Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT



Fiscal Year 2012/13 Operating and Capital Program Budget
Volume 2— Ten-Year Capital Improvement Plan
June 2012

Striving to enhance the quality of life in the Inland Empire by providing the optimum water resources management for the area's customers while promoting conservation and environmental protection.

INLAND EMPIRE UTILITIES AGENCY

OPERATING AND CAPITAL PROGRAM BUDGET
FISCAL YEAR 2012/13, VOLUME II

TEN-YEAR CAPITAL IMPROVEMENT PLAN

Inland Empire Utilities Agency

6075 Kimball Avenue

Chino, California 91708

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EXECUTIVE SUMMARY

I E U A

TYCIP

TEN-YEAR CAPITAL IMPROVEMENT PLAN

INTRODUCTION

Each year, the IEUA Board of Directors adopts a Ten-Year Capital Improvement Plan (TYCIP) based on the comments and recommendations of the Regional Technical and Policy Committees. Pursuant to the terms of the Regional Sewerage Service Contract, the TYCIP includes wastewater flow forecasts, a description of the capital improvement projects planned to meet those forecasts, a summary of the costs associated with the program, and a description of the financing plan to implement the program. This year's TYCIP covers fiscal year (FY) 2012/13 through FY 2021/22.

The backdrop for this TYCIP is a U.S. economy which is starting to recover from one of the worst economic downturns in history. Despite some growth in gross domestic product, the nation's unemployment rate remains at 8.3% compared to an average rate of 4.9% over the 10 years preceding the 2008 downturn. In California, while some sectors of the economy are showing sustained improvement (high technology, tourism, entertainment, health care, private education and retail), negative forces remain in the housing industry and related activity. The Inland Empire is one of the regions hardest hit by the recession. The slow growth and high number of foreclosures in the area continues to affect the Agency's revenue and cost projections as well as plans for new facilities or capital expansions.

Before the onset of the 2008 economic downturn, the Agency's service area was one of the fastest growing metropolitan areas in the nation and ranked in the top ten growth regions in most national surveys. The Agency's Long Range Plan of Finance adopted in 2007 was based on the assumption of continued growth through 2025 and included expansion projects in the amount of $1.2 billion over the 30-year capital program for its wastewater infrastructure.

Beginning in FY 2007/08 and continuing through FY 2011/12, the Agency and the Board have deferred over $218 million of non-critical capital projects, most of which were slated to begin between FY 2007/08 and FY 2009/10 in line with forecasted population growth and new connection projections. Capital projects deferred were primarily expansion and improvement projects for the wastewater system that were based on the assumption that the area's population would continue to grow at a consistent pace until reaching build out around 2025 - 2030.

In light of the ongoing bleak economic conditions and slowdown in new development, the Agency's capital program continues to focus on the refurbishment, replacement and upgrade of existing facilities rather than expansion. The Agency is continuing to implement the Asset Management Program, focusing on solutions to meet regulatory, safety or capacity requirements or to

demonstrate the best value to the Agency. The Agency is upgrading or replacing equipment that is reaching the end of its useful life or that is costing more to repair than to replace. Purchases for new equipment must have a strong return on investment, with hard dollar savings. No new major wastewater facilities or expansions are needed due to declining wastewater flow rates. However, the Agency will continue with implementation of the Recycled Water Business Plan that was adopted by the IEUA Board in December 2007. The Business Plan governs the expansion of the Agency's recycled water distribution system. The purpose of the Business Plan is to increase the use of recycled water within the Agency's service area and reduce dependence on more costly imported potable water. The aggressive implementation timeline is driven by the limited supply of potable water, particularly in years with little rainfall, and the need to develop and secure local water supplies to "drought proof" the region and meet the needs of current and future customers.

Over the years, the Agency has been proactive in implementing fiscal and operational cost cutting measures and leveraging its resources and technology to enhance efficiencies across the organization. The cost containment and efficiency measures, as well as the implementation of new technology throughout the organization have resulted in significant cost savings, including:

- Reducing staffing levels (5% average vacancy factor maintained over the last 6 fiscal years);
- Using key performance indicators to more efficiently monitor chemical and energy consumption;
- Cross-training staff and implementing enhanced technology to achieve single shift operation at all Agency facilities;
- Implementing renewable energy technology with no capital outlay or ongoing maintenance costs;
- Over $55 million in grant funding for recycled water capital construction, $54 million for groundwater recharge program, $21 million for Regional Wastewater Program; and $4 million for water resources program;
- Securing low-interest State Revolving Fund (SRF) loans to finance major capital projects;
- Deferral of over $218 million of non-essential capital projects between FY 2007/08 and FY 2011/12; and
- Implementing condition-based policies for fleet vehicles, computer and operations equipment.

