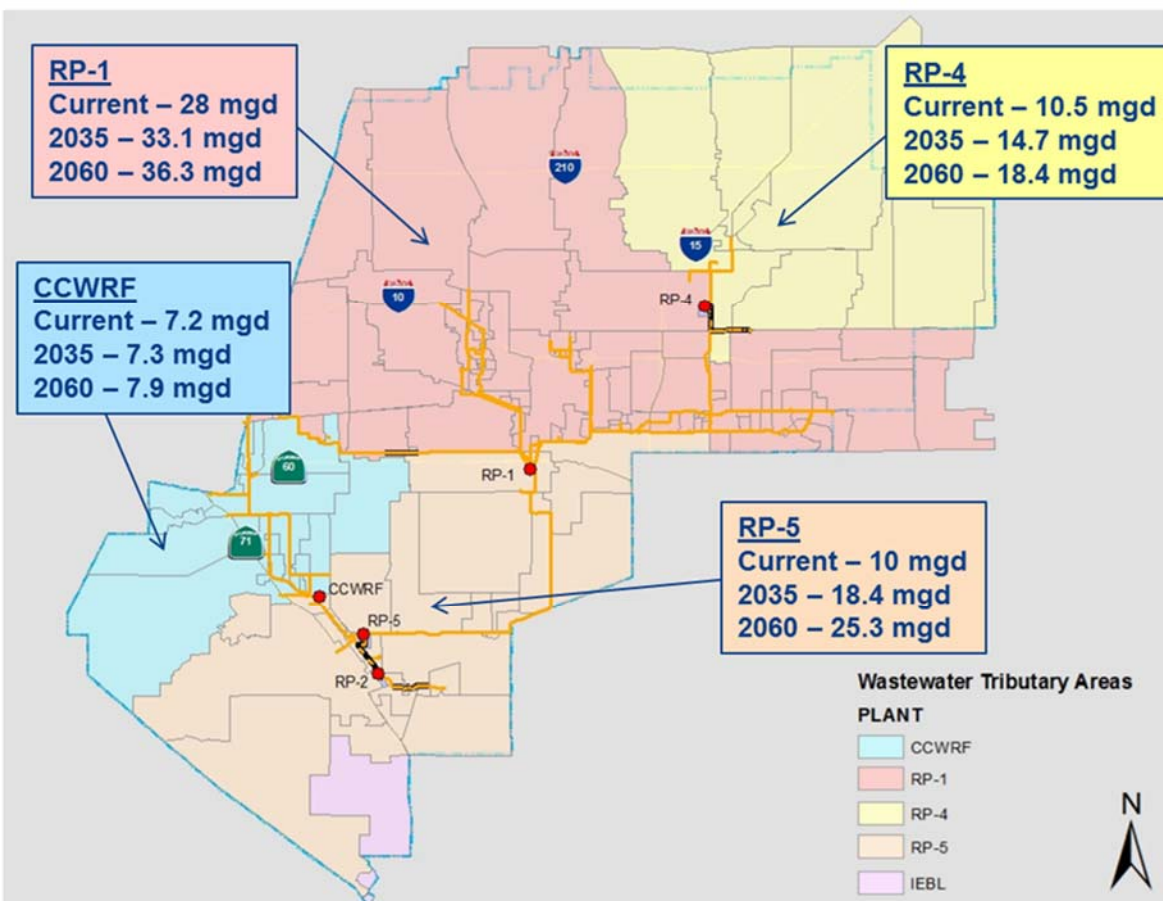
Description	15/20	20/25	25/30	30/35	Total Cost
RP-1 Liquid Treatment Expansion					\$83.0M
RP-1 Solids Treatment Expansion					\$25.0M
RP-2 Decommissioning					\$30.0M
RP-4 Tertiary Expansion					\$25.0M
RP-5 Liquid Treatment Expansion					\$125.0M
RP-5 Solids Treatment Facility					\$136.0M

building activity is projected to be approximately 76% residential and 24% commercial/industrial (see Table 4).

Individual baseline forecast exhibits for each treatment plant at 270 and 200 GPD/EDU are located at the end of this section. These tables represent typical operational flow scenarios, based on current operating procedures. This includes the following assumptions:

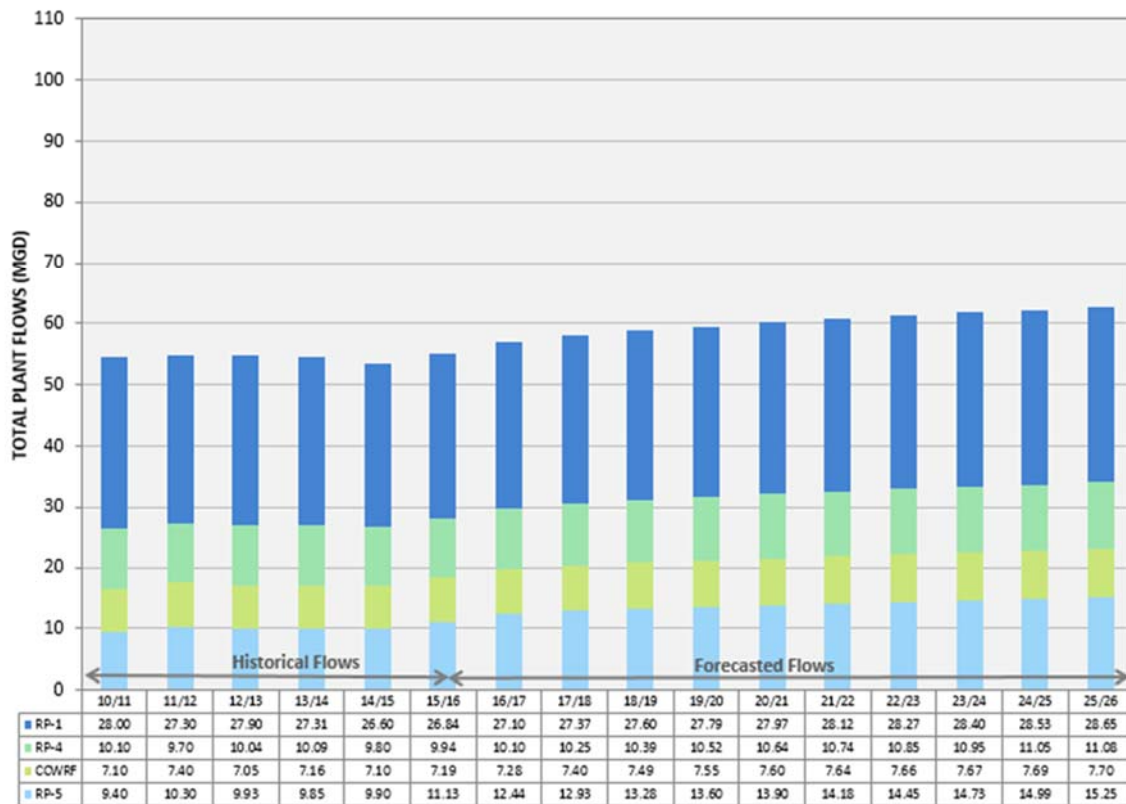
- Flow is approximately 200 GPD/EDU
- Uses the contracting agencies projected EDU growth as a basis
- Former Ontario Lift Station flow (2.5 MGD) is considered part of RP-5 raw service area flow
- San Bernardino Lift Station routes 4.5 MGD which would otherwise naturally flow to RP-1 to RP-4
- 2.2 MGD of Montclair Interceptor flows are routed to RP-1
- 2.3 MGD is bypassed from CCWRF to RP-5

FIGURE 10: PROJECTED TRIBUTARY SEWER FLOWS



Areas developed by IRP Wastewater Flows Projections TM (RMC 2013)

FIGURE 11: HISTORICAL TOTAL PLANT FLOWS (200 GPD/EDU)



- SARI flows from (0.7 MGD) will be diverted to RP-5 starting in FY 14/15

Table 5 indicates the projected EDUs by treatment plant over the next 10 years. Total regional system capacity utilization projections are illustrated in Figure 12 and 13.

FIFTY YEAR FLOW PROJECTION

As part of the WWFMPU, flow projections were made for each plant to ultimate conditions which are expected to be reached by 2060. As indicated in Table 6 wastewater flows are estimated to reach approximately 87.9 MGD by the year 2060.

TABLE 3: 10-YEAR CAPACITY DEMAND FORECAST BY AGENCY

Fiscal Year	Chino EDUs	Chino Hills EDUs	CVWD EDUs	Fontana EDUs	Montclair EDUs	Ontario EDUs	Upland EDUs	Total EDUs
2016/17	610	1236	364	695	85	2050	237	5277
2017/18	725	702	364	678	142	2350	226	5187
2018/19	424	442	364	623	29	1950	231	4063
2019/20	344	272	364	485	29	1800	176	3470
2020/21	344	182	364	462	29	1700	144	3225
2021/22	344	133	364	370	29	1600	71	2911
2022/23	344	96	364	372	29	1500	18	2723
2023/24	344	64	322	375	29	1500	0	2634
2024/25	344	6	250	382	29	1500	0	2511
2025/26	344	1	215	0	29	1500	0	2089
TOTALS	4167	3134	3335	4442	459	17450	1103	34090

TABLE 4: 10-YEAR DEMAND FORECAST BY
CUSTOMER TYPE

Fiscal Year	Residential (EDUs)	Commercial/ Industrial	Total (EDUs)
2016/17	4392	885	5277
2017/18	4090	1097	5187
2018/19	3214	849	4063
2019/20	2677	793	3470
2020/21	2485	740	3225
2021/22	2185	726	2911
2022/23	1996	727	2723
2023/24	1910	724	2634
2024/25	1806	705	2511
2025/26	1494	595	2089
TOTALS	26249	7841	34090

TABLE 5: 10-YEAR DEMAND FORECAST BY REGIONAL PLANT

Fiscal Year	RP-1 EDUs	RP-4 EDUs	CCWRF EDUs	RP-5 EDUs	TOTAL EDUs
2016/17	1291	782	451	2753	5529
2017/18	1354	768	603	2462	5187
2018/19	1140	721	428	1774	4063
2019/20	960	619	303	1588	3470
2020/21	890	602	264	1469	3225
2021/22	784	524	184	1419	2911
2022/23	715	527	109	1372	2723
2023/24	673	530	72	1359	2634
2024/25	645	493	58	1315	2511
2025/26	591	130	53	1315	2089
TOTALS	9043	5696	2525	16826	34342

TABLE 6: WWFMPU PROJECTED AVERAGE INFLUENT WASTEWATER FLOW

Year	RP-1 (MGD)	RP-4 (MGD)	CCWRF (MGD)	RP-5 (MGD)	Total (MGD)
2020	30.4	11.7	6.9	10.2	59.2
2030	32.2	14.0	7.1	15.9	69.2
2035	31.1	14.7	7.3	18.4	73.5
2040	34.0	15.4	7.4	20.9	77.7
2050	36.1	16.8	7.7	24.8	85.4
2060	36.3	18.4	7.9	25.3	87.9

Source: TM No.4, WWFMPU (CH2M Hill 2014)

