Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

May 2018

Fiscal Year 2018/19 Ten-Year Capital Improvement Plan

Inland Empire Utilities Agency Fiscal Year 2018/19 Ten-Year Capital Improvement Plan

Inland Empire Utilities Agency
6075 Kimball Avenue
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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 Basin 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
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
SDLAC	County Sanitation Districts of Los Angeles County
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

Executive Summary

PURPOSE OF TEN-YEAR CAPITAL IMPROVEMENT PLAN

Each year the Board of Directors of the Inland Empire Utilities Agency (the Agency) adopts a Ten-Year Capital Improvement Plan (TYCIP) based on the growth and regulatory requirements, existing asset management needs, and comments and recommendations from the Regional Technical and Policy Committees. Pursuant to the terms of the Regional Sewage Service Contract, the TYCIP includes wastewater strength and flow forecasts and a description of planned capital projects, including any necessary facility expansions, major asset replacement and rehabilitation, and major capital equipment purchases. The TYCIP also provides a summary of the capital costs and capital financing plans associated with the following Agency program funds:

- Regional Wastewater Capital Improvement (RC)
- Regional Wastewater Operations and Maintenance (RO)
- Recycled Water (WC)
- Non-reclaimable Wastewater (NC)
- Groundwater Recharge (RW)
- Administrative Services (GG)

The Fiscal Year (FY) 2018/19 TYCIP covers FY 2018/19 through FY 2027/28. Two major themes of the TYCIP are: (1) the need for maintenance, rehabilitation and replacement (R&R) of aging equipment and facilities; and (2) the need for expansion of the Regional System to meet future growth. Considering the age and condition of the Agency's facilities and infrastructure, appropriate funding of R&R as well as routine preventive maintenance is critical to ensure the reliability and quality of the services that the Agency is committed to provide to its customers. The combination of these needs has resulted in a proposed FY 2018/19 TYCIP of $716 million, which is consistent with the 2017/18 Capital Budget of $717 million (see Table 1).

Major projects in the FY 2018/19 TYCIP include: construction of a wastewater solids handling facility to replace infrastructure that will be in the flood zone, and expansion of liquids treatment at Regional Water Recycling Facility No. 5 (RP-5); asset management projects at Carbon Canyon Wastewater Recycling Facility (CCWRF), Water Recycling Facility No. 4 (RP-4), and throughout the regional system; and groundwater basin improvements per the 2013 Recharge Master Plan Update.

A significant project that falls on the outer edge of the ten-year planning horizon is the liquids capacity recovery for the Water Recycling Facility No. 1. The design for the project will begin in FY 2025/26, with construction beginning in FY 2028/29. An evaluation of efficiency projects will be used to refine the timing and criticality of the project implementation.

TABLE 1: COMPARISON OF FY 2017/18 TO FY 2018/19 TEN YEAR CAPITAL PLAN ($ IN MILLIONS)

Fund	FY 2017/18	FY 2018/19
Administrative Services Fund	$7.6 M	$13.5 M
Non-Reclaimable Wastewater Fund	$11.4 M	$18.1 M
Regional Capital Improvement Fund	$482.7 M	$472.5 M
Regional Operations and Maintenance	$121.5 M	$89.1 M
Recharge Water Fund	$22.3 M	$27.3 M
Recycled Water Fund	$71.3 M	$95.0 M
Water Resources Fund	-	-
TOTAL	**$716.8 M**	**$715.5 M**

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) 2018/19 through FY 2027/28 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 processbased on the availability of financial resources.

DEFINITION OF A CAPITAL PROJECT

The TYCIP is composed of a list of Capital Projects which are projects that involve the purchase, improvement or construction of major fixed assets and equipment, such as the expansion of treatment plants, the construction of pipeline and pump stations, and replacement of equipment.

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 1984 and 1994, 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 replacement 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 detailed review, comments and recommendations from the Regional Technical and Policy Committees and Agency's Board of Directors, the TYCIP is adopted.

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
- Urban Water Management Plan
- Wastewater Facilities Master Plan
- Facilities Master Plan Program Environmental Impact Report
- Asset Management Plan
- Energy Management Plan
- Operating and Capital Program Budget
- Long-Range Plan of Finance
- Integrated Water Resources Plan
- Recycled Water Program Strategy
- Groundwater Recharge Master Plan Update
- Technology Master Plan

The IEUA Business Goals (2016) 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 (RPs), 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 five 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 2015 Urban Water Management Plan (UWMP) and 2017 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 IEUA's major master planning documents: Asset Management Plan (2015), Recycled Water Program Strategy (2015), 2010 Recharge Master Plan Update (2013), Wastewater Facilities Master Plan Update Report (2015), Integrated Water Resources Plan (2015), and Energy Management Plan (2015).

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 are instrumental in prioritizing and planning for the repair and replacement of equipment and facilities. AMP updates will be done on a biannual basis and aligned 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. Since FY 2016/17, the TYCIP document has been updated biennially, on the opposite year from the

Budget Document.

The Biennial 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 2019/20 Biennial Budget will be published in June, 2019.

The Long-Range Plan of Finance (2015) 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 30-year period. This way the Agency can better anticipate and prepare for necessary adjustments and minimize sudden budgetary impacts to stakeholders and operations.

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 will focus on detailed modeling of identified local and regional projects, and will be completed in 2018/19.

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 has committed to are incorporated into both the IRP the IRP Phase 1 baseline supply assessments and the TYCIP project lists. The five-year update to the Recharge Master Plan will begin in fall 2018.

IEUA Overview

INTRODUCTION

The Agency is a regional wastewater treatment agency and wholesale distributor of imported water. The Agency is responsible for serving approximately 875,000 people 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 dependence on imported water supplies and provide local supply resiliency to the region; (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 to meet 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 which generally serve

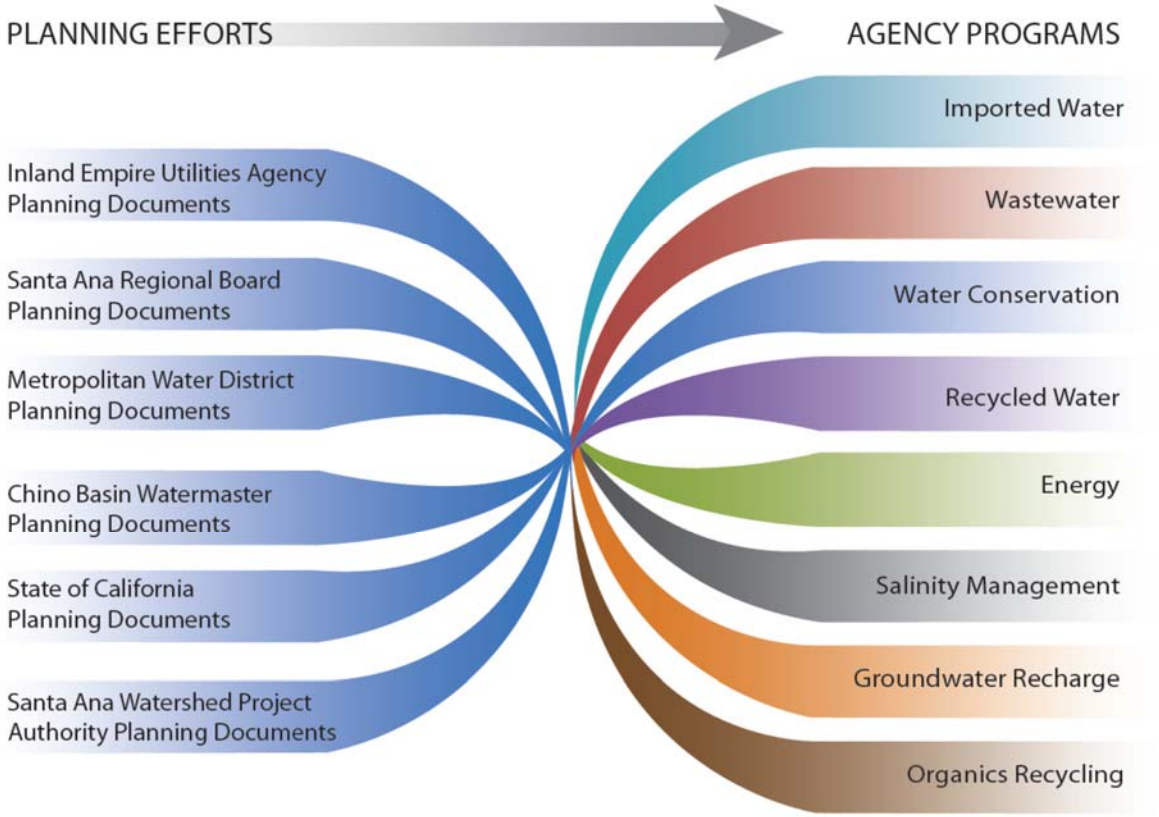
the following regions: Division 1- Upland/Montclair; Division 2- Ontario; Division 3- Chino/Chino Hills; Division 4- Fontana; and Division 5- Rancho Cucamonga. Monthly meetings are also held with the Regional Technical and Policy Committees comprised of representatives from each of the Agency's Regional Sewer Service Contracting Agencies. These Committees discuss and provide recommendations on various 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 California Environmental Protection Agency 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