Key assumptions for this year's TYCIP and budget were:

- Continue to maintain at least a 5% staffing vacancy level (currently above 6%);
- 4% increase in energy costs;
- Adjustment of the Equivalent Dwelling Unit (EDU) connection fee rate from $4,766 to $4,909 per EDU for FY 2012/13, $5,007 per EDU for FY 2013/14, and $5,107 per EDU for FY 2014/15;
- 13,200 new EDUs to be connected to the system over the ten years;
- Connection fee revenues of $69.5 million over the ten-years;
- Property tax revenues anticipated to drop by 1.0% in FY2012/13 and an additional 1.0% in FY 2013/14;

- Installation of any renewable energy projects through Power Purchase Agreements (PPA), with minimal capital outlay and ongoing maintenance costs; and
- Maintaining a minimum debt coverage ratio of 1.25 for total outstanding debt, per bond covenants (targeted ratios are 1.43 for FY 2012/13, 1.48 for FY 2013/14, and 1.70 for FY 2014/15.

Although non-essential capital spending has been deferred, the TYCIP continues with implementation of the following major Board-approved program initiatives which are supported by business case analyses, environmental documentation, and identified, approved funding sources:

- *Recycled Water Business Plan*, developed in 2007 to guide the construction of a fully-integrated recycled water distribution system and to supply major municipal, industrial, and agricultural users as well as groundwater recharge basins;

- *Strategic Energy Management Plan*, developed to formalize the Agency's efforts to increase energy use efficiency and on-site generation of renewable energy, with the goal of providing independence from purchased energy during peak periods ("Go Gridless");

- *Agency-wide Asset Management Program*, developed for the regional wastewater system in 2005 by Metcalf and Eddy , and for the non-reclaimable waste system in 2006 by PBS&J, and modified each year in the TYCIP to reflect work completed, current priorities and current condition assessment as determined by engineering and operations staff;

- *Recharge Master Plan*, developed in 2001 (and updated in 2010) as part of the Chino Basin Watermaster (CBWM) Optimum Basin Management Program (OBMP) to provide a comprehensive program to increase the recharge of stormwater, recycled water, and imported water into the Chino Basin groundwater aquifer; and

- *Long Range Plan of Finance*, developed in 2007 to implement the goal of having programs that are self-supported by user charges and fees, minimize borrowing costs, maintain moderate rate increases, maintain adequate reserves, and minimize the reliance on property taxes to support operating costs.

All of the above programs have been presented to the Regional Technical and Policy Committees and the Board and are several years into the implementation phase.

INTEGRATED CAPITAL PROGRAM PLANNING

The TYCIP is developed each year to be consistent with the Agency's annual operating budget and long-term programs described in the 2002 Facilities Master Plan Program Environmental Impact Report (FMP PEIR), which encompassed the Wastewater Facilities Master Plan (Board-adopted in August 2002), the Recycled Water Feasibility Study (2002), and the Organics Management Business Strategy (2002). The TYCIP reflects the integration of the Agency's planning activities into CBWM's OBMP, the overall water supply management strategy for Chino Basin. The Agency is also continuing to work closely with the Santa Ana Watershed Project Authority (SAWPA), the Metropolitan Water District of Southern California (MWD) and the California State Water Resources Control Board (SWRCB)—Santa Ana Region to enhance and expand existing programs that improve local water supply availability and water quality.

Since the Facilities Master Plan was developed in 2002, there have been dramatic changes in the region's energy, water supply, and economic conditions. The Agency's original planning documents and implementation plans have been expanded and updated to address the changed local water supply and energy conditions and provide cost-containment benefits. Several important new regional planning documents were completed in 2009, 2010, and 2011 including:

- CBWM 2010 Recharge Master Plan Update
- SAWPA One Water, One Watershed (OWOW) Integrated Regional Water Management Plan
- MWD Integrated Resources Plan (IRP)
- IEUA Energy Management Plan (EMP)
- IEUA Urban Water Management Plan 2010 Update
- OBMP Peace II CEQA Document
- SWRCB Recycled Water Policy

The Agency's resource planning efforts will continue to be coordinated with other local, regional and state planning activities that may have a significant impact on the Agency's operations and capital programs.