FIGURE 11: REGIONAL SYSTEM TREATED INFLUENT FLOW FORECAST

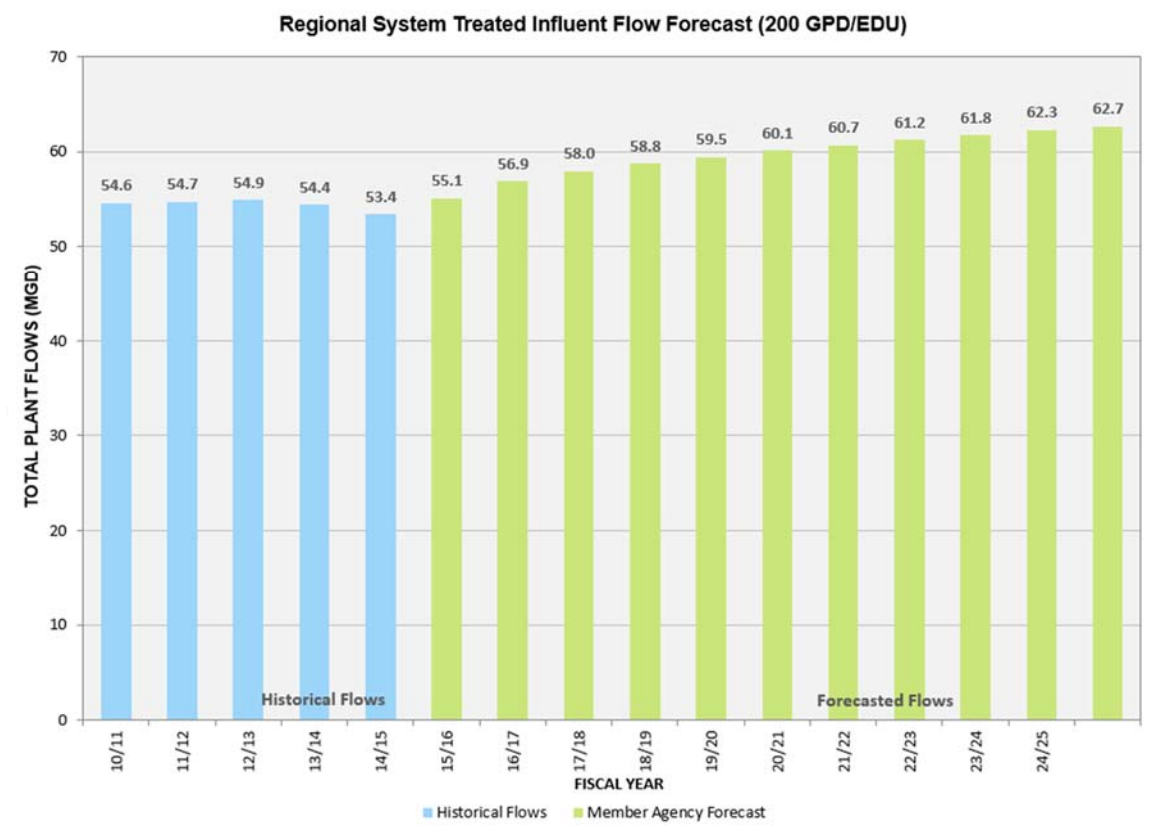


FIGURE 12: REGIONAL SYSTEM TREATED INFLUENT FLOW FORECAST

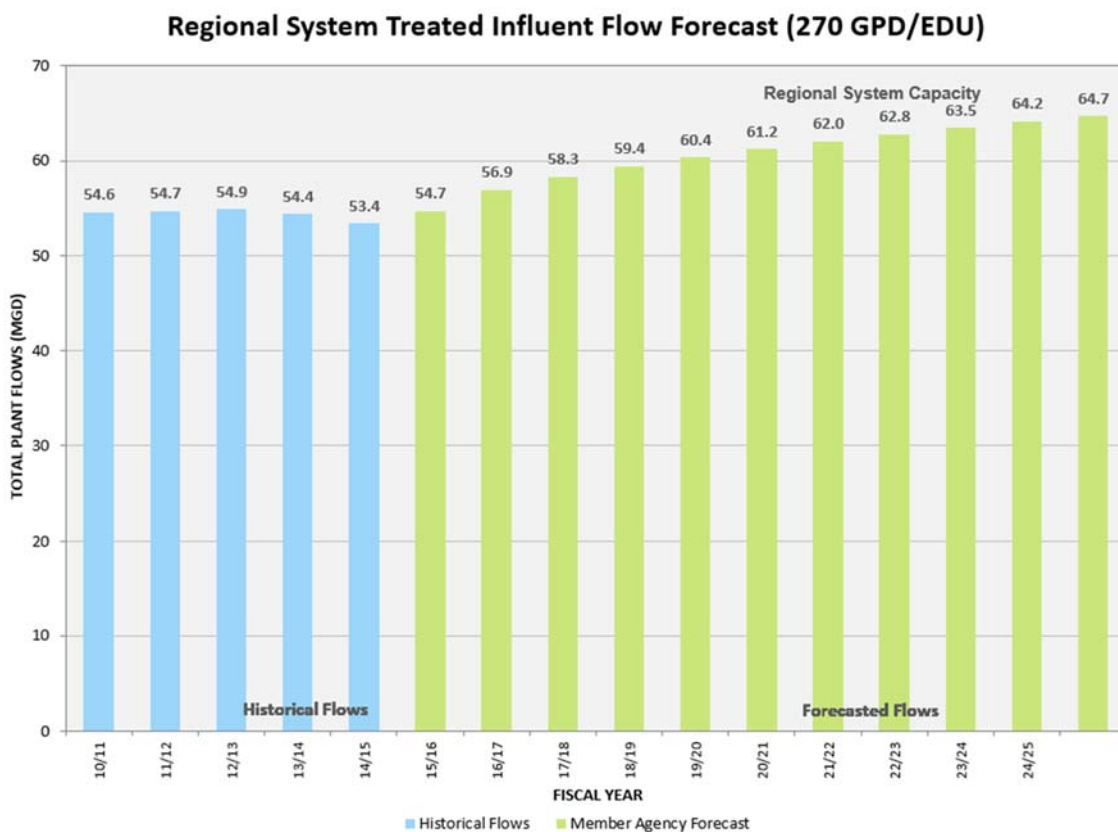


EXHIBIT A: RP-1

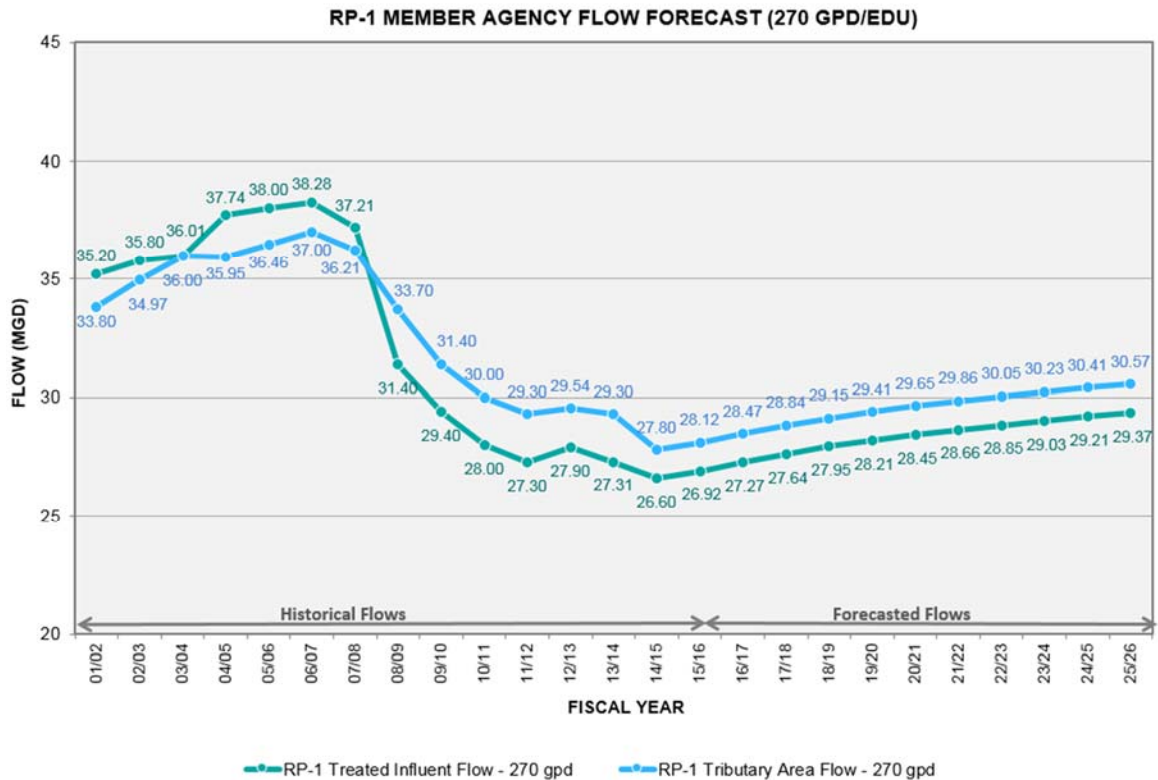
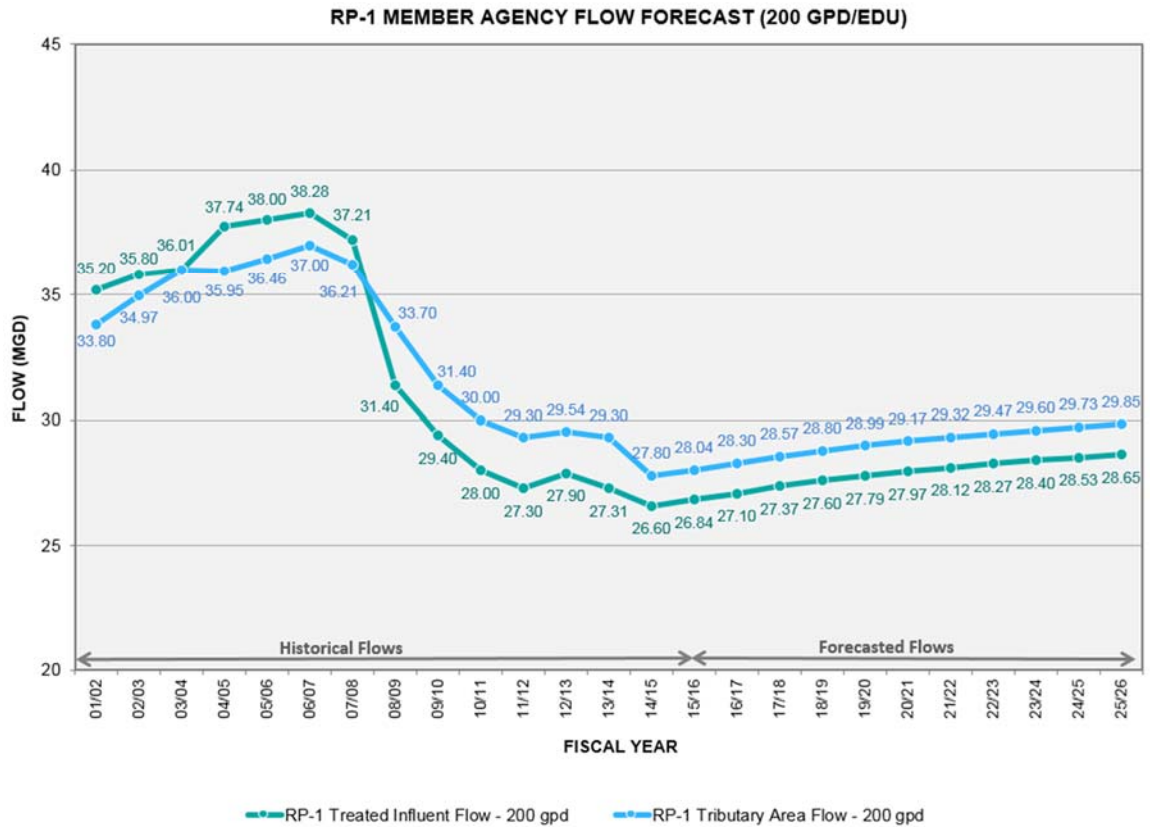
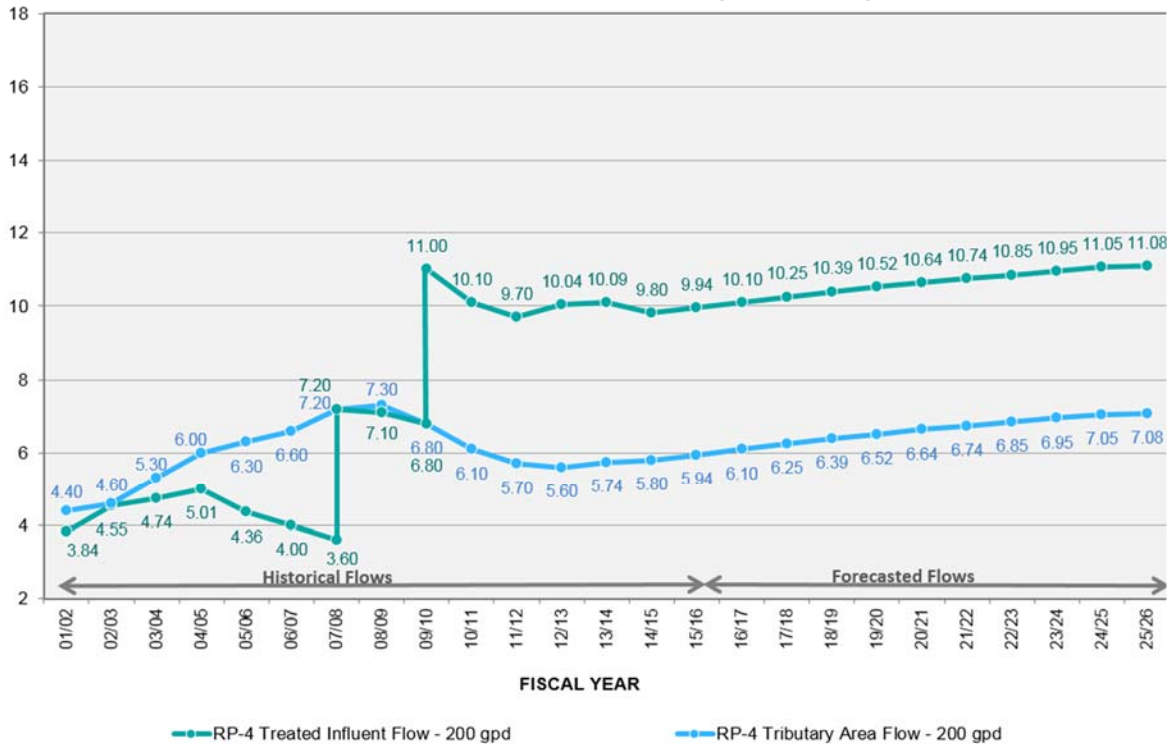