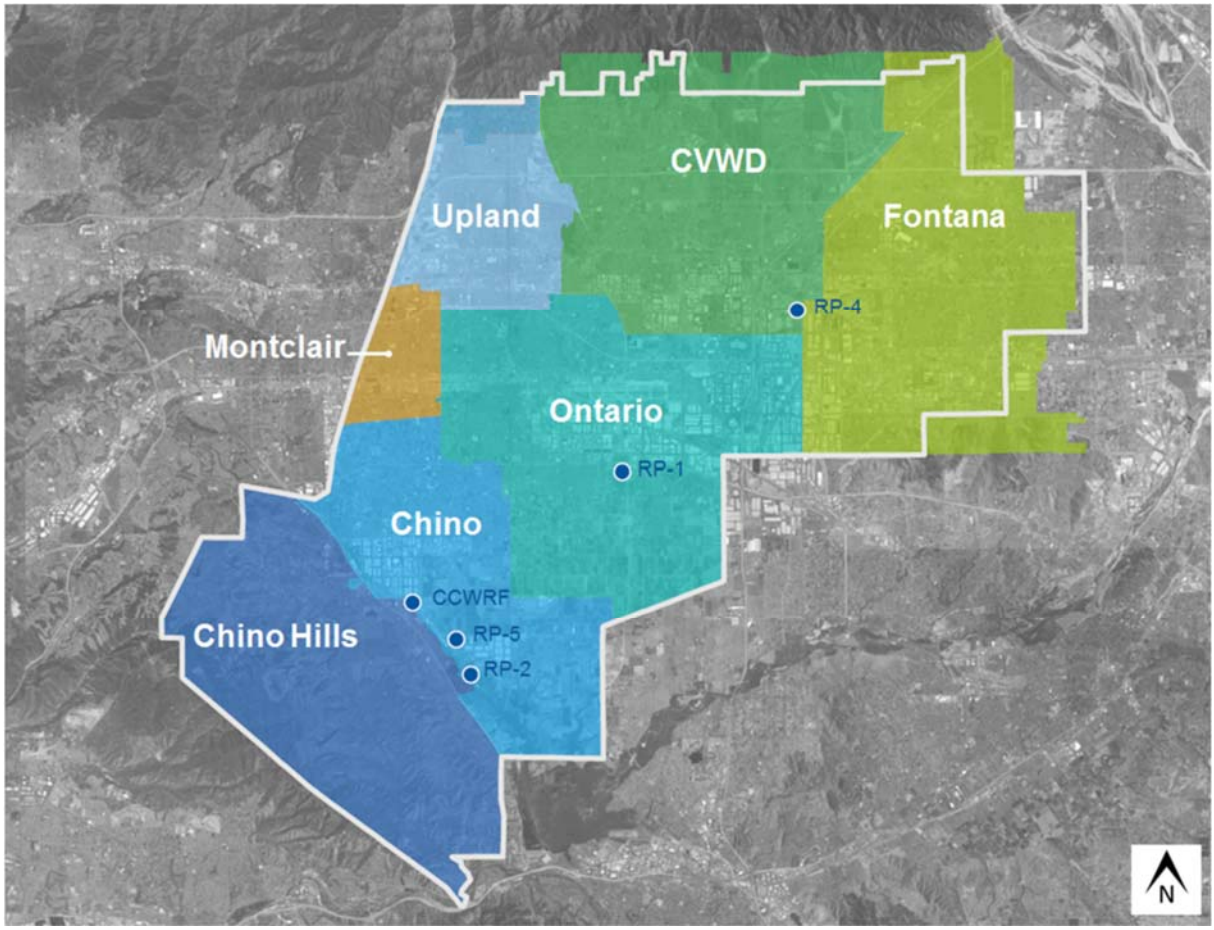


CONTRACTING AND RETAIL AGENCIES

As a regional wastewater treatment agency, the Agency provides sewage utility services to seven contracting agencies under the Chino Basin Regional Sewerage 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 the city of Rancho Cucamonga, Fontana Water Company in the city of 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 regional water recycling plants. 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 few assets or infrastructure related to 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 Basin 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 Regional Water Recycling Plants (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 sewage 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 4 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 RP-2 is 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 2024.

The Agency has a network of regional interceptor sewers that can be used to bypass sewer 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.

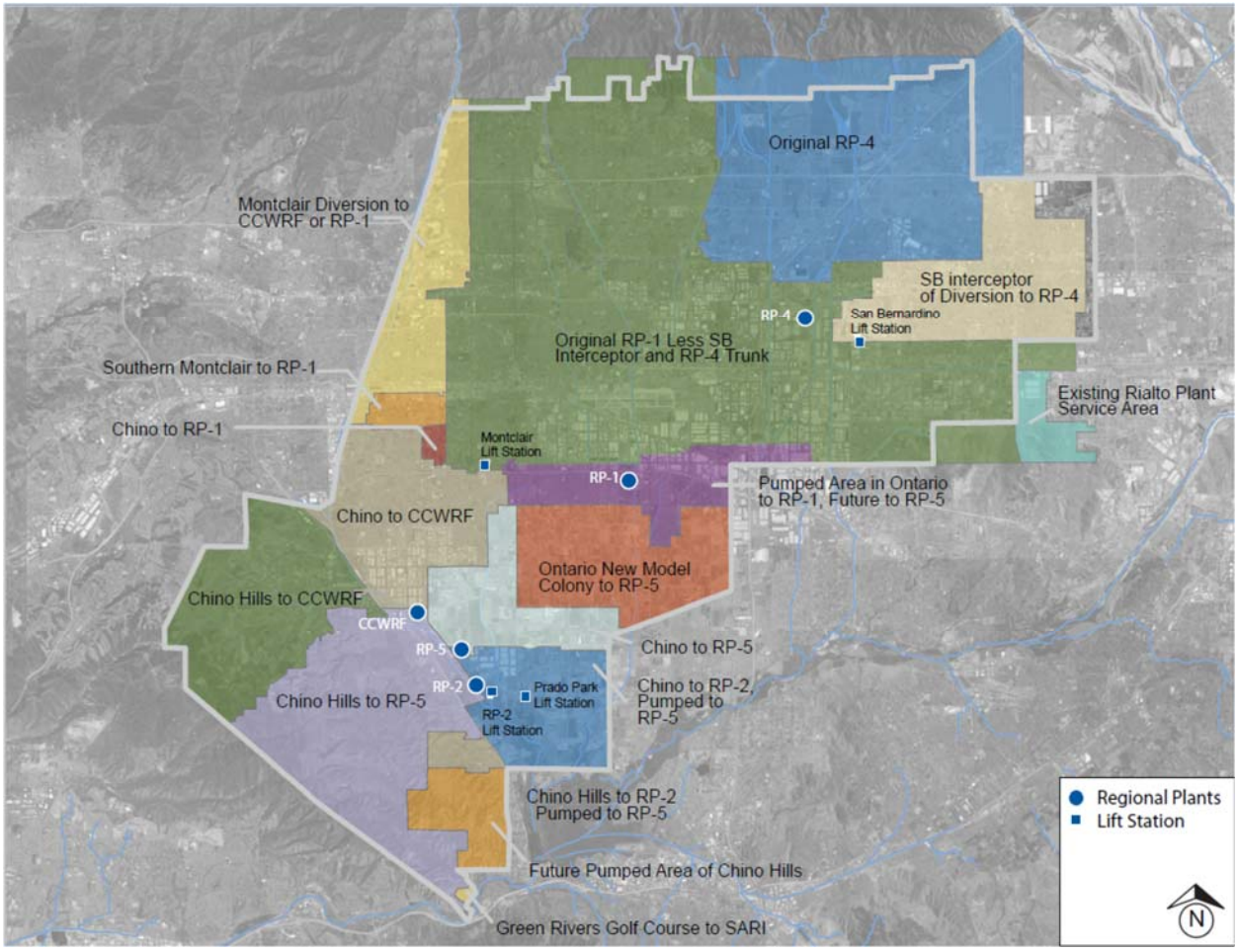
The Agency also has four sewer lift stations, which are shown on Figure 5. These are used to shift flows that would naturally flow from one portion of the service area to a different treatment plant to balance flows and keep water in the northern portion of

the service area to maximize potential recycled water use. The lift stations are:

- Montclair Lift Station– pumps sewage from portions of Montclair, Upland, and Chino to RP-1 and CCWRF.
- Prado Park Lift Station– pumps sewage from the Prado Regional Park in the City of Chino to the RP-2 Lift Station
- RP-2 Lift Station– pumps sewage 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.

Recycled Water Distribution System

FIGURE 4: REGIONAL PLANT SERVICE AREA BOUNDARIES



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 sewage from its member agencies. The sewage 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 starting in the 1970's. 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 promoting or sustaining 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. Since the program's inception, over $290 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 reduce 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 FY 2016-17, the Agency delivered over 33,400 acre-feet of this reliable local water supply to the region. 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
- Local Resiliency – increases local water supply reliability and reduces dependence on 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.

Groundwater Recharge Basins

In conjunction with the Chino Basin Water Master (CBWM), Chino Basin Water Conservation District (CBWCD), and San Bernardino County Flood Control District (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 5 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 2.