TEN-YEAR FLOW FORECASTS AND CAPACITY UTILIZATION

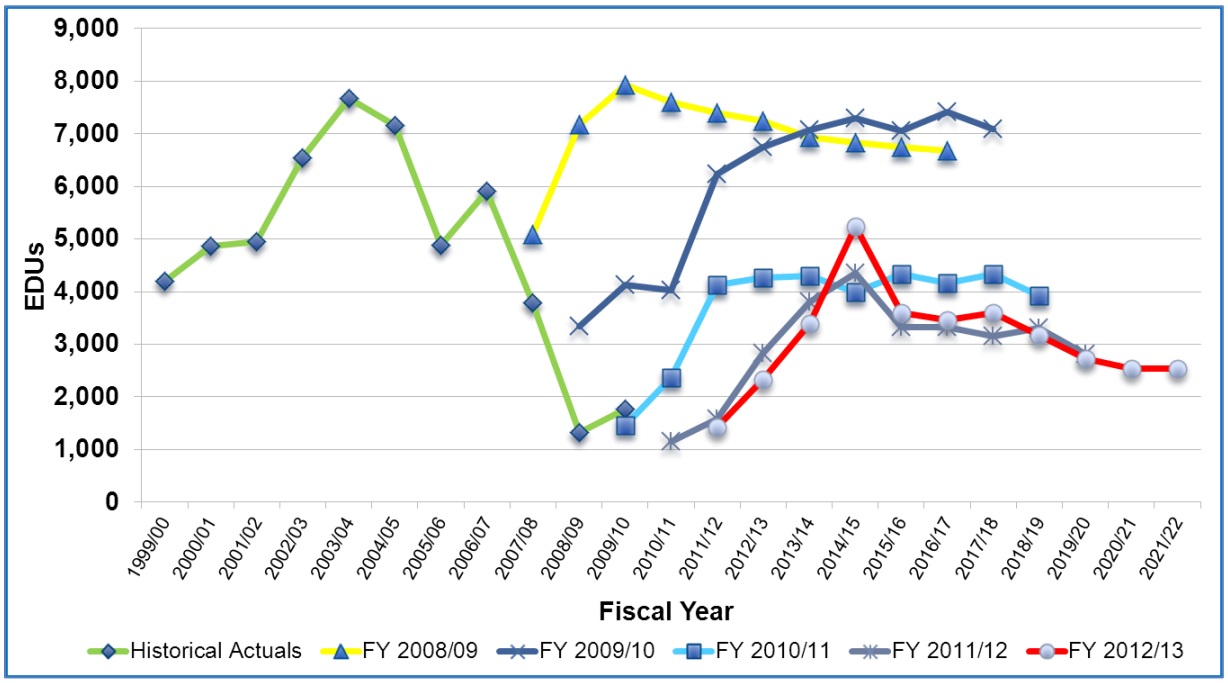
A survey of the Agency's member agencies is conducted in September of each year to determine the number of new connections expected each year for the next ten years. New connections are expressed in terms of Equivalent Dwelling Units (EDUs). The projections are used to predict the future demand for capacity in the Regional Sewerage System and to estimate the Agency's future revenue from connection fees. In addition, the Agency makes internal growth estimates for the overall service area. Typically, the member agency forecasts represent the high end of future growth estimates for the Agency, while the internal estimates provide a more conservative basis for developing a financing plan. The results of the September 2011 member agency survey are summarized below and compared to the Agency's budgetary forecast:

TABLE ES-1
PROJECTED NEW CONNECTIONS AND RATES

FY	Rate	Member Agencies (EDUs)	Agency (EDUs)
2012/13	$ 4,909	2,329	1,100
2013/14	$ 5,007	3,400	1,200
2014/15	$ 5,107	5,237	1,300
2015/16	$ 5,209	3,601	1,400
2016/17	$ 5,261	3,455	1,600
2017/18	$ 5,314	3,599	1,600
2018/19	$ 5,367	3,166	1,400
2019/20	$ 5,421	2,725	1,200
2020/21	$ 5,475	2,529	1,200
2021/22	$ 5,530	2,529	1,200
FY 2013 - FY 2022		**32,570**	**13,200**

Over the next ten years, the member agencies projected a ten-year capacity demand on the Regional Sewerage Facilities of 32,570 EDUs. As shown in Figure ES-1, the member agency building activity forecasts for FY 2009/10 and beyond have dropped for the fourth consecutive year.