EXHIBIT B: RP-4

RP-4 MEMBER AGENCY FLOW FORECAST (200 GPD/EDU)



RP-4 MEMBER AGENCY FLOW FORECAST (270 GPD/EDU)

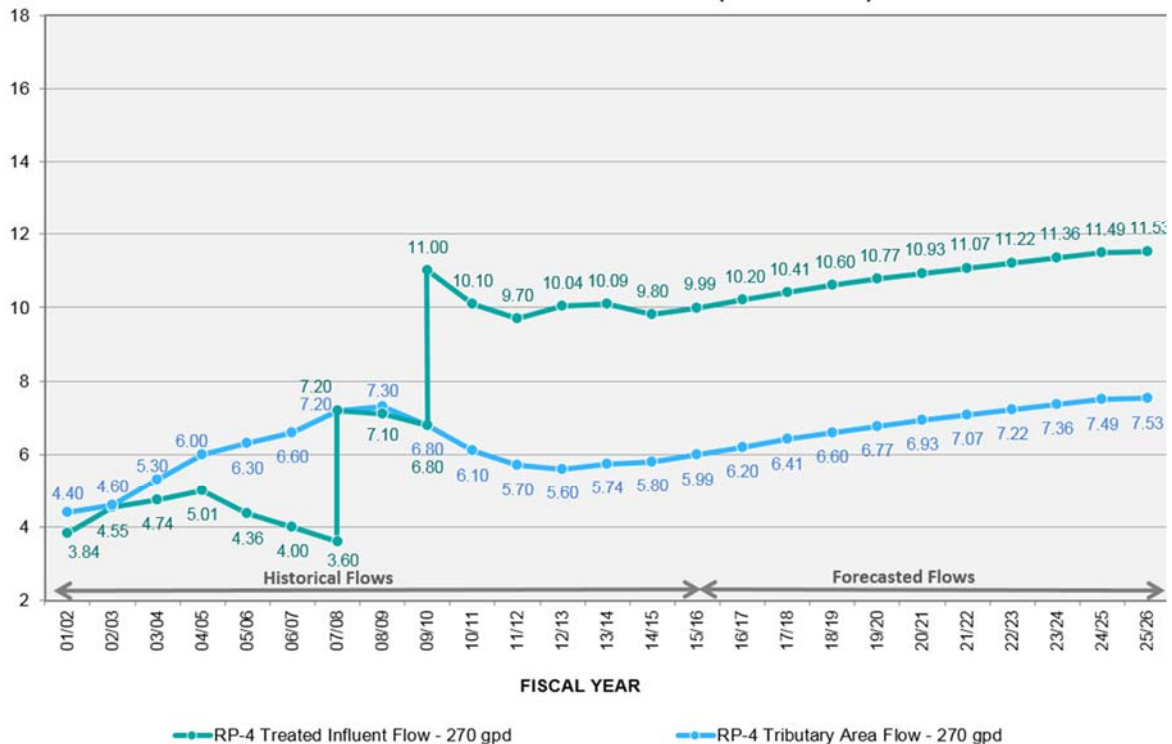
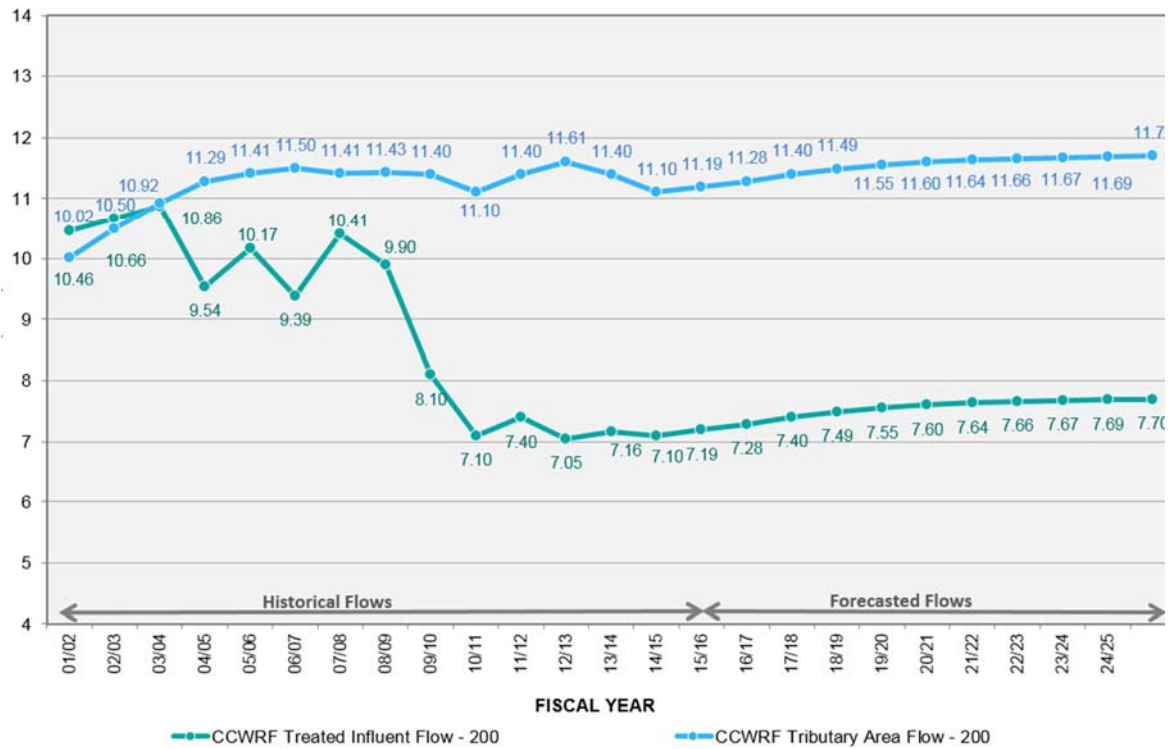


EXHIBIT C: CCWRF

CCWRF MEMBER AGENCY FLOW FORECAST (200 GPD/EDU)



CCWRF MEMBER AGENCY FLOW FORECAST (270 GPD/EDU)