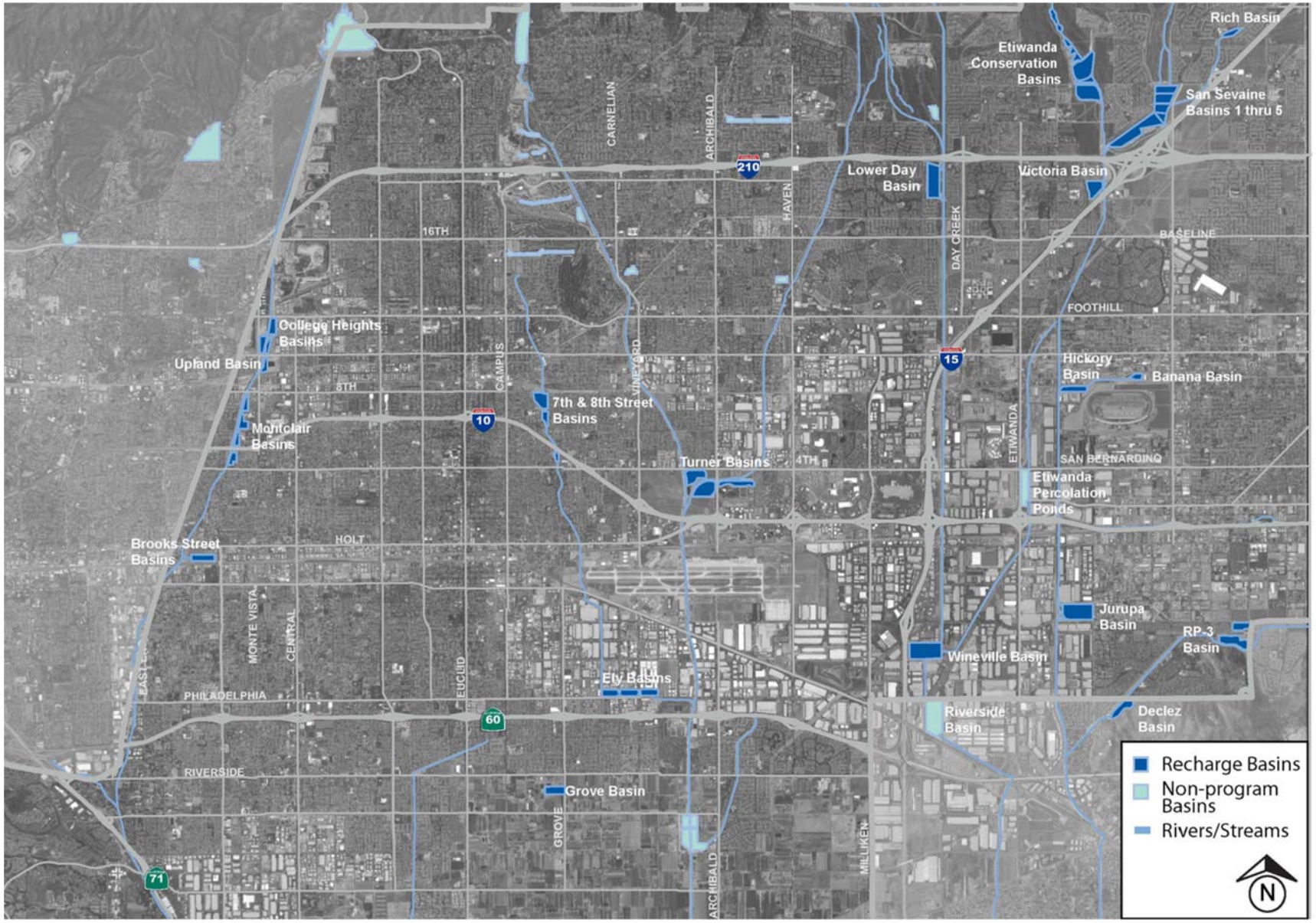
The Agency, CBWM, CBWCD, and their respective member agencies completed the 2013 Recharge Master Plan Update (Update) to the 2010 Recharge Master Plan. The Update evaluated 27 yield enhancing capital projects for the Chino Basin. In 2017 CBWM and IEUA approved to implement recharge improvements as part of the RMPU for the following basins: Wineville Basin, Jurupa Basin Victoria Basin, Lower Day, and Montclair Basin. The new improvements will also include a new stormwater distribution system between Winevile and Jurupa to convey additional stormwater runoff to multiple basin for recharge. Design started on June 2017. Construction is scheduled for 2018 through 2020.

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 6). This system also ensures that the regional water recycling plants do not exceed the TDS discharge limits established by the Regional 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 introduction to the wastewater treatment process.

The NRWS is comprised of a north and a south system. The north system conveys

FIGURE 5: CHINO BASIN RECHARGE PROGRAM SITES



the non-reclaimable wastewater to Sanitation Districts of Los Angeles County (SDLAC) 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).

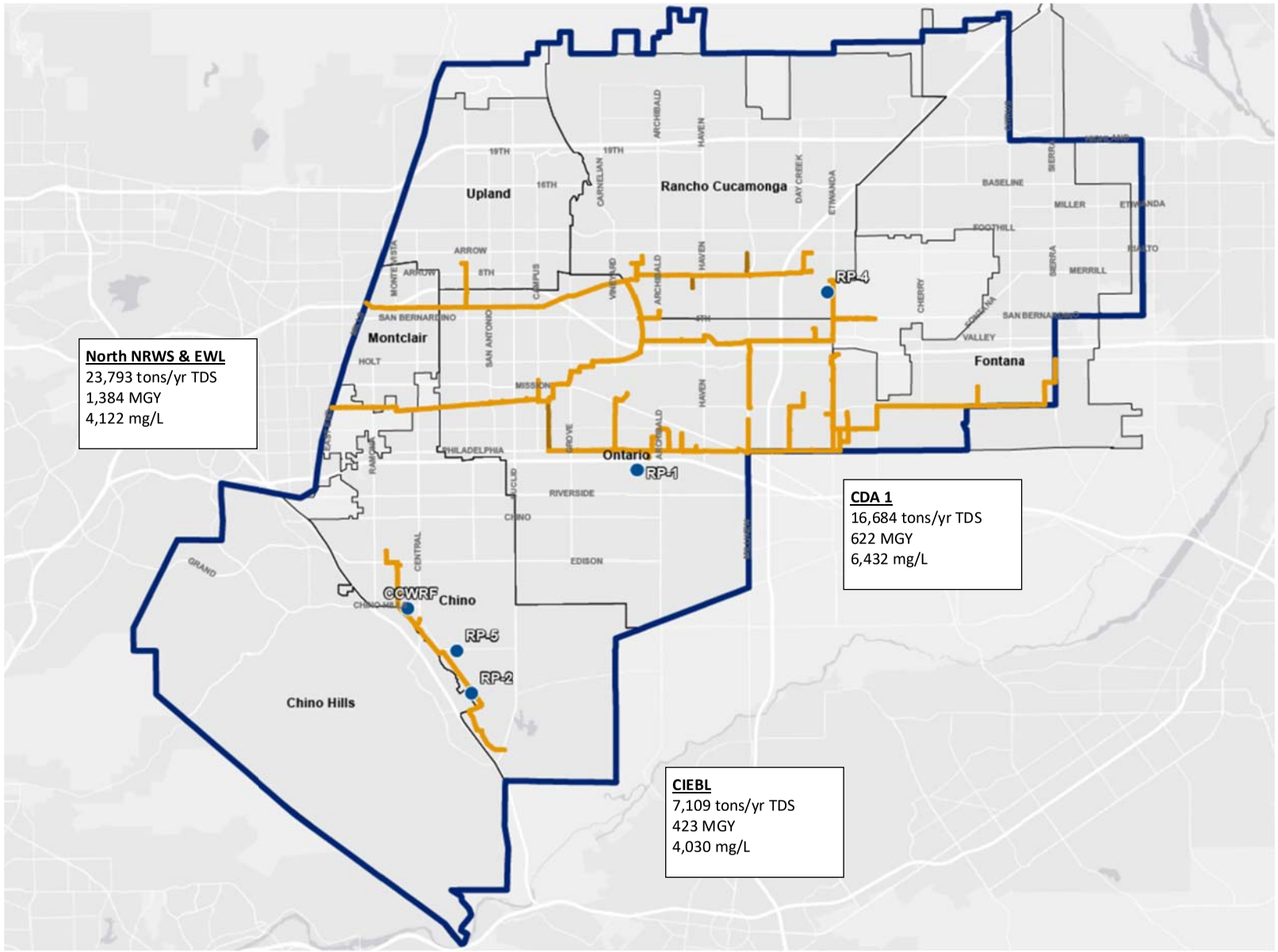
Discharges to the NRWS consists mainly of industrial and groundwater treatment brines. The Agency also discharges centrate resulting from the dewatering of the biosolids generated within the Agency's water recycling treatment facilities and some domestic sewage from non-sewered areas. The NRWS is physically separated from the Regional Wastewater System and provides a means for segregating non-reclaimable, high saline waste 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.

TABLE 2: 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 6: 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.

Inland Empire Regional Composting Facility

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

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 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, agricultural, 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 has been operating at its design capacity for over 10 years, receiving nearly 800 tons of biosolids and recycled waste products each workday and has maintained a perfect compliance record.

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 entered into a Power Purchase Agreement (PPA) with a private company and had 3.5 MW of solar power installed at four of IEUA's facilities. In 2010, IEUA expanded its renewable energy portfolio by securing a PPA for a 1.0 MW wind turbine at Regional Water Recycling Plant No. 4. In 2010, IEUA entered into a lease agreement with an environmental engineering consulting firm to develop the RP-5 Solids Handling Facility food waste digestion site. The facility, initially designed as a manure digestion site, has been diverting regional food waste since 2012, and generating power since 2015. The goal is to produce enough digester gas to fuel two internal combustion engines capable of generating 1.5 MW each. In 2015 IEUA partnered with an energy firm to install 4.0 MW of advanced energy storage systems at Agency facilities. The storage systems optimize IEUA's on-site generation, store excess renewable energy and use stored energy to power facilities when demand on the electric grid is high.

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. Energy efficiency project were implemented in 2016 and 2017 such as lighting retrofit and pumps rehabilitation. Agency personnel will assess operational processes and strive for optimization to reduce energy wherever possible.

Treatment Plan Flow Projections

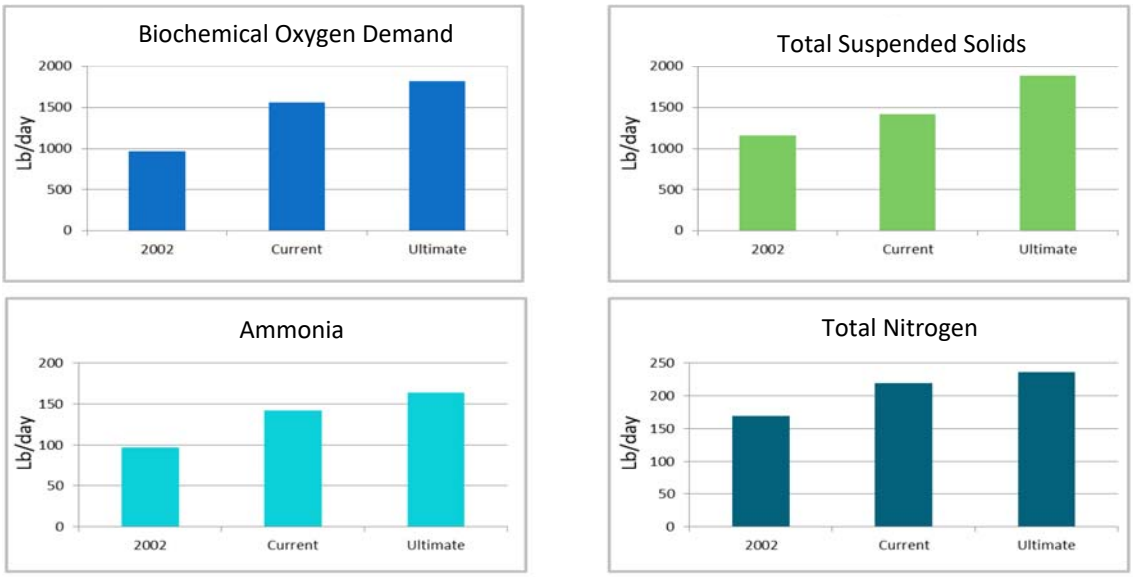
Wastewater flow forecasts are conducted annually and are based on three components: (1) historical wastewater flow trends; (2) per dwelling unit wastewater generation factors, based on the 2015 Wastewater Facilities Master Plan projections; and (3) expected future growth numbers provided by Contracting 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.