FIGURE ES-1
HISTORICAL BUILDING ACTIVITY AND SUCCESSIVE YEAR GROWTH FORECASTS

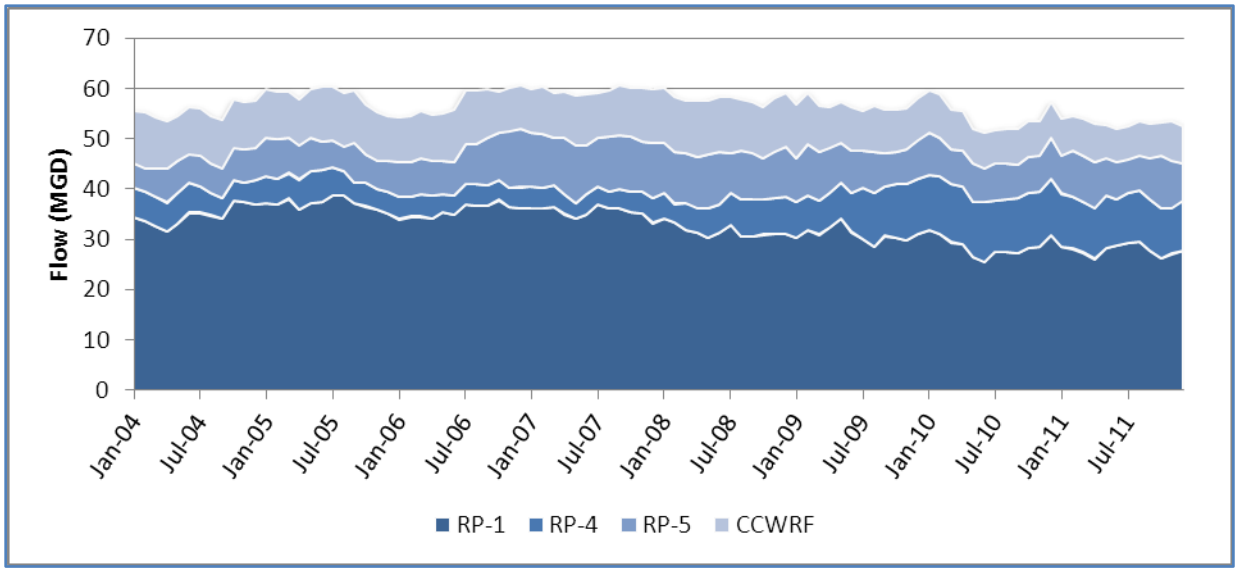


Total building activity is projected by the member agencies to peak in FY 2014/15 at 5,237 EDUs and to average 3,257 EDUs per year**.** The Agency projects a more moderate growth rate averaging 1,320 new EDUs per year. The actual building activity in FY2010/11 was 1,116 EDUs and the Member Agency's projected activity for FY 2011/12 is 1,424 EDUs.

The effects of the economic recession and the high foreclosure rate in the Inland Empire are also reflected in the wastewater flow rates coming into the Agency's four regional water recycling plants (RWRPs). Since FY 2007/08, both water consumption and wastewater generation in the Agency's service area have been trending downward. FY 2007/08 coincided with both the beginning of the recession and the beginning of a three-year drought that cut water supplies to the region. IEUA's member agencies' overall water use has decreased approximately 55,000 acre-feet over the past four years. This can be largely attributed to the Agency and its member agencies' public education, water use efficiency programs, ordinance enforcement and the vacancies caused by the economic downturn.

The downward wastewater flow trend seen at the Agency is consistent with the Orange County Sanitation District, the County Sanitation Districts of Los Angeles County (CSDLAC), and the City of San Bernardino, all of which have reported up to 20% reductions in flows. The Agency's historical wastewater flow trend is shown in Figure ES-2.