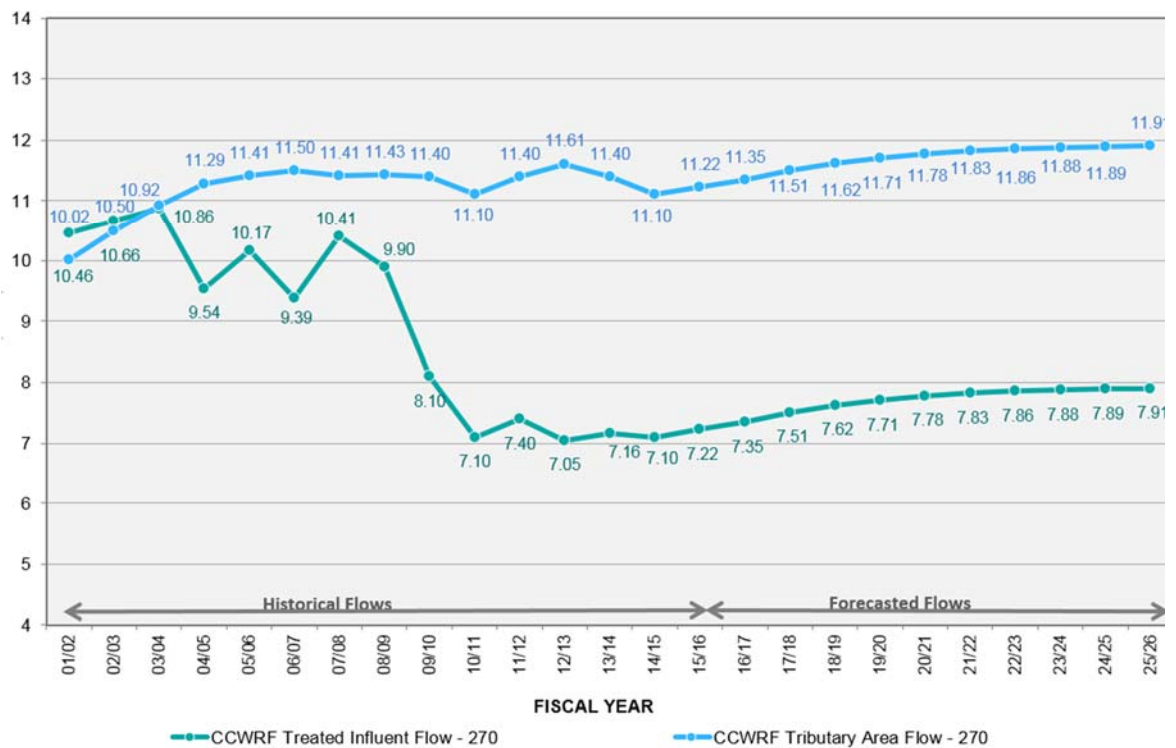
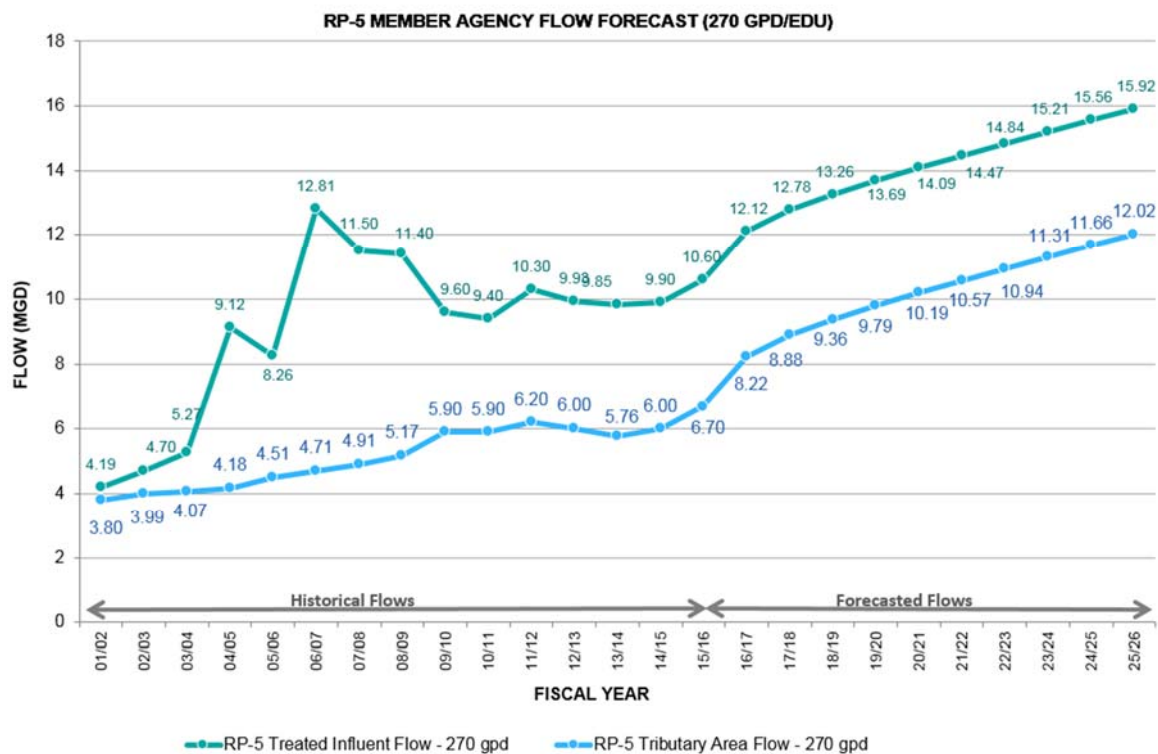
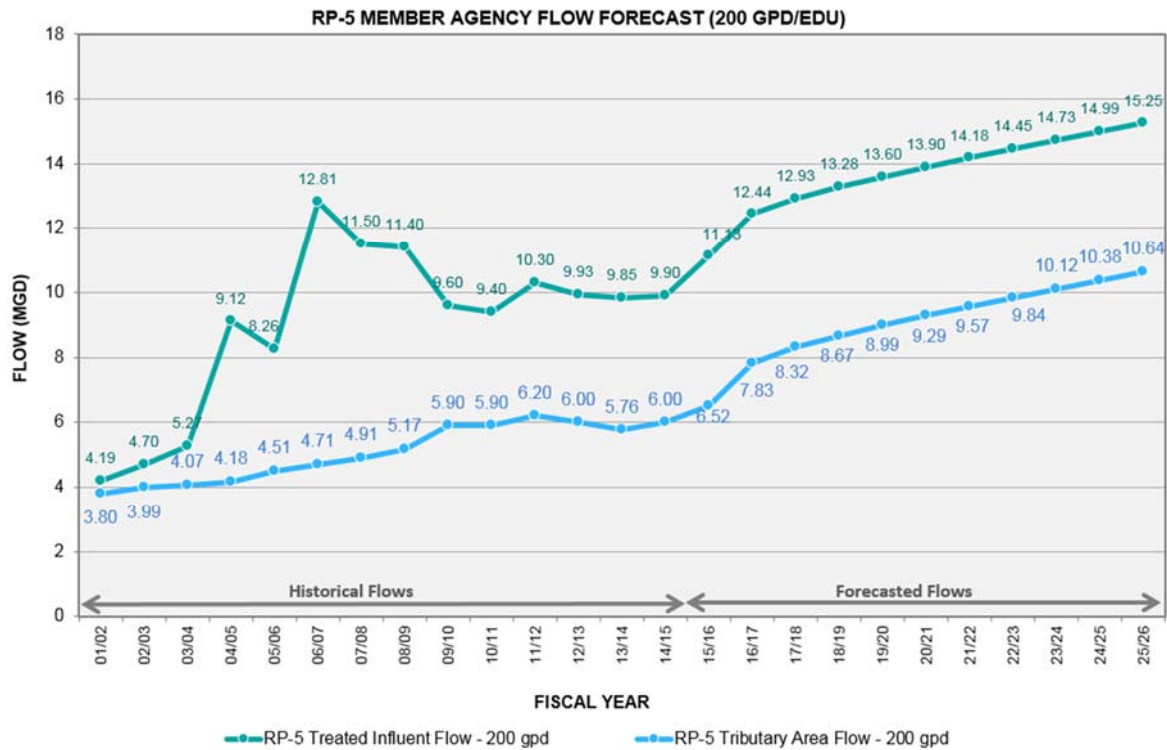


EXHIBIT D: RP-5



Capital Improvement Projects

PROJECT IDENTIFICATION PROCESS

The TYCIP contains projects which were identified by the Maintenance, Operations, Engineering, and Planning departments. The two main project types are 1) repair and rehabilitation project for existing facilities; and 2) expansion projects to provide additional capacity.

PROJECT PRIORITIZATION CRITERIA

Projects listed in the TYCIP are prioritized by timing and criticality. Drivers used to determine the timeframe and criticality during which a project would be undertaken

TABLE 7: 10-YEAR CAPITAL PROJECT BUDGET ESTIMATE, BY FUND

Fund	Description	FY 16/17	FY17/18	FY19-25	TYCIP Total
GG	Administrative Services	\$1.5M	\$0.2M	\$1.4M	\$3.1M
NC	Non-Reclaimable Wastewater	\$0.7M	\$0.2M	-	\$0.9M
RC	Regional Capital Improvement	\$15.5M	\$19.1M	\$325.4M	\$360.0M
RO	Regional Operations & Maintenance	\$13.7M	\$22.5M	\$18.9M	\$55.1M
RW	Recharge Water	\$4.6M	\$12.7M	\$35.8M	\$53.1M
WC	Recycled Water	\$11.2M	\$26.7M	\$33.7M	\$71.6M
WW	Water Resources	-	-	-	\$0M
RM/ RCA	Organics Management/ IERCA	\$4.5M	\$0.2M	\$1.7M	\$6.4M
TOTAL		\$51.7M	\$81.6M	\$416.9M	\$550.2M

include the regulatory and permitting requirements, wastewater flow projections, asset age, performance, efficiency, grant or funding availability.

The 10-year project list in Appendix A represents the Agency's best assessment of what capital projects will occur based on existing planning documents. The list will be refined regularly as planning documents are updated. An estimated ten-year budget for capital project by fund is summarized in Table 7. Full project lists, including operations and maintenance, rehabilitation and repair, and equipment purchases that are not capitalized are listed in Appendix B.

WASTEWATER FACILITIES

The following section describes capital projects for each of the programs. Capital Projects are listed in Appendix A.

Regional Program

The Agency's Regional Program encompasses the activities associated with repair and replacement (R&R) of the Agency's wastewater, energy generation, and solids handling facilities. The Regional Sewerage System connects several regional water recycling plants. Waste biogas produced by the RWRPs is used to produce energy and the tertiary treated water is used as recycled water. The biosolids waste from the RWRPs is further treated to produce grade A compost, which is used as a fertilizer soil amendment.

The Regional Sewerage System includes 90 miles of regional sewage interceptors. The sewage lateral pipelines are owned and maintained by the individual contracting agencies. Key projects include lift stations, regional sewerage system, and general improvements to regional assets/facilities not associated with a particular location. The major upcoming projects for the Regional Sewerage System are related to R&R (for example, manhole rehabilitation and the Montclair Diversion Structure rehabilitation). Individual projects associated with a specific treatment plant are listed in the subsequent sections. See Appendix A for the capital project list.

RP-1 (Northern Service Area)

Regional Water Recycling Plant No. 1 (RP-1) is located in the City of Ontario near the intersection of Highway 60 and Archibald Avenue. This facility was originally commissioned in 1948 and has undergone several expansions to increase the design wastewater treatment capacity to approximately 44 MGD, based on the wastewater characteristics at the time of the expansions. Although the projected influent

wastewater flows do not show a significant increase from current to build-out, they do reflect higher loading characteristics that require specific treatment process expansions to meet effluent discharge regulations. RP-1 serves areas of Ontario, Upland, Fontana, Chino, Montclair and Cucamonga Valley Water District, treating approximately 27.9 MGD.

RP-1 also has biosolids treatment, designed at a capacity of approximately 60 MGD. Treatment consists of gravity thickening and dissolved air flotation thickening, anaerobic digestion, and dewatering by centrifuges. The stabilized, dewatered solids are trucked to the IERCF in the City of Rancho Cucamonga for further treatment to produce grade A compost. RP-1 handles solids from both RP-1 and RP-4. Based on wastewater flow projection surveys by member agencies, plant flows are expected to reach between 28.8 and 29.4MGD by FY 24/25 (see Exhibit A).

Some major projects in the next ten years are the installation of mixed liquor return pumps, rehabilitation of the east primary effluent piping, migration of the control system, and flare system improvements. Beyond ten years, major projects include rehabilitation of the headworks, upgrades to sludge thickening, and expansion of the liquid and solids treatment capacity. See Appendix A for the capital project list.

RP-4 (Northern Service Area)

The Regional Water Recycling Plant No. 4 (RP-4) is located in Rancho Cucamonga and has been in operation treating wastewater and producing recycled water since 1997. The RP-4 facility capacity expanded from 7 MGD to 14 MGD in 2009.

Waste sludge generated at RP-4 is discharged back to the sewer and flows by gravity to RP-1. RP-4 serves areas of Fontana and Cucamonga Valley Water District, treating approximately 10.0 MGD. Based on wastewater flow projection surveys by member agencies, plant flows are expected to reach between 13.0 and 14.0 MGD by FY 24/25 (see Exhibit B).

Some major projects in the next ten years include improvements to the chlorination system, various process improvements, and R&R projects. There are no major expansion projects planned for RP-4 in the next 30 years. See Appendix A for the capital project list.

CCWRF (Southern Service Area)

The Carbon Canyon Water Reclamation Facility (CCWRF) is located in the City of Chino and has been in operation since May 1992. The CCWRF works in tandem with RP-2 and RP-5 to serve the areas of Chino, Chino Hills, Montclair, and Upland.

Wastewater is treated at CCWRF while the biosolids removed from the wastewater

flow are pumped to RP-2 for processing. The CCWRF is designed to treat an annual average flow of 11.4 MGD and treats approximately 7.1 MGD. Based on wastewater flow projection surveys by member agencies, plant flows are expected to reach between 7.8 and 8.1 MGD by FY 24/25 (see Exhibit C).

Some major projects in the next ten years include replacement of the odor control systems, rehabilitation of the headworks, and replacement of the aeration blowers. There are no major expansion projects planned for CCWRF in the next 30 years. See Appendix A for the capital project list.

RP-2 (Southern Service Area)

The Regional Plant No. 2 (RP-2) in the City of Chino has been in operation since 1960. RP-2 was both a liquids and solids treatment facility until 2004, when RP-5 was constructed to handle the liquids portion. Since then, RP-2 treats only the solids from CCWRF and RP-5. Biogas is a byproduct of the treatment process and utilized as a fuel source to operate an engine generator that produces electricity. The electricity is used to operate equipment, thereby reducing the Agency's need to purchase power. RP-2 treatment processes include: gravity thickening and DAF thickening, anaerobic digestion for stabilization, and dewatering by either belt press or centrifuge.