TREATMENT PLANT FLOW TRENDS

Over the past decade the region has experienced increased indoor water use efficiency as a result of drought, shifting public policy, more efficient building codes and devices, and effective conservation program campaigns. At regional facilities, this has resulted in a decrease in the volume of sewage flows of approximately 10% since 2013. However, the influent mass loading is tied to the population served. As a result of these two factors, while the population has increased, indoor water consumption has decreased resulting in increased sewage strength. This trend is expected to continue (see Figure 7). The result of this shift is that today regional wastewater treatment plant expansions are driven by the increased strength of sewage flows to the facilities instead of flow volumes.

Although sewage 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 sewage to the recycling plants in the northern service area where the system has been expanded and where groundwater recharge basins are located. In addition to moving recycled water, this regional system flexibility allows the treatment plants to operate as an interconnected system, with operators moving flow as necessary.

FIGURE 7: INFLUENT WASTEWATER LOADING INCREASES



Source: 2015 Wastewater Facilities Master Plan

ANTICIPATED SERVICE AREA GROWTH

The results of the 10-year capacity demand forecast based on the August 2017 Contracting Agency survey are summarized in Table 5. For FY 2018/19, the forecasted activity was 6,149 EDUs. Over the next ten years, activity was projected to total 55,786 EDUs. Approximately 74% of this activity was projected to occur in the service areas of Ontario and CVWD as the result of new development. Over the next ten years, building activity is projected to be approximately 75% residential and 25% commercial/industrial (see Table 3).

TABLE 3: CONTRACTING AGNECY
10-YEAR DEMAND FORECAST BY

Fiscal Year	Residential (EDUs)	Commercial/ Industrial	Total (EDUs)
2018/19	4,447	1,702	6,149
2019/20	4,665	1,629	6,294
2020/21	5,003	1,629	6,632
2021/22	5,241	1,592	6,833
2022/23	5,056	1,385	6,441
2023/24	4,461	1,292	5,753
2024/25	3,904	1,218	5,122
2025/26	3,430	1,160	4,590
2026/27	2,922	1,119	4,041
2027/28	2,842	1,089	3,931
TOTAL	**41,971**	**13,815**	**55,786**

FIFTY YEAR FLOW PROJECTION

As part of the Wastewater Facilities Master Plan Update (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.

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 facility expansions over the next 20 years. A rough timeline based on the WWFMPU findings for plant expansions is shown in Table 4. Expansions at RP-5, the relocation of RP-2 solids handling to RP-5 are included in the 10-year window.

TABLE 4: MAJOR TREATMENT FACILITY CAPACITY/EXPANSION PROJECTS

Description	2015/20	2020/25	2025/30	2030/35	Total Cost
RP-1 Liquid Capacity Recovery					$182 M
RP-1 Solids Treatment Expansion					$45 M
RP-2 Decommissioning					$30 M
RP-5 Liquid Treatment Expansion					$160 M
RP-5 Solids Treatment Facility					$165 M

TABLE 5: 10-YEAR CAPACITY DEMAND FORECAST BY AGENCY (EDUs)

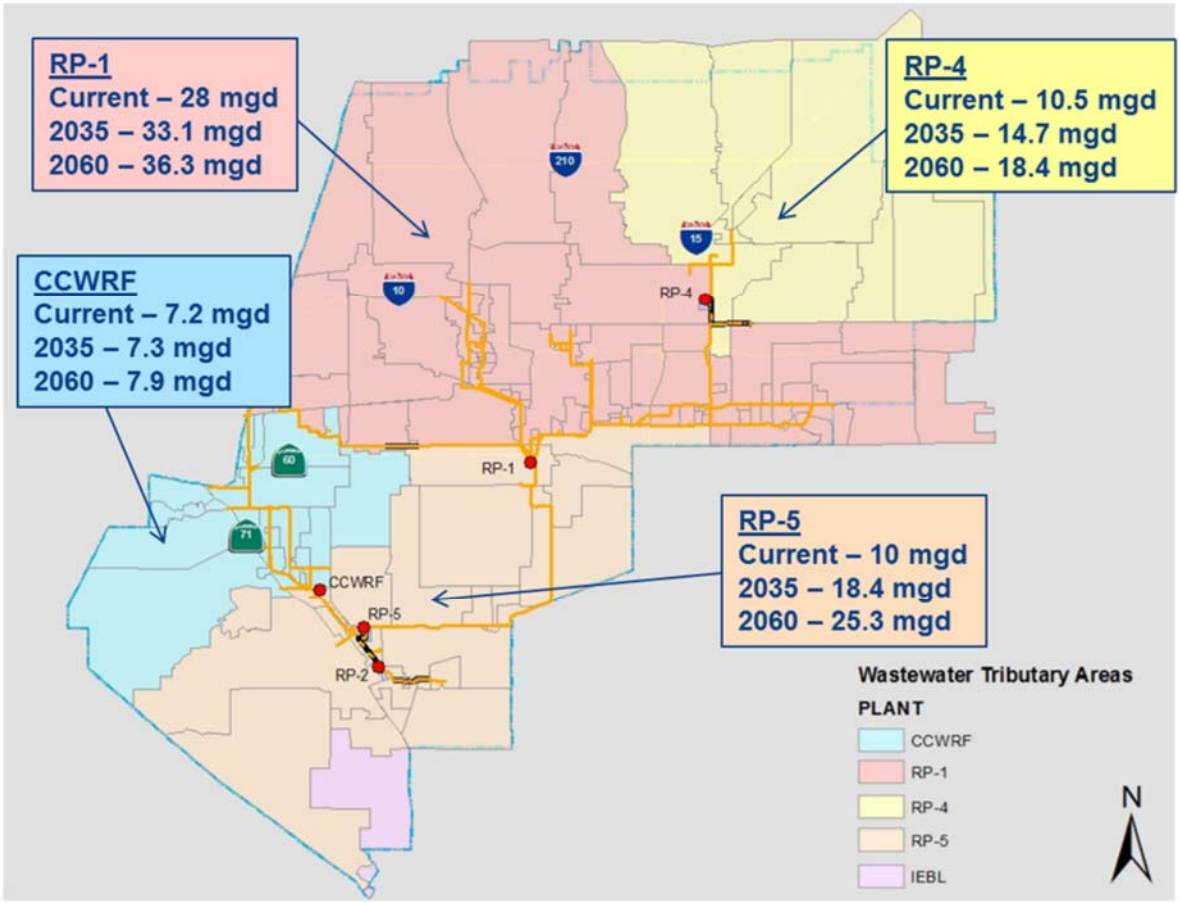
Fiscal Year	Chino	Chino Hills	CVWD	Fontana	Montclair	Ontario	Upland	Total
2018/19	705	442	790	793	287	2,720	412	6,149
2019/20	470	272	1,240	840	139	2,930	403	6,294
2020/21	430	182	1,650	808	32	3,180	350	6,632
2021/22	355	133	2,050	762	32	3,180	321	6,833
2022/23	262	96	2,050	700	32	3,180	121	6,441
2023/24	262	64	1,650	693	32	2,960	92	5,753
2024/25	262	6	1,250	720	32	2,770	82	5,122
2025/26	262	1	890	731	32	2,610	64	4,590
2026/27	262	0	490	720	32	2,480	57	4,041
2027/28	262	0	490	720	32	2,370	57	3,931
TOTAL	**3,532**	**1,196**	**12,550**	**7,487**	**682**	**28,380**	**1,959**	**55,786**
Percent	**6%**	**2%**	**23%**	**13%**	**1%**	**51%**	**4%**	**100%**

TABLE 6: WWFMPU PROJECTED AVERAGE INFLUENT WASTEWATER FLOW

Year	RP-1 (MGD)	RP-4 (MGD)	CCWRF (MGD)	RP-5 (MGD)	Total (MGD)
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**

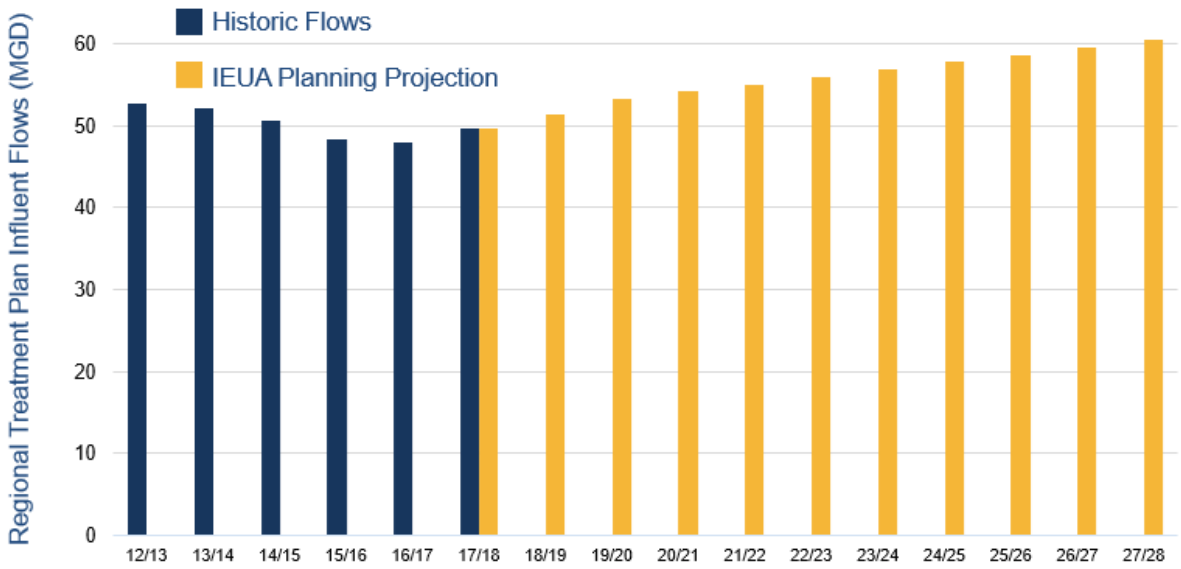
Source: TM No.4, WWFMPU (CH2M Hill 2014)

FIGURE 10: PROJECTED TRIBUTARY SEWER FLOWS



Source: 2015 Wastewater Facilities Master Plan

FIGURE 7: REGIONAL SYSTEM TREATED INFLUENT FLOW FORECAST



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 projects for existing facilities; and 2) expansion projects to provide additional treatment capacity.