FIGURE ES-2
REGIONAL PLANT SERVICE AREA WASTEWATER FLOWS



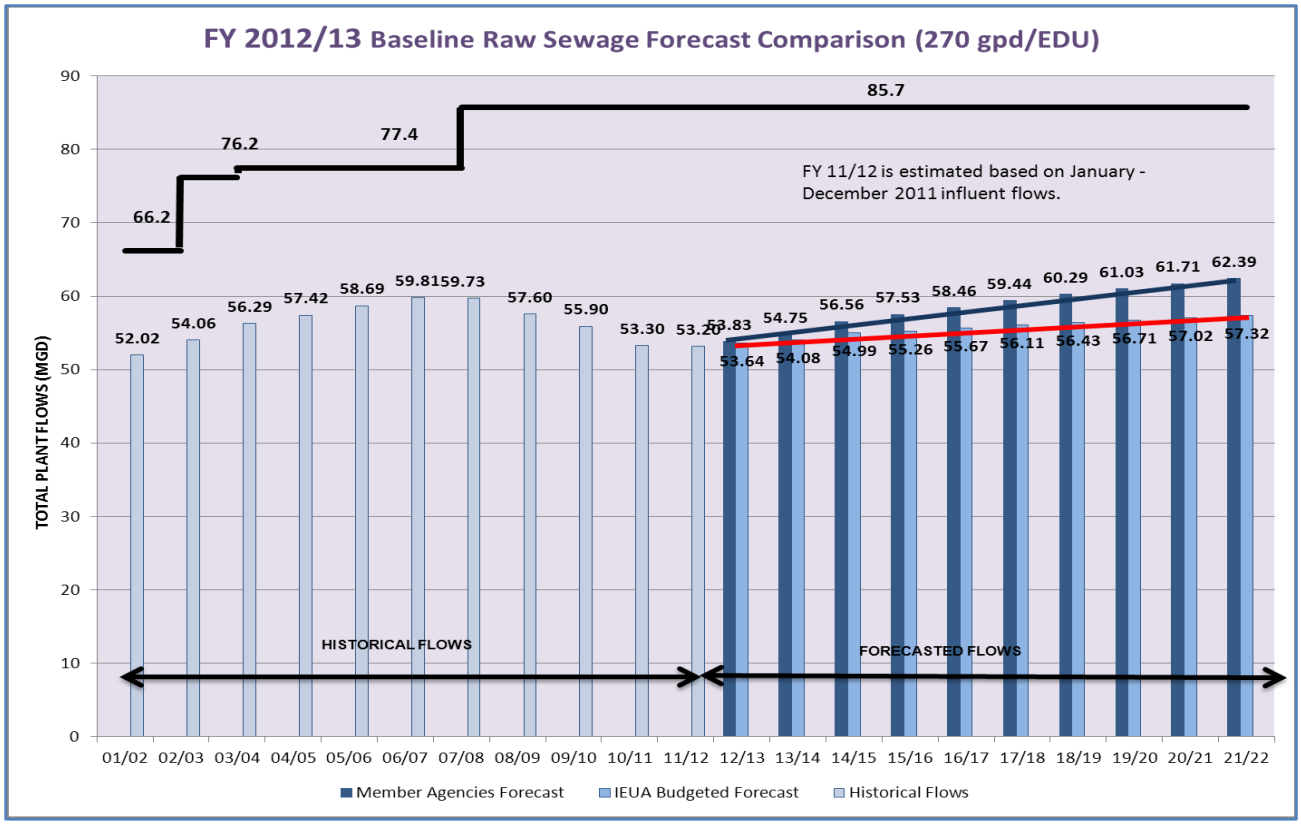
Current wastewater flows at all four RWRPs combined average about 53 MGD. The current and projected flows at each plant are shown in Table ES-2. Compared to the existing treatment capacity of 85.7 MGD, the flows in ten years are expected to total about 73% of IEUA's treatment capacity.

TABLE ES-2
REGIONAL SYSTEM FLOW AND CAPACITY UTILIZATION SUMMARY
(Flow in Million Gallons per Day)

	FY 2011/12 Estimate			FY 2021/22 Projection		
Regional Water Recycling Plant	**Plant Influent Flow**	**Plant Rated Capacity**	**Percent Capacity Utilization**	**Plant Influent Flow**	**Plant Rated Capacity**	**Percent Capacity Utilization**
RP-1	27.80	44.0	63%	30.15	44.0	69%
RP-4	10.00	14.0	71%	11.03	14.0	79%
CCWRP	7.10	11.4	62%	7.86	11.4	69%
RP-5	8.30	16.3	51%	13.36	16.3	82%
IEUA Total	53.20	85.7	62%	62.39	85.7	73%

Figure ES-3 shows IEUA's ten-year raw wastewater flow forecast using the Agency budgeted growth forecast and alternatively using the member agencies' growth forecasts. It assumes a conservative wastewater generation rate of 270 gallons per day per EDU (gpd/EDU). The figure shows that, no matter which growth forecast is used, the member agencies' or the Agency's budgetary forecast, there will be adequate wastewater treatment capacity in the regional system at the end of the ten years.

FIGURE ES-3
TEN-YEAR FLOW FORECAST



TEN-YEAR CAPITAL IMPROVEMENT PROGRAMS

The Agency's capital program is divided into several different program areas which correspond to budgetary funds:

- Regional Wastewater Program, consisting of Regional Capital and Regional Operations Programs (RC and RO Funds)
- Recycled Water Program (WC Fund)
- Recharge Water Program (RW Fund)
- Non-Reclaimable Wastewater Program (NC Fund)
- Administrative Services or General Capital Fund (GG Fund)

These funds account for all of the costs and revenues associated with acquisition or construction of facilities and improvements.

This year's TYCIP proposes $217 million in capital spending. The Agency's capital program breakdown by year is shown in Figure ES-4. The proposed capital program breakdown by program/fund is shown in Table ES-3. The Regional Wastewater Program and Recycled Water Programs consist of the greatest capital investment within the Agency and comprise 84% of IEUA's total expected capital cost outlay through FY 2021/22.