Once the solids are dewatered, they are transported to the IERCF. RP-2 is located on land leased from the US Army Corps of Engineers and the lease is due to expire in 2035. RP-2 is also located within the flood zone behind Prado Dam. Orange County Flood Control District and the Army Corps have plans to raise the maximum operational water level behind the dam to allow greater water storage and conservation. Since RP-2 does not have physical flood protection, IEUA is planning to relocate the solids handling from RP-2 to RP-5. The relocation of RP-2 to RP-5 will be complete around 2022.

There are no projects planned for RP-2 in the next ten years. Beyond ten years, there will be a major project to decommission RP-2.

RP-5 (Southern Service Area)

The Regional Water Recycling Plant No. 5 (RP-5) is located immediately east of the Agency's Administrative Headquarters campus in the City of Chino and began operation in March 2004. It has a capacity rating of 16.3 MGD, which includes capacity for approximately 15 MGD of raw wastewater and 1.3 MGD of solids processing return or recycled flows from RP-2. Waste sludge produced at RP-5 is pumped to the RP-2 solids handling facility, which will be relocated to RP-5 around

2022. RP-5 serves areas of Chino, Chino Hills, and Ontario, treating approximately 9.9 MGD. Based on wastewater flow projection surveys by member agencies, plant flows are expected to reach between 15.4 and 16.1 MGD by FY 24/25 (see Exhibit D).

The RP-5 Solids Handling Facility (RP-5 SHF) was operated by IEUA from 2001 to 2009 as a regional facility accepting dairy manure for recycling and generating biogas. In 2010, IEUA entered into a lease agreement with Environ Strategies, and in 2012, they began utilizing the facility for digestion of primarily food wastes with minor amounts of dairy manure. RP-5 SHF can process 705 wet tons/day of food and dairy waste through an anaerobic digestion process and can generate electricity from the biogas produced. Due to the regional benefits of such a waste handling facility, the Agency plans to keep RP-5 SHF available for the processing of food and dairy waste.

Major projects in the next ten years include improvements to flow equalization and flow monitoring, various process improvements, expansion of the liquid treatment capacity, and construction of solids handling facilities. Beyond ten years, there are no major expansion projects planned for RP-5. See Appendix A for the capital project list.

Salinity Management Program

The salinity management program consists primarily of the NRWS system. The NRWS collection system includes 75 miles of pipeline and is comprised of a north and a south system. The north system, which serves approximately 42 industries, conveys wastewater to sewer lines owned and operated by the CSDLAC. From there, it is conveyed to CSDLAC's treatment facility in Carson, where it is treated and discharged to the ocean.

The south system, which serves approximately 12 industries (including five wastewater haulers), conveys wastewater to the Inland Empire Brine Line owned by SAWPA, and from there it is carried to the OCSD facility in Fountain Valley for treatment and ocean discharge. The combined northern and southern NRWS system removed 46,097 tons of salt in FY 2014/15 from the service area, reducing the region's salinity and enhancing the opportunities for beneficial use of recycled water.

In addition to the NRWS system, the salinity management program includes a residential Self-Regenerating Water Softener Removal Rebate Program. This program incentivizes the removal of self-regenerating salt-based devices which increase the salinity of plant influent and thus also increases salinity of recycled water supplies. As of December 2015, the program has removed 746 devices, removing approximately 170 tons per year of salt from the Regional system, saving approximately 14.06 acre-feet of water each year. Although the Agency operates

the Chino Desalter I facility, it is managed by the Chino Basin Desalter Authority and thus there are no IEUA capital projects associated with the Desalter. See Appendix A for the capital project list.

WATER SUPPLY

The Agency has established an aggressive goal to increase regional resiliency against droughts, reduce dependence on imported water and develop programs for long-term water efficiency. Recommendations from the completion of the Phase 1 IRP which tested regional water supply resiliency against 106 potential climate impacts include:

- Continuing investments in recycled water
- Acquiring supplemental water to enhance groundwater quality
- Implementing water use efficiency measures to reduce current demand by 10%
- Maximize the purchase of supplemental water for recharge or in-lieu, when available
- Evaluate and include the use of external supplies (e.g. exchanges, storage, and water transfers)
- Continue to maximize stormwater recharge projects, including rainwater capture and infiltration.

Recycled Water

The Recycled Water Distribution Facilities consists of a network of pipelines, pump stations and reservoirs that allow the Agency to deliver recycled water throughout the service area. The facilities allow recycled water to be distributed into six pressure zones (see Figure 14), for direct use and groundwater recharge.

Recycled water projects fall into distribution improvements, groundwater recharge expansion (see the following section on groundwater recharge for a more detailed discussion), operational flexibility, rehabilitation and replacement, and program administration. Project prioritization is based on the ability of projects to increase recycled water deliveries and decrease unit costs. Projects that are listed were identified in the Recycled Water Implementation Plan, Recycled Water Program Strategy, Chino Basin Recharge Master Plan Update, the Agency's Asset Management Plan, and use projections from Member Agencies. These projects will enable the region to beneficially maximize the reuse of the region's projected recycled water supply, increasing recycled water deliveries from 30,000 to approximately 50,000 by 2025.

Once the regional recycled water distribution pipeline in the central-east service area has been completed, projects are focused on capacity improvements and operational upgrades. Capacity improvements include the RP-1 outfall parallel pipeline, the 800 Pressure Zone upgrades near RP-5, and projects to maximize operational flexibility to meet seasonal variation in direct use and groundwater recharge demands. The Agency also included projects to evaluate the potential of an intertie for bring external recycled water supplies into the Chino Basin. See Appendix A for the capital project list.

Groundwater Recharge

The capital projects for the groundwater recharge program mainly involve diversion, capacity improvements, and refurbishment at selected basins to increase the reliability and the recharge capabilities of the basins. Three such enhancement projects were identified by the 2013 Recharge Master Plan Update. Other potential projects identified in the Update require additional investigation and may be added to future TYCIPs.

Recycled water recharge is a key component of the region's water supply portfolio. The more recycled water that is recharged into the Chino Groundwater Basin, the more self-reliant the region becomes as it will be less dependent on imported water supplies. To maximize past investments, several of the projects are primarily focused on environmental and permitting issues that will allow continued basin maintenance to sustain optimal infiltration rates. Other RMPU projects would improve the program asset management and recharge site communications. These other projects are comparably lower-cost projects than new basin construction, and will be explored and funded in the future. The CIP groundwater recharge projects are a means to diversify the water supply for the region and maximize the beneficial reuse of recycled water. See Appendix A for the capital project list.

Water Resources Projects

The Agency currently does not have any capital projects associated with water resources, and conservation programs which are funded by the OM fund are listed in Appendix B. However during Phase 2 of the IRP process, which is scheduled to begin in July 2016, detailed analysis of specific projects, corresponding water supply benefits, and ownership of regionally beneficial projects will be discussed and determined through discussions and modeling work with retail member agencies. The Agency and its retail member agencies will revise this water supply forecast after completion of the next phase of the IRP scheduled for completion by 2017.

ADDITIONAL AGENCY FACILITIES

Headquarters & Chino Creek Wetlands and Educational Park

The Agency headquarters, located in the City of Chino, opened in the summer of 2003. It was constructed to meet the Platinum rating from the United States Green Building Council's Leadership in Energy and Environmental Design (LEED) 2004. The headquarter facilities demonstrate how using recycled building materials and state-of-the-art energy efficient technologies can be used to incorporate environmental sensibilities in an urban setting while creating a better environment, saving water, improving staff productivity, and contributing to the restoration of native landscapes. The headquarters' complex is one of the largest public landscapes in Southern California to use native plants and to have integrated stormwater management, including the restoration of natural drainage and the creation of wetlands and riparian habitat known as the Chino Creek Wetlands and Educational Park.

The Chino Creek Wetlands and Educational Park (Park) is located adjacent to the IEUA headquarters. The 22-acre Park opened in 2004 and was partially funded by a grant from the State Water Resources Control Board. It was designed to restore native habitat and natural drainage, and to showcase the environmental values of the Prado Basin, the largest freshwater habitat remaining in Southern California. The Prado Basin, within which the park resides, provides a critical link for biological and trail networks between the extensive riparian open space of the Prado Flood Control Basin and the Chino Hills State Park to the west. Prado Basin is home to endangered species, including the Least Bell's Vireo and Southwestern Willow Flycatcher.

The Park facilities include an outdoor classroom, 1.7 miles of trails, and educational stations with signage. Local and regional school programs are held at the park, including the Water Discovery educational program funded by the State Parks and Recreation. The Park is open to the public seven days a week throughout the year, with special programs about water quality, conservation, and local ecosystems provided by the Agency.

Projects associated with the Headquarters and Park are primarily O&M and are listed in Appendix B.

Laboratory

The Laboratory consists of two buildings on the RP-1 campus, the original facility built in 1979, and the expansion building built in 1997. At present, the Laboratory facilities are insufficient. Current facilities are crowded, the ventilation system needs improvement, the sample receiving area is small and not easily accessible, the

heating and cooling system present challenges for the temperature controls required in a modern lab, and the overall layout of the laboratory is inefficient.

In addition, laboratory testing technologies continue to advance and regulations continue to change, requiring laboratories to detect constituents at lower levels and test for additional chemicals of emerging concern. The current laboratory facilities will be unable to accommodate these changes, and more testing will need to be sent to contract laboratories at additional cost to the Agency. If the Laboratory facility cannot be updated to current and future lab standards, it is essential that the Agency construct a new laboratory.

In 2010 the Agency hired the Austin Company to design the Water Quality Laboratory, but it was put on hold in late 2010 after 50% of the design had been completed. In 2015 the Austin Company was brought back to complete the design, in February 2016 the design reached 100%. The contract for construction is expected to be awarded in May 2016, and construction completed by May of 2019. Budget for laboratory improvements or a new facility is currently included in the TYCIP.

See Appendix A for the capital project list.

Inland Empire Regional Composting Authority

The IERCA is a joint powers authority between IEUA and LACSD. Together, these agencies have shared the costs and resources to develop a state-of-the-art biosolids compost manufacturing facility in Rancho Cucamonga called the Inland Empire Regional Composting Facility (IERCF). The facility is completely enclosed to control odors and to meet stringent air quality regulations.

The IERCF is designed to process and recycle the dewatered and stabilized biosolids from the Agency and SDLAC's wastewater treatment processes as well as wood waste from local communities. It produces over 230,000 cubic yards of high-quality compost each year for local landscaping and horticultural use. The composted product, which is marketed as SoilPro® Premium Compost, is sold as a soil conditioner which helps improve water retention resulting in better plant growth and water savings. The facility is currently operating at its design capacity, receiving nearly 600 tons per day of biosolids and recycled green waste products.

Capital projects for the IERCA include replacement and upgrade projects. Ongoing projects include emergency lighting, amendment hopper improvements, belt conveyor modifications to match actual process flow, door widening for improved truck access, belt conveyor catwalks improvement, and lighting and structure protection evaluations. The lighting and structural evaluations may result in future

projects for improvements in both areas. Future demands and operational issues will determine what specific future capital projects are needed. Any capital maintenance, enhancement, or replacement projects will be jointly analyzed and determined with the CSDLAC. See Appendix A for the capital project list.

Business Network and Process Automation Control Network

The capital purchases in the Business Network and Process Automation Control Network are primarily for computers and software. There are no capital projects for this program. Non-capital projects identified for this program include system upgrades, computer equipment replacement, network infrastructure replacement, software purchases. These projects are shown in Appendix A, which lists all of the IEUA identified projects.