Drivers used to determine the timeframe and necessity of projects include regulatory and permitting requirements, wastewater flow projections, asset age, performance, efficiency, grant or funding availability.

TABLE 8: 10-YEAR CAPITAL PROJECT BUDGET ESTIMATE, BY FUND

Description	FY 2018/19	FY 2019/20	FY 2020-28	TYCIP Total
Administrative Services	$1.2 M	$1.6 M	$10.7 M	$13.5 M
Non-Reclaimable Wastewater	$3.5 M	$6.1 M	$8.5 M	$18.1 M
Regional Capital Improvement	$30.6 M	$35.3 M	$406.6 M	$472.5 M
Regional Operations & Maintenance	$19.9 M	$31.9 M	$37.3 M	$89.1 M
Recharge Water	$10.6 M	$9.8 M	$6.9 M	$27.3 M
Recycled Water	$12.2 M	$16.6 M	$66.1 M	$95.0 M
Water Resources	-	-	-	-
TOTAL	**$73.0 M**	**$95.4 M**	**$531.6 M**	**$715.5 M**

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, and anticipated funding sources. The list will be refined regularly as planning documents are updated and facility needs are reprioritized. An estimated ten-year budget for capital project by fund is summarized in Table 8. Full project lists, including operations and maintenance, rehabilitation and repair, and equipment purchases that are not capitalized are listed in Appendix B. Capital projects associated with the IERCA are listed in Appendix C. Projects that will only move forward if grant funding is made available are listed in Appendix D.

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 rehabilitation and replacement. 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 sewage characteristics at the time of the expansions. Although the projected sewage flows

do not show a significant increase from current to build-out, they do reflect higher loading characteristics that require specific treatment process modifications to meet effluent discharge regulations. RP-1 serves areas of Ontario, Upland, Fontana, Chino, Montclair and Cucamonga Valley Water District, and currently treats approximately 20.9[1] 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. RP-1 handles solids from both RP-1 and RP-4. The stabilized, dewatered solids are trucked to the IERCF in the City of Rancho Cucamonga for further treatment to produce Grade A compost.

Major projects in the next ten years include mechanical upgrades, effluent conveyance improvements, flare system improvements, and energy recovery. At the end of the ten years, design for the liquid and solids treatment capacity recovery will begin, with construction beginning in FY 2028/29. This project is also planned to address long term facility odor improvements. 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 sewage 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[1] MGD.

Major projects in the next ten years include various process improvements, outfall repairs, and repair and replacement projects. 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

1– MGD based on 2017-2018 sewage flow.

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 8.3[1] MGD.

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. 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 recently redefined 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 will need to relocate the solids handling from RP-2 to RP-5. The project will be complete by 2023.

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

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 sewage 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 2023. RP-5 serves areas of Chino, Chino Hills, and Ontario, treating approximately 8.4[1] MGD.

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 (now Inland BioEnergy) 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 and the reduced energy costs, 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 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 SDLAC. From there, it is conveyed to SDLAC's treatment facility in Carson, where it is treated and discharged to the ocean.

The south system, which serves approximately 12 industries (including five haulers) , conveys sewage 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 47,600 tons of salt in FY 2016/17 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. In addition to the NRWS system and salinity management program the Agency operates the Chino Basin Desalter I facility. See Appendix A for the capital project list.

WATER SUPPLY

The Agency has established an aggressive goal to increase regional resiliency against droughts, increase the regional water supply portfolio, and develop programs for long-term water use efficiency. Recommendations from the completion of the IRP Phase I 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 Contracting 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 33,000 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 1299 Pressure Zone upgrades, 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 to 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. 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, and the 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 and allow for stormwater diversion projects. 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 groundwater recharge projects are a means to diversify the water supply for the region and maximize the beneficial reuse of recycled water and the yield of the Chion Basin. All groundwater recharge projects are cost shared with CBWM. 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 are listed in Appendix B. However during Phase 2 of the IRP process, which is currently under development, 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 2018.

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, wetlands, 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. At present, a new laboratory facility is under construction adjacent to

RP-5 on the Headquarters campus. Construction of the new state of the facility should be completed by FY 2018/19. See Appendix A for the capital project list.

Inland Empire Regional Composting Authority

The IERCA is a joint powers authority between IEUA and SDLAC. 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 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, screen fan and ventilation improvements. 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 SDLAC. See Appendix C for the IERCA 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 #	Project Number	Project Name	Fund	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year Total	% Grant	% Debt	% outside	% Pay-go
204	EN20021	Agency SCADA Integration with SAP	GG	$ -	$ 250,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 250,000	0%	0%	0%	100%
205	EN21020	Primavera Enhancements	GG	$ -	$ -	$ 100,000	$ -	$ -	$ -	$ -	$ 100,000	$ -	$ -	$ 200,000	0%	0%	0%	100%
206	LB20001	ICPInstrument	GG	$ -	$ 200,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 200,000	0%	0%	0%	100%
207	EN18055	Headquarters Roofing Replacement	GG	$ 104,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 104,000	0%	0%	0%	100%
209	IS19007	Business Network Cyber Security Project	GG	$ 45,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 45,000	0%	0%	0%	100%
210	CP16005	Headquarters LEED OM Certification	GG	$ 38,422	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 38,422	0%	0%	0%	100%
211	CP17001	Regional Office Furniture	GG	$ 20,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 20,000	0%	0%	0%	100%
216	IS19008	Business Network New Workstations	GG	$ 21,000	$ 20,000	$ 20,600	$ 21,218	$ 21,855	$ 22,510	$ 23,185	$ 23,881	$ 24,597	$ 25,335	$ 224,182	0%	0%	0%	100%
217	EN22010	Asset Management Projects	GG	$ -	$ -	$ -	$ 150,000	$ 300,000	$ 600,000	$ 800,000	$ 1,000,000	$ 1,200,000	$ 1,400,000	$ 5,450,000	0%	0%	0%	100%
218	IS16021	SAP Roadmap & Strategy	GG	$ 300,000	$ 400,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 200,000	$ 200,000	$ -	$ 2,350,000	0%	0%	0%	100%
219	EP19004	Agency-Wide Vehicle Replacement	GG	$ 500,000	$ 500,000	$ 150,000	$ 154,500	$ 159,135	$ 163,909	$ 168,826	$ 173,891	$ 179,108	$ 184,481	$ 2,333,850	0%	0%	0%	100%
220	IS19009	Business Network Infrastructure Replacement	GG	$ 195,000	$ 200,000	$ 206,000	$ 212,180	$ 218,545	$ 225,102	$ 231,855	$ 238,810	$ 245,975	$ 253,354	$ 2,226,821	0%	0%	0%	100%
221	EN16049	Conference Rooms Audio Visual Upgrades	GG	$ 15,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 15,000	0%	0%	0%	100%
			GG Total	$ 1,238,422	$ 1,570,000	$ 726,600	$ 787,898	$ 949,535	$ 1,261,521	$ 1,473,867	$ 1,736,583	$ 1,849,680	$ 1,863,170	$ 13,457,276				

ID #	Project Number	Project Name	Fund	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year Total	% Grant	% Debt	% outside	% Pay-go
301	EN23002	Philadelphia Lift Station Force Main Imp	NC	$ 1,600,000	$ 3,150,000	$ 1,250,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,000,000	0%	0%	0%	100%
302	EN19027	NRWS Pipeline Relining Along Cucamonga Creek	NC	$ 800,000	$ 1,500,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,300,000	0%	0%	0%	100%
303	EN22002	NRW East End Flowmeter Replacement	NC	$ 750,000	$ 974,660	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,724,660	0%	0%	0%	100%
305	EN18023	NRWS Philadelphia Pump Station Pump 3 Im	NC	$ 100,000	$ 235,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 335,000	0%	0%	0%	100%
306	EN26020	Lift Station AMP Projects	NC	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 200,000	$ -	$ -	$ 200,000	0%	0%	0%	100%
308	EN15044	SBCFCD NRW Easement	NC	$ -	$ -	$ -	$ -	$ 555,000	$ -	$ -	$ -	$ -	$ -	$ 555,000	0%	0%	0%	100%
309	EN22007	Asset Management Projects	NC	$ -	$ -	$ -	$ 400,000	$ 500,000	$ 600,000	$ 700,000	$ 800,000	$ 900,000	$ 1,000,000	$ 4,900,000	0%	0%	0%	100%
310	EN19014	NRWS Manhole Upgrades - XX/XX	NC	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 2,000,000	0%	0%	0%	100%
			NC Total	$ 3,450,000	$ 6,059,660	$ 1,450,000	$ 600,000	$ 1,255,000	$ 800,000	$ 900,000	$ 1,200,000	$ 1,100,000	$ 1,200,000	$ 18,014,660				