FIGURE ES-4
PROJECTED TYCIP COSTS BY FISCAL YEAR

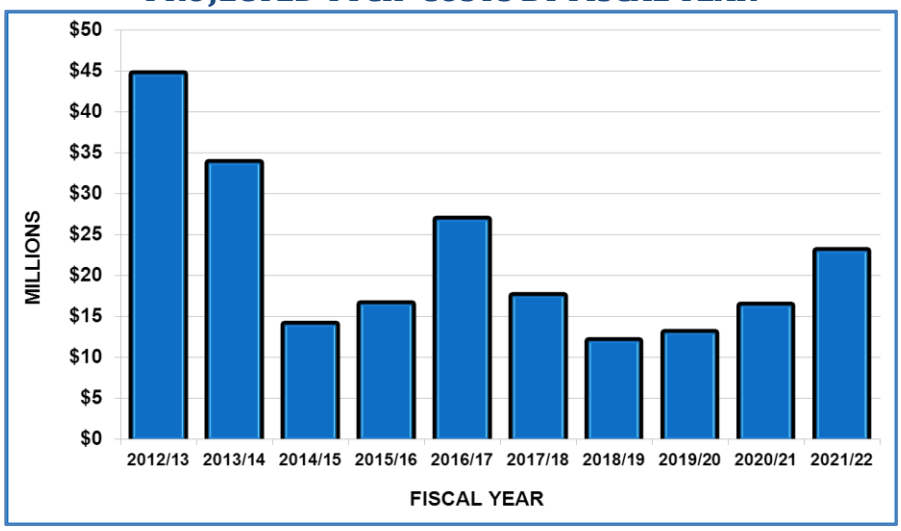


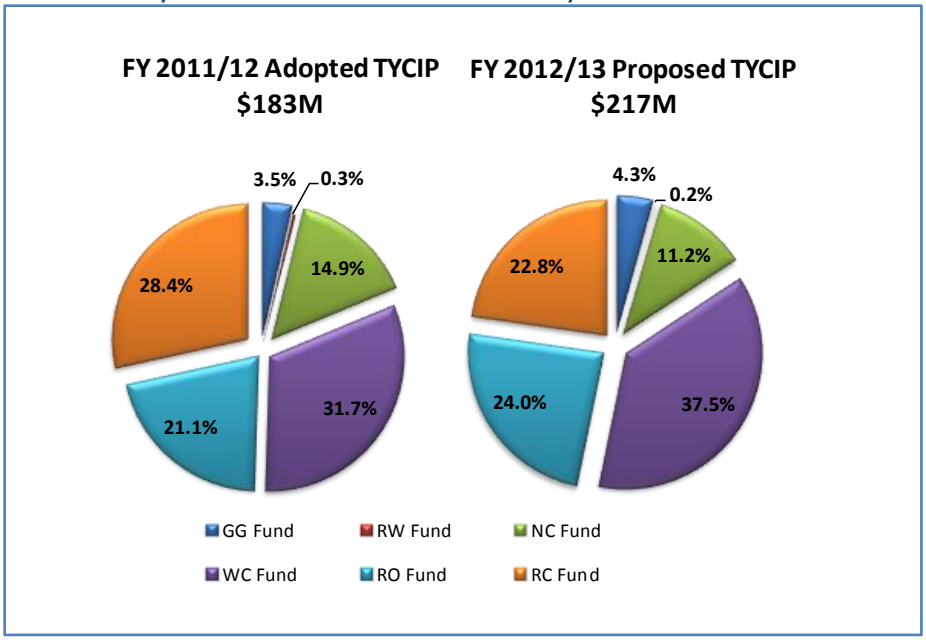
TABLE ES-3
TYCIP CAPITAL PROGRAM ALLOCATION

Program	Proposed TYCIP ($Millions)
Regional Wastewater Program	*$102*
Recycled Water and Recharge Programs	*$82*
Non-Reclaimable Wastewater Program	*$24*
Other (General Capital)	*$9*
TOTAL TYCIP – ALL FUNDS/ PROJECTS	***$217***

MAJOR CAPITAL PROJECTS

The Agency projects completion of approximately $32 million of capital projects in FY 2011/12. The major completed projects and accomplishments are discussed within the chapters of this document corresponding to each Agency program. Figure ES-5 compares last year's TYCIP and amended budget, covering FY 2011/12 through FY 2020/21, with this year's proposed TYCIP, covering FY 2012/13 through FY 2021/22.

FIGURE ES-5
FY 2011/12 ADOPTED AND FY 2012/13 PROPOSED TYCIP



The net increase in proposed capital spending results is mainly due to the following projects, which are in the Regional Wastewater Program and Recycled Water Program:

- Asset Improvement and Replacement
- Operations Laboratory
- 1630 East Recycled Water Pipeline, Segment B, and Reservoir; and
- Miscellaneous Recycled Water Connections.

Each of these projects is discussed briefly below in the context of the overall program. The major proposed projects for each program are listed in Table ES-4 and ES-5.