Appendix A

Proposed Capital Project List

ID #	Fund	Project Number	Project Name	FY 16/17 Amended Budget	FY 17/18 Forecast	FY19-26 Forecast	FY 16/17-FY 19/26 Total
70	NC	EN22002	NRW East End Flowmeter Replacement	175,000	200,000	-	375,000
138	WC	WR15021	Napa Lateral	500,000	3,300,000	2,000,000	5,800,000
162	RO	EN15008	Water Quality Laboratory	7,000,000	10,000,000	8,000,000	25,000,000
235	RC	EN18006	RP-1 Flare Improvements	600,000	2,600,000	800,000	4,000,000
294	WC	EN15043	SBCFCD Recycled Water Easement	570,000	-	-	570,000
295	RC	EN15042	SBCFCD Sewer Easement	275,000	-	-	275,000
378	RC	EN16071	San Bernardino Avenue Gravity Sewer	1,300,000	-	-	1,300,000
379	WC	TBD	Baseline RWPL Extension	300,000	2,500,000	2,200,000	5,000,000
380	GG	EN16013	RP-4 Lighting Improvements - Phase 1	100,000	-	-	100,000
4	GG	CP16006	Headquarters Chair Replacement	150,000	-	-	150,000
11	RO	EN21002	Chino Creek Wetlands and Educational Park Up-	-	-	-	1858000*
22	GG	EP17003	RP-1 Training Room	200,000	-	-	200,000
23	GG	EP17004	Agency-Wide Vehicle Replacement	600,000	150,000	1,200,000	1,950,000
44	RW	EN18007	RMPU Construction Costs	-	8,300,000	35,749,500	44,049,500
46	RW	RW15002	Upper Santa Ana River Habitat Conserv	280,000	-	-	280,000
47	RW	RW15003	Recharge Master Plan Update (Softcost)	3,100,000	3,520,500	-	6,620,500
49	RW	RW15004	Lower Day Basin RMPU Improvements	1,155,000	910,000	-	2,065,000
92	WC	EN12016	North CIM Lateral*	450000*	-	-	450000*
93	WC	EN13001	San Sevaine Basin Improvements	3,250,000	2,493,195	-	5,743,195
94	WC	EN13041	RP-5 RW PS Process Control Sys Migration	-	-	280,000	280,000
95	WC	EN13045	Wineville RW Extension Segment B	15,000	-	-	15,000
96	WC	EN13048	RP-1 Power System Upgrades	200,000	600,000	415,000	1,215,000

* These projects will only occur if grant funding is available. Costs are not included in the IEUA Budget.

ID #	Fund	Project Number	Project Name	FY 16/17 Amended Budget	FY 17/18 Forecast	FY19-26 Forecast	FY 16/17-FY 19/26 Total
97	WC	EN14042	RP-1 1158 RWPS Upgrades	475,000	1,610,000	1,900,000	3,985,000
98	WC	EN14043	RP-5 RW Pipeline Bottle-neck	600,000	1,925,000	175,000	2,700,000
99	WC	EN15002	1158 Reservoir Site Clean-up	650,000	650,000	-	1,300,000
100	WC	EN15055	1630 W. Recycled Water Pump Station - Surge Tank	1,340,000	-	-	1,340,000
101	WC	EN16034	RW Pressure Sustaining Valve Installation	341,300	500,000	-	841,300
106	WC	EN16065	RW Connections to JCSD	1,000,000	7,000,000	7,000,000	15,000,000
107	WC	EN17007	930 To 800 West CCWRF PRV	100,000	250,000	265,000	615,000
114	WC	EN19003	RP-1 Outfall Parallel Line FY13/14	200,000	400,000	2,765,000	3,365,000
127	WC	EN24003	Wineville Basin Pipeline	-	-	1,000,000	1,000,000
136	WC	WR15019	RP-3 Basin Improvements	-	650,000	2,650,000	3,300,000
137	WC	WR15020	Victoria Basin Improvements	-	65,000	65,000	130,000
161	RO	EN13016	SCADA Enterprise System	1,200,000	3,800,000	6,220,000	11,220,000
163	RO	EN15012	RP-1 East Primary Effluent Pipe Rehab	500,000	700,000	620,000	1,820,000
170	RO	EN17110	RP-4 Process Improvements (change to Rehabili-	180,000	1,400,000	3,600,000	5,180,000
218	RC	EN14018	RP-4 Disinfection Facility Improvements	1,000,000	1,200,000	15,000	2,215,000
219	RC	EN14019	RP-1 Headworks Primary and Secondary Upg	1,500,000	3,425,000	-	4,925,000
222	RC	EN16011	Whispering Lakes Pump Station Rehab	-	150,000	5,000,000	5,150,000
224	RC	EN16025	RP-1 Expansion PDR	350,000	-	-	350,000
225	RC	EN16028	RP-5 Expansion PDR	1,850,000	-	-	1,850,000
227	RC	EN17003	Aeration System Improvements	-	-	6,250,000	6,250,000
228	RC	EN17006	CCWRF Headworks & Odor Control Replaceme	610,000	2,800,000	5,865,000	9,275,000
234	RC	EN18004	RP-1 IPS System Improvements	-	250,000	750,000	1,000,000

** These projects will only occur if grant funding is available. Costs are not included in the IEUA Budget.*

ID #	Fund	Project Number	Project Name	FY 16/17 Amended Budget	FY 17/18 Forecast	FY19-26 Forecast	FY 16/17-FY 19/26 Total
234	RC	EN18004	RP-1 IPS System Improvements	-	250,000	750,000	1,000,000
238	RC	EN19001	RP-5 Expansion to 30 mgd	1,250,000	1,875,000	121,875,000	125,000,000
239	RC	EN19005	Haven LS Improvements	-	-	1,500,000	1,500,000
240	RC	EN19006	RP-5 SHF - RO	3,125,000	4,375,000	128,500,000	136,000,000
244	RC	EN20006	RP-1 Digester Mixing Upgrade	-	-	750,000	750,000
245	RC	EN20007	RP-5 Process Improvements	-	-	6,300,000	6,300,000
254	RC	EN24001	RP-1 Liquid Treatment Expansion	-	-	31,050,000	31,050,000
255	RC	EN24002	RP-1 Solids Treatment Expansion	-	-	7,685,000	7,685,000
262	RC	PL16010	CEQA Document Impl. of WWFMP,IRP RWPS	250,000	-	-	250,000
267	RM	RA17006	IERCF Eletrical Room HVAC Upgrades	400,000	-	-	400,000
269	RM	RA19002	IERCF Trommel Screen Improvements	-	-	900,000	900,000
276	RM	RA17001	IERCF Transition Air Duct Improvements	75,000	75,000	750,000	900,000
291	RC	EN13018	Montclair Diversion Structure Improvemen	80,000	-	-	80,000
292	WC	EN12014	East Avenue 1630 E. RWP Relocation	165,000	-	-	165,000
293	NC	EN15044	SBCFCD NRW Easement	515,000	-	-	515,000
296	GG	EN16068	Main Office Permit Office	293,000	-	-	293,000
297	RO	EN14012	RP-2 Drying Beds Rehabilitation	350,000	-	-	350,000
298	RO	EN15013	RP-1 TWAS and Primary Effluent Piping Re	120,000	395,000	-	515,000
299	WC	EN16051	RP-1 Utility Water Flow Meter & Control	260,000	-	-	260,000
300	RC	EN11031	RP-5 Flow Equalization and Effluent Moni	1,465,000	1,500,000	10,000	2,975,000
301	RO	EN16055	Headquarters Back Up Generator	400,000	-	-	400,000
302	GG	EN16012	Capital Project's Document Management Program	175,000	-	-	175,000

** These projects will only occur if grant funding is available. Costs are not included in the IEUA Budget.*

ID #	Fund	Project Number	Project Name	FY 16/17 Amended Budget	FY 17/18 Forecast	FY19-26 Forecast	FY 16/17-FY 19/26 Total
303	WC	EN16037	RW Asset Managemetn (Cathodic Protection)	250,000	250,000	2,000,000	2,500,000
304	RO	TBD	RP-1 Filter Valve Replacement	-	150,000	500,000	650,000
305	RO	TBD	RP-1 Power Reliability Building Controls Upgrades	350,000	1,150,000	-	1,500,000
306	RO	TBD	RP4 Primary Clarifier Rehab	400,000	1,500,000	-	1,900,000
307	RO	TBD	Digester 6 and 7 Roof Repairs	400,000	3,400,000	-	3,800,000
308	WC	Potential GWR	8th St. Basin RW Turnout Discharge Retrofit	25,000	250,000	-	275,000
314	RC	TBD	Septic Conversion PDR	200,000	800,000	-	1,000,000
318	RC	TBD	Purchase Existing Solar Installations	-	-	7,500,000	7,500,000
319	RM	TBD	IERCF Solar Photovoltaic Power Plant Phase II	4,000,000	150,000	-	4,150,000
320	RC	TBD	Headquarters Solar Photovoltaic Power Plants Phase II	1,300,000	100,000	-	1,400,000
321	GG	TBD	Primavera Enhancements	-	-	200,000	200,000
325	RC	TBD	Regional Conveyance AMP	-	-	500,000	500,000
328	RC	EN14020	RP-1 Sludge Thickening Upgrades	-	-	500,000	500,000
331	RC	TBD	RP-4 Tertiary Expansion	-	-	500,000	500,000
332	WC	TBD	1299 Pressure Zone Pipeline Capacity Upgrades	-	-	500,000	500,000
334	WC	EN09007	1630 East Reservoir & Segment B Pipeline	-	-	1,000,000	1,000,000
338	WC	TBD	2025-2030 Recycled Water Projects	-	-	1,000,000	1,000,000
343	WC	EN16060	RW Connection Pomona	500,000	3,500,000	3,500,000	7,500,000
345	RC	EN17030	RP-4 South Side Sight-Proof Safety Wall	380,000	-	-	380,000
346	WC	EN17032	RP-4 Outfall Repair from Mission Blvd. to RP-1	50,000	300,000	4,950,000	5,300,000
347	RO	EN17034	Agency-wide Lighting Improvements, Phase 2	1,385,000	15,000	-	1,400,000
352	RW	RW17001	Truck Purchase	40,000	-	-	40,000

** These projects will only occur if grant funding is available. Costs are not included in the IEUA Budget.*

ID #	Fund	Project Number	Project Name	FY 16/17 Amended Budget	FY 17/18 Forecast	FY19-26 Forecast	FY 16/17-FY 19/26 Total
352	RW	RW17001	Truck Purchase	40,000	-	-	40,000
370	RO	TBD	RP-1 Dewatering Vertical Conveyor Repair	375,000	-	-	375,000
371	RO	TBD	RP-1 Dewatering Silo/ Conveyor Safety Repairs	231,000	-	-	231,000
372	WC	EN14047	GWR and RW SCADA Control Upgrades	455,263	455,263	-	910,526
375	RO	TBD	RP-1 and RP-4 Safety Improvements	760,000	-	-	760,000