ID #	Project Number	Project Name	Fund	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year Total	% Grant	% Debt	% outside	% Pay-go
901	EN19006	RP-5 Solids Facility	RC	$ 4,710,521	$ 11,715,016	$ 67,612,409	$ 65,892,483	$ 10,563,910	$ -	$ -	$ -	$ -	$ -	$ 160,494,340	0%	100%	0%	0%
902	EN17044	RP-1 Power Reliability Generator Control	RC	$ 5,500,000	$ 50,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,550,000	0%	0%	0%	100%
903	EN19001	RP-5 Liquids Expansion	RC	$ 4,449,209	$ 11,412,449	$ 65,668,620	$ 63,998,247	$ 10,263,844	$ -	$ -	$ -	$ -	$ -	$ 155,792,369	0%	100%	0%	0%
904	EN11039	RP-1 Disinfection Pump Improvements	RC	$ -	$ -	$ -	$ 3,818,000	$ 1,909,000	$ 200,000	$ -	$ -	$ -	$ -	$ 5,927,000	0%	0%	0%	100%
905	EN14019	RP-1 Headworks Primary and Secondary Upg	RC	$ 3,000,000	$ 650,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,650,000	0%	0%	0%	100%
906	EN24001	RP-1 Liquids Capacity Recovery	RC	$ 2,979,152	$ 500,000	$ -	$ -	$ -	$ -	$ -	$ 5,633	$ 4,720,741	$ 3,030,738	$ 11,236,265	0%	100%	0%	0%
907	EN18006	RP-1 Flare Improvements	RC	$ 4,000,000	$ 1,300,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,300,000	0%	0%	0%	100%
908	EN17006	CCWRF Assets Management and Improvements	RC	$ 1,400,000	$ 4,000,000	$ 7,500,000	$ 500,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 6,000,000	$ -	$ -	$ 25,400,000	0%	0%	0%	100%
909	EN19025	Montclair and San Bernardino Lift Station Force Main C	RC	$ 1,250,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,250,000	0%	0%	0%	100%
910	EN24002	RP-1 Solids Capacity Recovery	RC	$ 896,955	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,289	$ 1,243,891	$ 816,568	$ 2,962,703	0%	100%	0%	0%
911	EN19026	CCWRF 12 KV Switchgear Replacement	RC	$ 820,000	$ 1,500,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,320,000	0%	0%	0%	100%
912	EN16011	Whispering Lakes Pump Station Rehab	RC	$ 500,000	$ -	$ -	$ -	$ -	$ -	$ 4,500,000	$ -	$ -	$ -	$ 5,000,000	0%	0%	0%	100%
913	EN18037	CCWRF Asset Management and Improvements Pck II	RC	$ 210,000	$ 770,000	$ 15,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 995,000	0%	0%	0%	100%
914	EN18036	CCWRF Asset Management and Improvements Pck III	RC	$ 213,500	$ 2,086,500	$ 15,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,315,000	0%	0%	0%	100%
917	EN18028	RP-5 Seal Water Improvements	RC	$ 150,000	$ 6,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 156,000	0%	0%	0%	100%
919	EN11031	RP-5 Flow Equalization and Effluent Moni	RC	$ 15,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 15,000	0%	0%	0%	100%
920	EN19005	Haven LS SCADA Improvements	RC	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 750,000	$ -	$ 750,000	0%	0%	0%	100%
921	EN20006	RP-1 Digester Mixing Upgrade	RC	$ -	$ 250,000	$ 500,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 750,000	0%	0%	0%	100%
922	EN26022	RP-4 Tertiary Expansion	RC	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 500,000	$ -	$ -	$ 500,000	0%	0%	0%	100%
923	PL17002	HQ Solar Photovoltaic Power Plants Ph. 2	RC	$ -	$ -	$ -	$ -	$ 300,000	$ 1,100,000	$ -	$ -	$ -	$ -	$ 1,400,000	0%	0%	0%	100%
924	PL19001	Purchase Existing Solar Installation	RC	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,500,000	$ -	$ -	$ -	$ 3,500,000	0%	0%	0%	100%
925	EN18004	RP-1 IPS System Improvements	RC	$ -	$ 525,000	$ 300,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 825,000	0%	0%	0%	100%
926	EN28001	RP-5 O&M Building	RC	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 20,000,000	$ 20,000,000	0%	0%	0%	100%
929	EN19015	Collection System Upgrades XX/XX	RC	$ 500,000	$ 515,000	$ 530,450	$ 546,364	$ 562,754	$ 579,637	$ 597,026	$ 614,937	$ 633,385	$ 652,387	$ 5,731,940	0%	0%	0%	100%
931	EN22006	RCAsset Management	RC	$ -	$ -	$ -	$ 3,000,000	$ 3,000,000	$ 3,000,000	$ 8,400,000	$ 9,800,000	$ 11,000,000	$ 12,500,000	$ 50,700,000	0%	0%	0%	100%
			RC Total	$ 30,594,337	$ 35,279,965	$ 142,141,479	$ 137,755,093	$ 28,599,508	$ 6,879,637	$ 18,997,026	$ 16,925,859	$ 18,348,017	$ 36,999,693	$ 472,520,616				

ID #	Project Number	Project Name	Fund	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year Total	% Grant	% Debt	% outside	% Pay-go
801	EN17110	RP-4 Process Improvements	RO	$ 2,500,000	$ 7,066,187	$ 7,522,028	$ 1,000,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 18,088,215	0%	0%	0%	100%
803	EN17082	RP-1 Mechanical Restoration and Upgrades	RO	$ 1,500,000	$ 6,000,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 7,500,000	0%	0%	0%	100%
804	EN17043	RP4 Primary Clarifier Rehab	RO	$ 316,952	$ 6,129,767	$ 1,000,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 7,446,719	0%	0%	0%	100%
805	EN13016	SCADA Enterprise System	RO	$ 3,590,000	$ 3,725,000	$ 250,000	$ 10,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 7,575,000	65%	0%	0%	35%
806	EN19009	RP-1 Energy Recovery	RO	$ 500,000	$ 1,000,000	$ 1,500,000	$ 2,000,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,000,000	0%	0%	0%	100%
807	EN15012	RP-1 Primary Effluent Conveyance Improve	RO	$ 4,500,000	$ 1,500,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,000,000	0%	0%	0%	100%
808	EN18025	RP-1 Secondary System Rehabilitation	RO	$ 500,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ -	$ -	$ -	$ -	$ -	$ 4,500,000	0%	0%	0%	100%
810	EN15008	Water Quality Laboratory	RO	$ 2,500,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,500,000	1%	100%	0%	0%
811	EN17042	Digester 6 and 7 Roof Repairs	RO	$ 1,350,000	$ 820,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,170,000	0%	0%	0%	100%
813	EN19010	RP-4 Screen Replacement	RO	$ 500,000	$ 2,500,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,000,000	0%	0%	0%	100%
816	EN17045	RP-1 Filter Valve Replacement	RO	$ -	$ -	$ 515,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 515,000	0%	0%	0%	100%
817	EN18042	RP-1 Civil Restoration and Upgrades	RO	$ 245,000	$ 150,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 395,000	0%	0%	0%	100%
818	EN18040	RP-1 Maintenance Building HVAC Replacement	RO	$ 15,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 15,000	0%	0%	0%	100%
819	EN18039	RP-1 Lighting Pole Replacements	RO	$ 309,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 309,000	0%	0%	0%	100%
823	LB19001	TOC Combustion Instrument	RO	$ 30,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 30,000	0%	0%	0%	100%
825	IS19003	SCADA Network WebVPN for Test Net	RO	$ 7,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 7,000	0%	0%	0%	100%
832	EN21002	Chino Creek Wetlands & Educational Park	RO	$ -	$ 500,000	$ -	$ -	$ -	$ 400,000	$ 500,000	$ -	$ -	$ -	$ 1,400,000	50%	0%	0%	50%
836	EN26021	Regional Conveyance AMP	RO	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 500,000	$ -	$ -	$ 500,000	0%	0%	0%	100%
845	IS19004	SCADA Network Cyber Security Project	RO	$ 145,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 145,000	0%	0%	0%	100%
846	IS19005	SCADA Network SAN	RO	$ 120,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 120,000	0%	0%	0%	100%
847	EN22005	RO Asset Management (Depreciation) $2,772,935	RO	$ -	$ -	$ -	$ 400,000	$ 500,000	$ 600,000	$ 700,000	$ 800,000	$ 900,000	$ 1,000,000	$ 4,900,000	0%	0%	0%	100%
848	EP19003	South Major Facilities Repair/Replacement	RO	$ 600,000	$ 618,000	$ 636,540	$ 655,636	$ 675,305	$ 695,564	$ 716,431	$ 737,924	$ 760,062	$ 782,864	$ 6,878,328	0%	0%	0%	100%
849	EP19002	North Major Facilities Repairs/Replacements	RO	$ 600,000	$ 618,000	$ 636,540	$ 655,636	$ 675,305	$ 695,564	$ 716,431	$ 737,924	$ 760,062	$ 782,864	$ 6,878,328	0%	0%	0%	100%
850	IS19006	SCADA Network Infrasturcture Replacement Project	RO	$ 90,300	$ 300,000	$ 309,000	$ 318,270	$ 327,818	$ 337,653	$ 347,782	$ 358,216	$ 368,962	$ 380,031	$ 3,138,032	0%	0%	0%	100%
			RO Total	$ 19,918,252	$ 31,926,954	$ 13,369,108	$ 6,039,542	$ 3,178,429	$ 2,728,782	$ 2,980,645	$ 3,134,064	$ 2,789,086	$ 2,945,759	$ 89,010,621				