REGIONAL PROGRAM

In the Regional Wastewater Capital Program, the proposed ten-year budget for Asset Improvement and Replacement projects increased from about $2.2 million per year to about $4 million per year for designing and replacing wastewater equipment or processes at any of the RWRPs. The projects will provide for the phased repair or replacement of essential equipment and major processes based on the priorities and schedule identified during the detailed 2005 RP-1 Condition Assessment Study, as well as evaluation of detailed physical condition assessments for critical risk systems identified in FY 2011/12 plant assessments. This will include projects such as RP-4 headworks improvements (new bar screens and gates) and CCWRP blower controls upgrade. The existing Invensys Foxboro distributed control system (DCS) has a significant number of components reaching their useful end-of-life and these will require replacement. The facilities' Supervisory Control and Data Acquisition (SCADA) Master Plan recommends a migration to a new platform as the way to address the necessary replacements.

TABLE ES-4
REGIONAL WASTEWATER PROGRAM—MAJOR CAPITAL PROJECTS

Major Projects by Program	Proposed TYCIP ($Millions)
REGIONAL PROGRAM	***$102 Total***
Capital Upgrades at RP-1, RP-2, CCWRF, RP-4 and RP-5 Regulatory, safety, or redundancy of essential systems	***$20***
Asset Improvement and Replacement Design & replace equip/processes via Asset Mngt	***$40***
Major Facilities Repairs and Replacement Purchase & replace facilities at end-of-life (w/o design)	***$10***
Operations Laboratory	***$15***
Miscellaneous WW Construction and Emergency Projects Emergency engineering and construction projects	***$6***
RP-1 & RP-2 Boiler Replacements (SCAQMD Rule 1146.1)	***$2***

TABLE ES-5
RECYCLED WATER AND OTHER PROGRAMS—MAJOR CAPITAL PROJECTS

Major Projects by Program	Proposed TYCIP ($Millions)
RECYCLED WATER AND RECHARGE PROGRAMS	***$82 Total***
930 W. Reservoir and Pipeline (Southern Area)	$19
1630 E. Pipeline, Segment B and Reservoir (NE Area)*	$16
Central/Wineville Extension Recycled Water Pipeline (Central Area)	$16
Recycled Water Connections	$10
RP-1 Outfall Parallel Line	$6
800 Zone Reservoir	$3
San Sevaine Basin Improvements	$2
NON-RECLAIMABLE WATER PROGRAM	***$24 Total***
OTHER PROGRAMS (General Capital)	***$9 Total***
TOTAL TYCIP – ALL FUNDS/ PROJECTS	***$217 Grand Total***

In the Regional Operations Capital Program, the Operations Laboratory was deferred to be outside the 10-year window in last year's TYCIP due to economic considerations. However, a $14.8 million SRF Loan agreement for the proposed Operations Laboratory was approved in FY 2011/12. In view of the critical need to provide new laboratory facilities to meet regulatory requirements related to wastewater and groundwater recharge compliance operations, the Operations Laboratory was moved back into the TYCIP 10-year window and it is currently is shown as being designed and constructed at a cost of $15 million between FY 2012/13 and FY 2017/18, with most of the expenditures occurring in FY 2016/17.

Overall, the Regional Capital Program in this year's TYCIP is influenced by the bleak economic conditions, slowdown in new development, and declining wastewater flow rates, which preclude the need for major new wastewater facilities or expansions. The program continues to focus on the refurbishment, replacement and upgrade of existing facilities. The Agency is continuing to implement the Asset Management Program, focusing on solutions to meet regulatory, safety or capacity requirements or to demonstrate the best value to the Agency. The Agency is upgrading or replacing equipment that is reaching the end of its useful life or that is costing more to repair than to replace. Purchases for new equipment are being evaluated on a case-by-case basis and must have a strong return on investment, with hard dollar savings.

RECYCLED WATER AND RECHARGE PROGRAMS

In the Recycled Water Program, the 1630 East Recycled Water Pipeline, Segment B, and Reservoir project were just outside of the TYCIP ten-year window last year, but it is now shown in the proposed TYCIP as being designed and constructed in FY 2020/21 and FY 2021/22 at a cost of $16 million. This project is part of the Northeast Recycled Water System as outlined in the Agency's Recycled Water Business Plan.

Miscellaneous Recycled Water Connections have a proposed TYCIP cost of $1 million per year. This reflects the Agency's continuous commitment and coordination with the member agencies within to increase and ensure a reliable supply of recycled water to residents and customers. Since the inception of the Recycled Water Business Plan, the Recycled Water Program has made significant improvements in recycled water usage and connected demand. The connected recycled water demand and sales have more than tripled since FY 2006/07.

However, since 2010, the rate of connections for direct use customers to the regional recycled water system has slowed down. The most significant inhibitors to system expansions can be attributed to the recession and limited financial resources. There is little doubt that the recycled water use will continue to increase, but with limited financial resources, the pace of expansion will continue to languish. Expansion capital was also significantly reduced during the 2008 economic slowdown and continues to be an inhibitor to system growth. The Agency has a loan program with limited funding to assist with financing customer retrofits. The Agency will seek additional grant funding in order to help stimulate the connections and recycled water usage in order to make the best use of the investments already made in the regional recycled water system.