** These projects will only occur if grant funding is available. Costs are not included in the IEUA Budget.*

Appendix B

Proposed Non-Capital Project List

ID #	Fund	Project Number	Project Name	FY 16/17 Amended Budget	FY 17/18 Forecast	FY19-26 Forecast	FY 16/17-FY 19/26 Total
1	GG	CP16003	Headquarters Roofing Replacement	450,000	-	-	450,000
2	GG	CP16004	Headquarters LEED OM Certification	40,000	25,000	-	65,000
5	GG	EN16047	HQ Parking Lot FY15/16	415,000	-	-	415,000
6	GG	EN16048	As-Built Database Upgrades	150,000	-	-	150,000
7	GG	EN16049	Conference Rooms Audio Visual Upgrades	400,000	640,000	10,000	1,050,000
8	GG	EN16132	Magnolia Channel Spillway	384,000	-	-	384,000
9	GG	EN17012	Capital Project's Document Management Program	-	50,000	-	50,000
10	GG	EN17023	HQ Drainage Investigations	50,000	-	-	50,000
14	GG	EN20008	HQ Parking Lot FY19/20	-	-	250,000	250,000
19	GG	EN24004	HQ Parking Lot FY23/24	-	-	250,000	250,000
24	GG	IS14001	IEUA Website Consultant	4,200	4,200	33,600	42,000
25	GG	IS14025	Finance Process/SAP Functional Analysis	40,000	-	-	40,000
26	GG	IS15001	HCM Phase 2-Self Service/HR Process Automation	50,000	100,000	-	150,000
27	GG	IS15003	Document/Records Management System	414,000	-	-	414,000
28	GG	IS16001	HCM Phase 2 - Position Budgeting & Control	-	206,000	-	206,000
29	GG	IS16003	SAP Archiving	-	50,000	-	50,000
30	GG	IS16020	SAP User Interface Improvement	102,535	-	-	102,535
31	GG	IS16021	SAP Roadmap & Strategy (change name to "SAP	150,000	150,000	2,150,000	2,450,000
32	GG	IS17004	Business Network Equipment Replacement and Improvements	93,792	155,000	1,210,000	1,458,792
34	GG	IS17007	GIS Master Plan	50,000	-	-	50,000
37	GG	IS17013	Exchange (Email) Software Upgrade	54,500	-	-	54,500
38	GG	IS17018	HyperV Host Server	23,500	-	-	23,500

** These projects will only occur if grant funding is available. Costs are not included in the IEUA Budget.*

ID #	Fund	Project Number	Project Name	FY 16/17 Amended Budget	FY 17/18 Forecast	FY19-26 Forecast	FY 16/17-FY 19/26 Total
39	GG	IS17021	Keyboard/ Video/ Monitor Console Replacement	6,485	-	-	6,485
42	GG	PA15002	Agency Wide Coatings and Paving	200,000	100,000	800,000	1,100,000
43	GG	PA15008	Major Asset Repair/ Replace	50,000	50,000	400,000	500,000
45	RW	IS17009	Replace VM Host Server - GWR	44,800	-	-	44,800
48	WC	WR16001	Water Softener Removal Rebate Program	60,000	60,000	480,000	600,000
50	NC	CW17101	NRW OE Projects FY16/17	10,000	-	-	10,000
51	NC	CW18101	NRW OE Projects FY 17/18	-	10,000	-	10,000
52	NC	CW19101	NRW OE Projects FY 18/19	-	-	10,000	10,000
53	NC	CW20101	NRW OE Projects FY 19/20	-	-	10,000	10,000
54	NC	CW21101	NRW OE Projects FY 20/21	-	-	10,000	10,000
55	NC	CW22101	NRW OE Projects FY 21/22	-	-	10,000	10,000
56	NC	CW23101	NRW OE Projects FY 22/23	-	-	10,000	10,000
57	NC	CW24101	NRW OE Projects FY 23/24	-	-	10,000	10,000
58	NC	CW25101	NRW OE Projects FY 24/25	-	-	10,000	10,000
59	NC	CW26101	NRW OE Projects FY 25/26	-	-	10,000	10,000
60	NC	EN17014	NRWS Manhole Upgrades - 16/17	350,000	-	-	350,000
61	NC	EN17016	NRWS Emergency O&M Projects FY 16/17	200,000	-	-	200,000
62	NC	EN18014	NRWS Manhole Upgrades - 17/18	-	200,000	-	200,000
63	NC	EN18016	NRWS Emergency O&M Projects FY 17/18	-	200,000	-	200,000
64	NC	EN19014	NRWS Manhole Upgrades - 18/19	-	-	200,000	200,000
65	NC	EN19016	NRWS Emergency O&M Projects FY 18/19	-	-	200,000	200,000
66	NC	EN20014	NRWS Manhole Upgrades - 19/20	-	-	200,000	200,000

** These projects will only occur if grant funding is available. Costs are not included in the IEUA Budget.*

ID #	Fund	Project Number	Project Name	FY 16/17 Amended Budget	FY 17/18 Forecast	FY19-26 Forecast	FY 16/17-FY 19/26 Total
67	NC	EN20016	NRWS Emergency O&M Projects FY 19/20	-	-	200,000	200,000
68	NC	EN21014	NRWS Manhole Upgrades - 20/21	-	-	200,000	200,000
69	NC	EN21016	NRWS Emergency O&M Projects FY 20/21	-	-	200,000	200,000
71	NC	EN22014	NRWS Manhole Upgrades - 21/22	-	-	200,000	200,000
72	NC	EN22016	NRWS Emergency O&M Projects FY 21/22	-	-	200,000	200,000
73	NC	EN23002	Philadelphia Lift Station Force Main Imp	-	-	6,000,000	6,000,000
74	NC	EN23014	NRWS Manhole Upgrades - 22/23	-	-	200,000	200,000
75	NC	EN23016	NRWS Emergency O&M Projects FY 22/23	-	-	200,000	200,000
76	NC	EN24014	NRWS Manhole Upgrades - 23/24	-	-	200,000	200,000
77	NC	EN24016	NRWS Emergency O&M Projects FY 23/24	-	-	200,000	200,000
78	NC	EN25014	NRWS Manhole Upgrades - 24/25	-	-	200,000	200,000
79	NC	EN25016	NRWS Emergency O&M Projects FY 24/25	-	-	200,000	200,000
80	NC	EN26016	NRWS Emergency O&M Projects FY 25/26	-	-	200,000	200,000
81	WC	CW17002	WC OE Projects FY 16/17	50,000	-	-	50,000
82	WC	CW18002	WC OE Projects FY 17/18	-	50,000	-	50,000
83	WC	CW19002	WC OE Projects FY 18/19	-	-	50,000	50,000
84	WC	CW20002	WC OE Projects FY 19/20	-	-	50,000	50,000
85	WC	CW21002	WC OE Projects FY 20/21	-	-	50,000	50,000
86	WC	CW22002	WC OE Projects FY 21/22	-	-	50,000	50,000
87	WC	CW23002	WC OE Projects FY 22/23	-	-	50,000	50,000
88	WC	CW24002	WC OE Projects FY 23/24	-	-	50,000	50,000
89	WC	CW25002	WC OE Projects FY 24/25	-	-	50,000	50,000

** These projects will only occur if grant funding is available. Costs are not included in the IEUA Budget.*

ID #	Fund	Project Number	Project Name	FY 16/17 Amended Budget	FY 17/18 Forecast	FY19-26 Forecast	FY 16/17-FY 19/26 Total
90	WC	CW26002	WC OE Projects FY 25/26	-	-	50,000	50,000
102	WC	EN16035	WC Planning Documents	500,000	-	2,000,000	2,500,000
104	WC	EN16038	Recycled Water Injection Pilot Study	250,000	750,000	-	1,000,000
105	WC	EN16039	WRCWRA Intertie	879,000	-	-	879,000
108	WC	EN17011	RW Hydraulic Modeling FY 16/17	100,000	-	-	100,000
109	WC	EN17017	WC Emergency O&M Projects FY 16/17	500,000	-	-	500,000
110	WC	EN17020	WC On-Call Operations & Maintenance Support	250,000	-	-	250,000
111	WC	EN17025	WC Safety Projects Operations & Maintenance Support	250,000	-	-	250,000
112	WC	EN18011	RW Hydraulic Modeling FY 17/18	-	100,000	-	100,000
113	WC	EN18017	WC Emergency O&M Projects FY 17/18	-	500,000	-	500,000
115	WC	EN19011	RW Hydraulic Modeling FY 18/19	-	-	100,000	100,000
116	WC	EN19017	WC Emergency O&M Projects FY 18/19	-	-	500,000	500,000
117	WC	EN20011	RW Hydraulic Modeling FY 19/20	-	-	100,000	100,000
118	WC	EN20017	WC Emergency O&M Projects FY 19/20	-	-	500,000	500,000
119	WC	EN20031	Recycled Water Program Strategy 2020	-	-	250,000	250,000
120	WC	EN21011	RW Hydraulic Modeling FY 20/21	-	-	100,000	100,000
121	WC	EN21017	WC Emergency O&M Projects FY 20/21	-	-	500,000	500,000
123	WC	EN22011	RW Hydraulic Modeling FY 21/22	-	-	100,000	100,000
124	WC	EN22017	WC Emergency O&M Projects FY 21/22	-	-	500,000	500,000
125	WC	EN23011	RW Hydraulic Modeling FY 22/23	-	-	100,000	100,000
126	WC	EN23017	WC Emergency O&M Projects FY 22/23	-	-	500,000	500,000
128	WC	EN24011	RW Hydraulic Modeling FY 23/24	-	-	100,000	100,000

** These projects will only occur if grant funding is available. Costs are not included in the IEUA Budget.*

ID #	Fund	Project Number	Project Name	FY 16/17 Amended Budget	FY 17/18 Forecast	FY19-26 Forecast	FY 16/17-FY 19/26 Total
129	WC	EN24017	WC Emergency O&M Projects FY 23/24	-	-	500,000	500,000
130	WC	EN25011	RW Hydraulic Modeling FY 24/25	-	-	100,000	100,000
131	WC	EN25017	WC Emergency O&M Projects FY 24/25	-	-	500,000	500,000
132	WC	EN26017	WC Emergency O&M Projects FY 25/26	-	-	500,000	500,000
133	WC	EN25031	Recycled Water Program Strategy 2025	-	-	250,000	250,000
134	WC	IS17017	1630 East Licensed Radio Upgrade	30,500	-	-	30,500
135	WC	IS17022	VersaView Replacement Project	47,000	-	-	47,000
139	WW	WR16022	Water reliability and sustainability Projects (IRP	-	100,000	8,020,000	8,120,000
140	WW	WR16024	SARCCUP Projects	1,500,000	3,000,000	15,000,000	19,500,000
141	WW	WR16025	WW Planning Documents	500,000	200,000	2,000,000	2,700,000
142	WW	WR17002	CBWCD Landscape Audit & Monitoring Proga	40,000	-	-	40,000
143	WW	WR17004	Garden in Every School	45,000	-	-	45,000
144	WW	WR17006	Residential Landscape Device Retrofit - Lg Land-	200,000	-	-	200,000
145	WW	WR17007	Residential Rebate Incentives	100,000	-	-	100,000
146	WW	WR17008	CII Rebate Incentives	100,000	-	-	100,000
147	WW	WR17009	National Theater for Children	60,000	-	-	60,000
148	WW	WR17010	Reg Educational Outreach Activities (Oth	16,000	-	-	16,000
149	WW	WR17011	Freesprinklernozzles.com Program	243,750	-	-	243,750
150	WW	WR17013	Sponsorships & Public Outreach	80,000	-	-	80,000
151	WW	WR17015	Residential Landscape Training Classes	15,000	-	-	15,000
152	WW	WR17017	Residential Pressure Regulation Program	400,000	-	-	400,000
153	WW	WR17018	IEUA WUE Model Update & Workshops	4,500	-	-	4,500