ID #	Project Number	Project Name	Fund	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year Total	% Grant	% Debt	% outside	% Pay-go
501	EN18007	RMPU Construction Costs	RW	$ 8,000,000	$ 8,691,283	$ 208,717	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 16,900,000	0%	90%	0%	10%
502	RW15003	Recharge Master Plan Update Projects	RW	$ 309,900	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 309,900	0%	10%	90%	0%
503	RW15004	Lower Day Basin RMPU Improvements	RW	$ 2,330,220	$ 1,108,140	$ 816	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,439,176	28%	72%	0%	0%
507	EN22008	Asset Management Projects	RW	$ -	$ -	$ -	$ 250,000	$ 500,000	$ 750,000	$ 1,000,000	$ 1,250,000	$ 1,450,000	$ 1,450,000	$ 6,650,000	0%	0%	50%	50%
			RW Total	$ 10,640,120	$ 9,799,423	$ 209,533	$ 250,000	$ 500,000	$ 750,000	$ 1,000,000	$ 1,250,000	$ 1,450,000	$ 1,450,000	$ 27,299,076				

ID #	Project Number	Project Name	Fund	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year Total	% Grant	% Debt	% outside	% Pay-go
603	EN26024	2025-2030 Recycled Water Projects	WC	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,000,000	$ 4,000,000	$ 4,000,000	$ 12,000,000	0%	0%	0%	100%
604	EN26023	1299 Pressure Zone Pipeline Capacity Upg	WC	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,000,000	$ 6,000,000	$ 2,000,000	$ 9,000,000	0%	0%	0%	100%
605	EN14042	RP-1 1158 RWPS Upgrades	WC	$ 3,000,000	$ 4,144,315	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 7,144,315	35%	0%	0%	65%
606	EN09007	1630 E Pipeline Seg B & 1630 E Resrvoir	WC	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,000,000	$ 2,400,000	$ 3,000,000	$ 6,400,000	0%	0%	0%	100%
607	WR15021	Napa Lateral	WC	$ 5,000,000	$ 1,056,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,056,000	10%	80%	0%	10%
608	EN17049	Baseline RWPL Extension	WC	$ 600,000	$ 4,400,000	$ 661,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,661,000	29%	53%	0%	18%
609	EN17032	RP-4 Outfall Repair from Mission Blvd to	WC	$ -	$ -	$ -	$ 1,000,000	$ 4,000,000	$ -	$ -	$ -	$ -	$ -	$ 5,000,000	0%	0%	0%	100%
610	EN17080	System Cathodic Protection Improvements	WC	$ 490,000	$ 2,800,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,290,000	0%	0%	0%	100%
611	EN19003	RP-1 Outfall Parallel Line	WC	$ -	$ 230,000	$ 1,925,000	$ 960,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,115,000	0%	100%	0%	0%
613	EN14043	RP-5 RW Pipeline Bottleneck	WC	$ 1,500,000	$ 1,200,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,700,000	0%	100%	0%	0%
614	EN15002	1158 Reservoir Site Cleanup	WC	$ 200,000	$ 1,020,500	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,220,500	0%	0%	0%	100%
615	EN13001	San Sevaine Basin Improvements	WC	$ 547,574	$ 540,842	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,088,416	16%	84%	0%	0%
617	EN21004	1158 West Reservoir Re-coating/painting	WC	$ -	$ -	$ 1,000,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,000,000	0%	0%	0%	100%
618	EN22004	1158 East Reservoir Re-coating/painting	WC	$ -	$ 1,000,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,000,000	0%	0%	0%	100%
619	EN24003	Wineville Basin Pipeline	WC	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,000,000	$ -	$ -	$ 1,000,000	0%	0%	0%	100%
620	EN19029	RP-4 Outfall Pipeline Air Relief/Blow-Off Replacements	WC	$ 665,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 665,000	0%	0%	0%	100%
624	EN19020	RW System Migration to PlantPAx	WC	$ -	$ -	$ 70,000	$ 430,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 500,000	0%	0%	0%	100%
625	EN17041	Orchard Recycled Water Turnout Improveme	WC	$ 100,000	$ 235,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 335,000	0%	0%	0%	100%
627	EN13048	RP-1 Power System Upgrades	WC	$ 115,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 115,000	0%	0%	0%	100%
628	EN20022	1299 Reservoir Paint/Coating Repairs and	WC	$ -	$ -	$ 100,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 100,000	0%	0%	0%	100%
629	EN24005	1630 West Reservoir Paint/Coating Repair	WC	$ -	$ -	$ -	$ -	$ 75,000	$ -	$ -	$ -	$ -	$ -	$ 75,000	0%	0%	0%	100%
630	EN24006	930 Reservoir Paint/Coating Repairs and	WC	$ -	$ -	$ -	$ -	$ -	$ 75,000	$ -	$ -	$ -	$ -	$ 75,000	0%	0%	0%	100%
631	EN17067	Declez Monitoring Well Project	WC	$ 19,500	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 19,500	0%	0%	0%	100%
634	EN22009	Asset Management Projects	WC	$ -	$ -	$ -	$ 500,000	$ 1,000,000	$ 2,000,000	$ 3,000,000	$ 5,000,000	$ 7,000,000	$ 8,900,000	$ 27,400,000	0%	0%	0%	100%
			WC Total	$ 12,237,074	$ 16,626,657	$ 3,756,000	$ 2,890,000	$ 5,075,000	$ 2,075,000	$ 3,000,000	$ 12,000,000	$ 19,400,000	$ 17,900,000	$ 94,959,731				

			Capital Projects Grand Total	$ 78,078,205	$ 101,262,659	$ 161,652,720	$ 148,322,534	$ 39,557,472	$ 14,494,940	$ 28,351,538	$ 36,246,506	$ 44,936,784	$ 62,358,622	$ 715,261,979				

Appendix B

Proposed Non-Capital Project List

ID #	Project Number	Project Name	Fund	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year Total	% Grant	% Debt	% outside	% Pay-go
201	EN24004	HQ Parking Lot FY23/24	GG	$ -	$ -	$ -	$ -	$ -	$ 507,000	$ -	$ -	$ -	$ -	$ 507,000	0%	0%	0%	100%
202	EN20008	HQ Parking Lot FY19/20	GG	$ -	$ 437,100	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 437,100	0%	0%	0%	100%
203	FM20001	HQ Interior ReplacementS	GG	$ -	$ 160,000	$ 160,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 320,000	0%	0%	0%	100%
208	IS19001	BizNet Cybersecurity Netwk Vulnerability	GG	$ 75,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 75,000	0%	0%	0%	100%
212	FM19001	Agency Wide Roofing	GG	$ 250,000	$ 100,000	$ 100,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 450,000	0%	0%	0%	100%
214	FM19003	Agency Wide Facilities Aesthetics	GG	$ 50,000	$ 51,500	$ 53,045	$ 54,636	$ 56,275	$ 57,964	$ 59,703	$ 61,494	$ 63,339	$ 65,239	$ 573,194	0%	0%	0%	100%
215	IS25002	Technology Master Plan	GG	$ -	$ -	$ -	$ -	$ -	$ -	$ 100,000	$ -	$ -	$ -	$ 100,000	0%	0%	0%	100%
		GG Total		$ 375,000	$ 748,600	$ 313,045	$ 54,636	$ 56,275	$ 564,964	$ 159,703	$ 61,494	$ 63,339	$ 65,239	$ 2,462,294				

ID #	Project Number	Project Name	Fund	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year Total	% Grant	% Debt	% outside	% Pay-go
304	EN19028	NRW Man Hole and Pipeline Condition Assessment	NC	$ 500,000	$ 500,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,000,000	0%	0%	0%	100%
311	EN19016	NRWS Emergency O&M Projects FY XX/XX	NC	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 1,000,000	0%	0%	0%	100%
		NC Total		$ 600,000	$ 600,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 2,000,000				

ID #	Project Number	Project Name	Fund	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year Total	% Grant	% Debt	% outside	% Pay-go
915	EN17077	SBLS Emergency Diversion	RC	$ 200,000	$ -	$ -	$ -	$ -	$ -	$ 8,000,000	$ 7,000,000	$ -	$ -	$ 15,200,000	0%	0%	0%	100%
918	WR16021	Prep of TM for IEUA Fac Comp w/Title22	RC	$ 20,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 20,000	0%	0%	0%	100%
		RC Total		$ 220,000	$ -	$ -	$ -	$ -	$ -	$ 8,000,000	$ 7,000,000	$ -	$ -	$ 15,220,000				

ID #	Project Number	Project Name	Fund	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year Total	% Grant	% Debt	% outside	% Pay-go
809	EN26025	RP2-Preliminary Design Report for Decomm	RO	-	-	-	600,000	1,100,000	1,500,000	-	-	-	-	3,200,000	0%	0%	0%	100%
812	EN19021	San Bernardino Lift Station Facility	RO	$ 300,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 300,000	0%	0%	100%	0%
821	CP16001	Regional Plant Facilities Aesthetics	RO	$ 80,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 80,000	0%	0%	0%	100%
822	PK11001	Water Discovery Field Trip & Bus Grant	RO	$ 42,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 42,000	50%	0%	0%	50%
824	PL17004	Wastewater Flow and Loading Study	RO	$ 25,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 25,000	0%	0%	0%	100%
826	IS25001	SCADA Master Plan	RO	$ -	$ -	$ -	$ -	$ -	$ -	$ 100,000	$ -	$ -	$ -	$ 100,000	0%	0%	0%	100%
827	FM19002	RP-1 Secondary Clarifiers Landscape Improvements Proj	RO	$ 180,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 180,000	0%	0%	0%	100%
833	EN19019	RO Emergency O&M Projects FY XX/XX	RO	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 1,500,000	0%	0%	0%	100%
834	EN19022	RO On-Call Operations and Maintenance Su	RO	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 2,500,000	0%	0%	0%	100%
835	EN19026	RO Safety Operations and Maintenance Sup	RO	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 2,500,000	0%	0%	0%	100%
837	EP20001	Digester Cleaning	RO	$ -	$ 500,000	$ 515,000	$ 530,450	$ 546,364	$ 562,754	$ 579,637	$ 597,026	$ 614,937	$ 633,385	$ 5,079,553	0%	0%	0%	100%
838	EP17005	Agency-Wide Condition Assessment	RO	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 2,500,000	0%	0%	0%	100%
839	PL17001	RO Planning Documents	RO	$ 150,000	$ 500,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 500,000	$ 150,000	$ 150,000	$ 150,000	$ 2,200,000	0%	0%	0%	100%
840	PA19002	Agency Wide Coatings	RO	$ 200,000	$ 206,000	$ 212,180	$ 218,545	$ 225,102	$ 231,855	$ 238,810	$ 245,975	$ 253,354	$ 260,955	$ 2,292,776	0%	0%	0%	100%
841	PA19003	Agency Wide Pavings	RO	$ 50,000	$ 51,500	$ 53,045	$ 54,636	$ 56,275	$ 57,964	$ 59,703	$ 61,494	$ 63,339	$ 65,239	$ 573,194	0%	0%	0%	100%
842	PA19006	Agency-Wide Aeration Panel Replacement	RO	$ 1,200,000	$ -	$ -	$ -	$ 500,000	$ 1,200,000	$ 2,500,000	$ -	$ -	$ -	$ 5,400,000	0%	0%	0%	100%
843	EN19023	Asset Management Planning Doc	RO	$ 750,000	$ 1,550,000	$ -	$ -	$ -	$ 750,000	$ 1,550,000	$ -	$ -	$ -	$ 4,600,000	0%	0%	0%	100%
844	EN19024	Collection System Asset Management (Assessment Only	RO	$ 1,250,000	$ 1,250,000	$ 1,250,000	$ -	$ -	$ -	$ -	$ -	$ 150,000	$ 250,000	$ 4,150,000	0%	0%	0%	100%
		RO Total		$ 5,127,000	$ 4,957,500	$ 3,080,225	$ 2,453,632	$ 3,477,741	$ 5,352,573	$ 6,428,150	$ 1,954,495	$ 2,131,629	$ 2,259,578	$ 37,222,523				

ID #	Project Number	Project Name	Fund	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year Total	% Grant	% Debt	% outside	% Pay-go
504	RW18002	Midgefly Mitigation Project	RW	$ 210,000	$ 70,000	$ 70,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 350,000	0%	0%	50%	50%
		RW Total		$ 210,000	$ 70,000	$ 70,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 350,000				

ID #	Project Number	Project Name	Fund	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year Total	% Grant	% Debt	% outside	% Pay-go
612	EN16035	WC Planning Documents	WC	$ 250,000	$ 500,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 500,000	$ 250,000	$ 250,000	$ 250,000	$ 3,000,000	0%	0%	0%	100%
616	EN18021	Prado Basin AMP Annual Monitoring	WC	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 1,000,000	0%	0%	0%	100%
621	WR16001	Water Softener Removal Rebate Program	WC	$ 60,000	$ 60,000	$ 60,000	$ 60,000	$ 60,000	$ 60,000	$ 60,000	$ 60,000	$ 60,000	$ 60,000	$ 600,000	0%	0%	0%	100%
622	EN17039	8th St. Basin RW Turnout Discharge Retro	WC	$ 465,000	$ 15,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 480,000	0%	0%	0%	100%
626	PL18002	Basin Plan Amendment	WC	$ 210,000	$ 20,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 230,000	0%	0%	50%	50%
635	EN16037	RW Asset Management Plan	WC	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 2,500,000	0%	0%	0%	100%
636	EN17020	WC On-Call Operations and Maintenance Su	WC	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 1,500,000	0%	0%	0%	100%
637	EN19017	WC Emergency O&M Projects FY XX/XX	WC	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 1,500,000	0%	0%	0%	100%
638	EN19051	RW Hydraulic Modeling FY XX/XX	WC	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 1,500,000	0%	0%	0%	100%
		WC Total		$ 1,785,000	$ 1,395,000	$ 1,110,000	$ 1,110,000	$ 1,110,000	$ 1,110,000	$ 1,360,000	$ 1,110,000	$ 1,110,000	$ 1,110,000	$ 12,310,000				

ID #	Project Number	Project Name	Fund	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year Total	% Grant	% Debt	% outside	% Pay-go
704	WR16024	SARCCUP	WW	$ 3,500,000	$ 7,500,000	$ 6,000,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 17,000,000	47%	0%	0%	53%
706	WR18028	Water Bank	WW	$ 150,000	$ 150,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 300,000	0%	0%	0%	100%
707	WR17023	Chino Basin Drought Contingency Plan	WW	$ 140,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 140,000	0%	0%	0%	100%
710	WR18XXX	Conservation Programs	WW	$ 1,600,000	$ 1,600,000	$ 1,600,000	$ 1,600,000	$ 1,600,000	$ 1,600,000	$ 1,600,000	$ 1,600,000	$ 1,600,000	$ 1,600,000	$ 16,000,000	25%	0%	0%	75%
711	WR16025	WW Planning Documents	WW	$ 250,000	$ 500,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 500,000	$ 250,000	$ 250,000	$ 250,000	$ 3,000,000	5%	0%	0%	95%
			WW Total	$ 5,640,000	$ 9,750,000	$ 7,850,000	$ 1,850,000	$ 1,850,000	$ 1,850,000	$ 2,100,000	$ 1,850,000	$ 1,850,000	$ 1,850,000	$ 36,440,000				
			O&M Project Grand Total	$ 13,957,000	$ 17,521,100	$ 12,523,270	$ 5,568,268	$ 6,594,016	$ 8,977,537	$ 18,147,853	$ 12,075,988	$ 5,254,968	$ 5,384,817	$ 106,004,817				

Appendix C

Proposed IERCA Project List

ID #	Project Number	Project Name	Fund	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year Total	% Grant	% Debt	% outside	% Pay-go
401	RA19101	IERCF Capital Replacement	RCA	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 5,000,000	0%	0%	0%	100%
402	RA19002	IERCF Trommel Screen Improvements	RCA	$ 1,000,000	$ -	$ -	$ -	$ -	$ -	$ 600,000	$ -	$ -	$ -	$ 1,600,000	0%	0%	0%	100%
403	RA20004	IERCF Mis. Fan Improvements	RCA	$ 150,000	$ 300,000	$ 300,000	$ -	$ -	$ -	$ 300,000	$ -	$ -	$ -	$ 1,050,000	0%	0%	0%	100%
404	RA18003	IERCF Ventilation Improvements	RCA	$ 250,000	$ 250,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 500,000	0%	0%	0%	100%
405	RA19003	IERCF Front End Loader Replacement	RCA	$ 400,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 400,000	0%	0%	0%	100%
406	RA20003	IERCF Belt Conveyor Improvements	RCA	$ 150,000	$ 150,000	$ 300,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 600,000	0%	0%	0%	100%
408	RA23001	IERCF Inner Roof Lining Repair	RCA	$ -	$ -	$ -	$ -	$ 300,000	$ -	$ -	$ -	$ -	$ -	$ 300,000	0%	0%	0%	100%
412	RA17007	IERCF Building Improvements	RCA	$ 200,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 200,000	0%	0%	0%	100%
411	RA17001	IERCF Transition Air Duct Improvements	RCA	$ 75,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 75,000	0%	0%	0%	100%
410	RA19004	IERCF Cybersecurity Project	RCA	$ 44,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 44,000	0%	0%	0%	100%
407	RA26001	IERCF Projects AMP	RCA	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 500,000	$ -	$ -	$ 500,000	0%	0%	0%	100%
			RCA Total	$ 2,769,000	$ 1,200,000	$ 1,100,000	$ 500,000	$ 800,000	$ 500,000	$ 1,400,000	$ 1,000,000	$ 500,000	$ 500,000	$ 10,269,000				
			Grand Total	$ 2,769,000	$ 1,200,000	$ 1,100,000	$ 500,000	$ 800,000	$ 500,000	$ 1,400,000	$ 1,000,000	$ 500,000	$ 500,000	$ 10,269,000				

Appendix D

Proposed Grant Dependent Project List

ID #	Project Number	Project Name	Fund	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Ten Year Total	% Grant	% Debt	% outside	% Pay-go
831	PL26001	RP-1 Advanced Water Treatment Facility	RO	2,000,000	6,000,000	12,000,000	15,000,000	15,000,000	25,000,000	5,000,000	-	-	-	80,000,000	100%	0%	0%	0%
			RO Total	2,000,000	6,000,000	12,000,000	15,000,000	15,000,000	25,000,000	5,000,000	-	-	-	80,000,000				
601	EN16060	RW Connections to City of Pomona	WC	2,000,000	6,000,000	20,000,000	20,000,000	20,000,000	20,000,000	12,000,000	-	-	-	100,000,000	100%	0%	0%	0%
			WC Total	2,000,000	6,000,000	20,000,000	20,000,000	20,000,000	20,000,000	12,000,000	-	-	-	100,000,000				
802	EN16021	TCE Plume Cleanup	RO	6,620,000	1,635,000	500,000	-	-	-	-	-	-	-	8,755,000	100%	0%	0%	0%
			RO Total	6,620,000	1,635,000	500,000	-	-	-	-	-	-	-	8,755,000				
602	EN16065	RW Connections to JCSD	WC	500,000	1,000,000	5,000,000	3,000,000	3,000,000	3,000,000	-	-	-	-	15,500,000	100%	0%	0%	0%
			WC Total	500,000	1,000,000	5,000,000	3,000,000	3,000,000	3,000,000	-	-	-	-	15,500,000				
701	WR19001	Pump station and Wells for SWC Interconnection	WW	4,000,000	20,000,000	40,000,000	47,500,000	37,500,000	36,000,000	20,000,000	-	-	-	205,000,000	100%	0%	0%	0%
702	WR21001	Water Supply Acquisition	WW	-	-	19,000,000	19,000,000	19,000,000	19,000,000	19,000,000	-	-	-	95,000,000	100%	0%	0%	0%
			WW Total	4,000,000	20,000,000	59,000,000	66,500,000	56,500,000	55,000,000	39,000,000	-	-	-	300,000,000				
			Grant Projects Grand Total	15,120,000	34,635,000	96,500,000	104,500,000	94,500,000	103,000,000	56,000,000	-	-	-	504,255,000				

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