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ID #	Fund	Project Number	Project Name	FY 16/17 Amended Budget	FY 17/18 Forecast	FY19-26 Forecast	FY 16/17-FY 19/26 Total
154	WW	TBD	Member Agency Locally Implemented Programs	100,000	-	-	100,000
155	WW	WR17027	Residential Education, Surveys and Controller Upgrade Program	300,000	-	-	300,000
156	WW	WR16019	Technology Based Software	150,000	-	-	150,000
157	WW	WR16020	Budget Based Water Rates	450,000	-	-	450,000
159	RO	CP16001	Regional Plant Facilities Aesthetics	80,000	40,000	-	120,000
160	RO	EN13012	Magnolia Channel Monitoring & Maintenance	10,000	10,000	-	20,000
164	RO	EN16021	Chino Basin Groundwater Supply Wells and	3,000,000	7,940,000	-	10,940,000
167	RO	EN17019	RO Emergency O&M Projects FY 16/17	600,000	-	-	600,000
168	RO	EN17022	RO On-Call Operations & Maintenance Support	250,000	-	-	250,000
169	RO	EN17026	RO Safety Operations & Maintenance Support	250,000	-	-	250,000
172	RO	EN18019	RO Emergency O&M Projects FY 17/18	-	600,000	-	600,000
176	RO	EN19019	RO Emergency O&M Projects FY 18/19	-	-	600,000	600,000
178	RO	EN20019	RO Emergency O&M Projects FY 19/20	-	-	600,000	600,000
180	RO	EN21019	RO Emergency O&M Projects FY 20/21	-	-	600,000	600,000
181	RO	EN21103	Regional Wastewater AMP	-	-	36,000,000	36,000,000
183	RO	EN22019	RO Emergency O&M Projects FY 21/22	-	-	600,000	600,000
185	RO	EN23019	RO Emergency O&M Projects FY 22/23	-	-	600,000	600,000
187	RO	EN24019	RO Emergency O&M Projects FY 23/24	-	-	600,000	600,000
189	RO	EN25019	RO Emergency O&M Projects FY 24/25	-	-	600,000	600,000
190	RO	EN26019	RO Emergency O&M Projects FY 24/26	-	-	600,000	600,000
191	RO	EP16001	RP1/RP2 Digester Cleaning Project	500,000	500,000	4,000,000	5,000,000
192	RO	EP16002	Major Facilities Repair/Replacements	400,000	600,000	4,800,000	5,800,000

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ID #	Fund	Project Number	Project Name	FY 16/17 Amended Budget	FY 17/18 Forecast	FY19-26 Forecast	FY 16/17-FY 19/26 Total
193	RO	IS15020	Process Automation Controls IT Improvmnt	500,000	300,000	2,400,000	3,200,000
194	RO	IS16019	RP-1Filter PLC Upgrade Project	52,500	-	-	52,500
195	RO	IS17002	RACO Alarm System Replacement Proj	61,100	-	-	61,100
196	RO	IS17012	RP-1 Centrifuge Plant Ethernet Upgrade	59,000	-	-	59,000
197	RO	IS17014	Philadelphia Lift Station Licensed Radio Upgrade	51,500	-	-	51,500
198	RO	IS17015	Replace VM Host Server - RP-4	44,800	-	-	44,800
199	RO	IS17019	Replace VM Host Server - RP-1	22,400	-	-	22,400
200	RO	IS17020	VantagePoint Connectors	15,000	-	-	15,000
201	RO	IS17023	RP-4 Replace OITS	58,720	-	-	58,720
202	RO	IS17024	Invensys/ Foxboro RP-5 and RP-2 Upgrades	254,500	-	-	254,500
203	RO	IS17106	Virtualization Host Server Replacement	100,000	-	-	100,000
204	RO	PA17006	Agency-Wide Aeration Panel Replacement	2,400,000	2,500,000	4,700,000	9,600,000
205	RO	PK11001	Water Discovery Field Trip & Bus Grant	50,000	40,000	42,000	132,000
206	RC	CW17003	RC OE Projects FY 16/17	50,000	-	-	50,000
207	RC	CW18003	RC OE Projects FY 17/18	-	50,000	-	50,000
208	RC	CW19003	RC OE Projects FY 18/19	-	-	50,000	50,000
209	RC	CW20003	RC OE Projects FY 19/20	-	-	50,000	50,000
210	RC	CW21003	RC OE Projects FY 20/21	-	-	50,000	50,000
211	RC	CW22003	RC OE Projects FY 21/22	-	-	50,000	50,000
212	RC	CW23003	RC OE Projects FY 22/23	-	-	50,000	50,000
213	RC	CW24003	RC OE Projects FY 23/24	-	-	50,000	50,000
214	RC	CW25003	RC OE Projects FY 24/25	-	-	50,000	50,000

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ID #	Fund	Project Number	Project Name	FY 16/17 Amended Budget	FY 17/18 Forecast	FY19-26 Forecast	FY 16/17-FY 19/26 Total
215	RC	CW26003	RC OE Projects FY 25/26	-	-	50,000	50,000
216	RC	EN11039	TP-1 Disinfection Pump Improvements	225,000	969,000	-	1,194,000
217	RC	EN13028	Preserve Lift Station	100,000	300,000	2,400,000	2,800,000
223	RC	EN16024	RP-1 Mixed Liquor Return Pumps	2,850,000	2,835,000	15,000	5,700,000
226	RC	EN16036	RC Planning Documents	1,000,000	-	2,000,000	3,000,000
229	RC	EN17015	Collection System Up-grades 16/17	500,000	-	-	500,000
230	RC	EN17018	RC Emergency O&M Projects FY 16/17	600,000	-	-	600,000
231	RC	EN17021	RC On-Call Operations & Maintenance Support	250,000	-	-	250,000
233	RC	EN17027	RC Safety Operations & Maintenance Support	250,000	-	-	250,000
236	RC	EN18015	Collection System Up-grades 17/18	-	500,000	-	500,000
237	RC	EN18018	RC Emergency O&M Projects FY 17/18	-	600,000	-	600,000
242	RC	EN19015	Collection System Up-grades 18/19	-	-	500,000	500,000
243	RC	EN19018	RC Emergency O&M Projects FY 18/19	-	-	600,000	600,000
246	RC	EN20015	Collection System Up-grades 19/20	-	-	500,000	500,000
247	RC	EN20018	RC Emergency O&M Projects FY 19/20	-	-	600,000	600,000
248	RC	EN21015	Collection System Up-grades 20/21	-	-	500,000	500,000
249	RC	EN21018	RC Emergency O&M Projects FY 20/21	-	-	600,000	600,000
250	RC	EN22015	Collection System Up-grades 21/22	-	-	500,000	500,000
251	RC	EN22018	RC Emergency O&M Projects FY 21/22	-	-	600,000	600,000
252	RC	EN23015	Collection System Up-grades 22/23	-	-	500,000	500,000
253	RC	EN23018	RC Emergency O&M Projects FY 22/23	-	-	600,000	600,000
256	RC	EN24015	Collection System Up-grades 23/24	-	-	500,000	500,000

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ID #	Fund	Project Number	Project Name	FY 16/17 Amended Budget	FY 17/18 Forecast	FY19-26 Forecast	FY 16/17-FY 19/26 Total
257	RC	EN24018	RC Emergency O&M Projects FY 23/24	-	-	600,000	600,000
258	RC	EN25015	Collection System Upgrades 24/25	-	-	500,000	500,000
259	RC	EN25018	RC Emergency O&M Projects FY 24/25	-	-	600,000	600,000
260	RC	EN26018	RC Emergency O&M Projects FY 25/26	-	-	600,000	600,000
261	RC	IS17016	Host Servers for Test Environment	44,400	-	-	44,400
263	RM	RA17002	IERCF Replace Printers	4,700	-	-	4,700
264	RM	RA17003	IERCF Replace VM Host Servers	44,800	-	-	44,800
265	RM	RA17004	IERCF Replace Network Switches	25,000	-	-	25,000
266	RM	RA17005	IERCF UPS Replacement	14,000	-	-	14,000
268	RM	RA19001	IERCF Pugmill Improvements	-	-	100,000	100,000
272	RM	RA20003	IERCF Belt Conveyor Improvements	-	-	600,000	600,000
273	RM	RA20004	IERCF Misc Fan Improvements	-	-	900,000	900,000
275	RM	RA16001	IERCF Fire Sprinkler Improvements	200,000	-	-	200,000
278	RM	RA11001	IERCF Capital Replacement	500,000	500,000	4,000,000	5,000,000
279	RM	RA15001	IERCF Baghouse Improvements	350,000	-	-	350,000
280	RM	TBD	IERCF Building Improvements	100,000	100,000	-	200,000
281	RM	TBD	IERCF Inner Roof Lining Repair	-	-	300,000	300,000
282	RM	TBD	IERCF Front End Loader Replacement	-	-	600,000	600,000
284	RC	PL16016	Sewer Use Fee Evaluation	350,000	-	-	350,000
285	DM		CDA Printer Replacement (1)	2,176	-	-	2,176
286	DM		CDA RO/CW/IEX PLC Replacement	46,080	-	-	46,080
287	DM		Purchase Web Based HMI for Desalter/Wonderware	30,000	-	-	30,000

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288	GG		ICP instrument	-	-	200,000	200,000
289	GG		TOC instrument	-	-	35,000	35,000
309	WC	Potential RW	1630 East Pump Station Upgrades	100,000	200,000	-	300,000
310	WC	EN17038	GWR Level Transmitter Upgrades	200,000	-	-	200,000
311	WC	Potential GWR	Orchard Recycled Water Turnout Improvements	25,000	100,000	-	125,000
312	GG		Dionex Integrion HPIC	41,000	-	-	41,000
313	GG	LB17001	TKN Block Digester	11,000	-	-	11,000
315	RO		RO Planning Documents	250,000	-	1,000,000	1,250,000
316	RC	PL16015	Septic to Sewer Feasibility Study	350,000	-	-	350,000
322	NC	TBD	Lift Station AMP Projects	-	-	200,000	200,000
324	RM	TBD	IERCF Projects AMP	-	-	500,000	500,000
327	RC	TBD-20	RP-1 Headworks Rehab	-	-	500,000	500,000
329	RO	TBD-04	RP-2 Preliminary Design Report for Decomissioning	-	-	600,000	600,000
341	RO	TBD	Agency-Wide Condition Assessments	250,000	250,000	2,000,000	2,500,000
344	RO	EN16070	Agency-wide Pump Efficiencies Improvements	1,260,000	15,000	-	1,275,000
348	WC	EN26011	RW Hydraulic Modeling	-	-	100,000	100,000
350	GG	LB17002	Integrion HPIC	41,000	-	-	41,000
351	WW	WR18001	Ag Conservation	100,000	-	-	100,000
353	RW	RW17002	West Valley (Midge	120,000	-	-	120,000
355	WW	WR16002	CBWCD Landscape Audit & Monitoring Proga	40,000	-	-	40,000
356	WW	WR16004	Garden in Every School	78,128	-	-	78,128
357	WW	WR16006	Residential Landscape Device Retrofit - Lg Land-	200,000	-	-	200,000

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358	WW	WR16007	Residential Rebate Incentives	114,185	-	-	114,185
359	WW	WR16008	CII Rebate Incentives	200,000	-	-	200,000
360	WW	WR16009	National Theater for Children	60,000	-	-	60,000
361	WW	WR16010	Reg Educational Outreach Activities (Oth	16,000	-	-	16,000
362	WW	WR16011	Freesprinklernozzles.com Program	243,750	-	-	243,750
363	WW	WR16013	Sponsorships & Public Outreach	80,000	-	-	80,000
364	WW	WR16015	Residential Landscape Training Classes	15,000	-	-	15,000
365	WW	WR16017	Residential Pressure Regulation Program	400,000	-	-	400,000
366	WW	WR16018	IEUA WUE Model Update & Workshops	4,500	-	-	4,500
367	WW	WR16027	Residential Education, Surveys and Controller	300,000	-	-	300,000
368	WW	WR18XXX	Conservation Programs	-	1,250,000	10,000,000	11,250,000
369	WW	WR18XXX	Conservation Programs-grant share*	-	1250000*	-	11,250,000*
373	WC	TBD	CCWRF Valve Replacement	250,000	-	-	250,000
374	WW	WR15022	Water Use Assessments	188,382	-	-	188,382
381	GG	TBD	New PC Workstation	9,000	-	-	9,000

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