The Agency is also continuing with implementation of the Recycled Water Business Plan in the Northwest, Southern, and Central areas of the recycled water system. The Northwest Area projects will be completed and dedicated during the spring of 2012; therefore there are no major Northwest Area projects remaining in the TYCIP. The Southern Area Recycled Water System is expected to be completed in FY 2014/15 at a remaining cost of $19 million. For the Southern Area projects, a $21 million SRF loan and a $4 million SWRCB grant were awarded to the Agency. The Agency is also currently working with the SWRCB on funding for the Central Area projects, including $4 million of grant funds and $16 million of SRF loan funds to cover the total estimated $20 million cost of the projects.

Use of recycled water for groundwater recharge is a critical component of the Recycled Water Business Plan, basin management and water supply plans within the region. It has greatly increased the reliability of water supplies during dry years and has saved an estimated $11 million per year in imported water costs for the region. The recharge of high-quality recycled water and high-quality imported and stormwater sources are key components in ensuring that Chino Basin groundwater quality objectives are met. In addition, improvements in groundwater quality through recharge will ultimately lower the cost of groundwater treatment throughout the Chino Basin.

The capital project costs identified in the current TYCIP for the Groundwater Recharge Capital Fund mainly involve capacity improvements and refurbishment at selected basins (e.g., Turner and San Sevaine Basins). Agency staff is evaluating the effectiveness of the recently constructed Phase II Chino Basin Facilities Improvement Program (CBFIP) in increasing overall basin recharge capacity. Within this TYCIP, the existing groundwater recharge basins are assumed to be sufficient to provide adequate stormwater, recycled water and imported water recharge capacity for the foreseeable future, with some modifications for maintenance being required.

Additional future capital improvements to the recharge program (Phase III CBFIP) may be identified following stakeholder evaluation of the recommendations of the Chino Basin Recharge Master Plan, 2010 Update. The determination of what is needed and when to implement any capital changes will be the subject of a future review and collaborative effort of the Agency and CBWM and depends on the availability of future funding sources. The financial impact of any significant capital requirements for the groundwater recharge basins will be addressed in revisions and updates to this TYCIP.

NON-RECLAIMABLE WASTEWATER PROGRAM

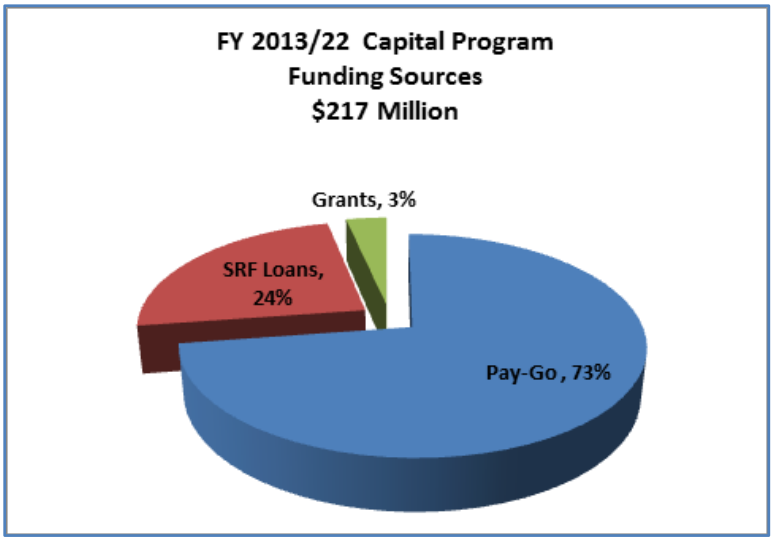
The long range capital improvement projects for the existing Non-Reclaimable Wastewater System (NRWS) are directed toward increasing the economic value and improving and retaining the integrity of the NRWS. The Agency anticipates spending $7 million during the next ten years on repairs and replacement to the NRWS pipelines and pump station as part of the IEUA Asset Management Program and $15 million for CSDLAC Capital Replacement charges. These capital improvements will increase the reliability of the NRWS and allow the Agency to comply with the state-adopted requirements to implement a Sanitary Sewer Management Plan (SSMP).

FINANCING

In general, the Agency's capital financing is derived from 3 primary sources (Figure ES-6):

1. Pay-go cash, defined as net system revenues-primarily user charges, connection fees, and property taxes not needed for debt service;
2. SRF fixed low interest loans; and
3. Federal and State grant revenues

FIGURE ES-6
PROPOSED TYCIP FUNDING SOURCES

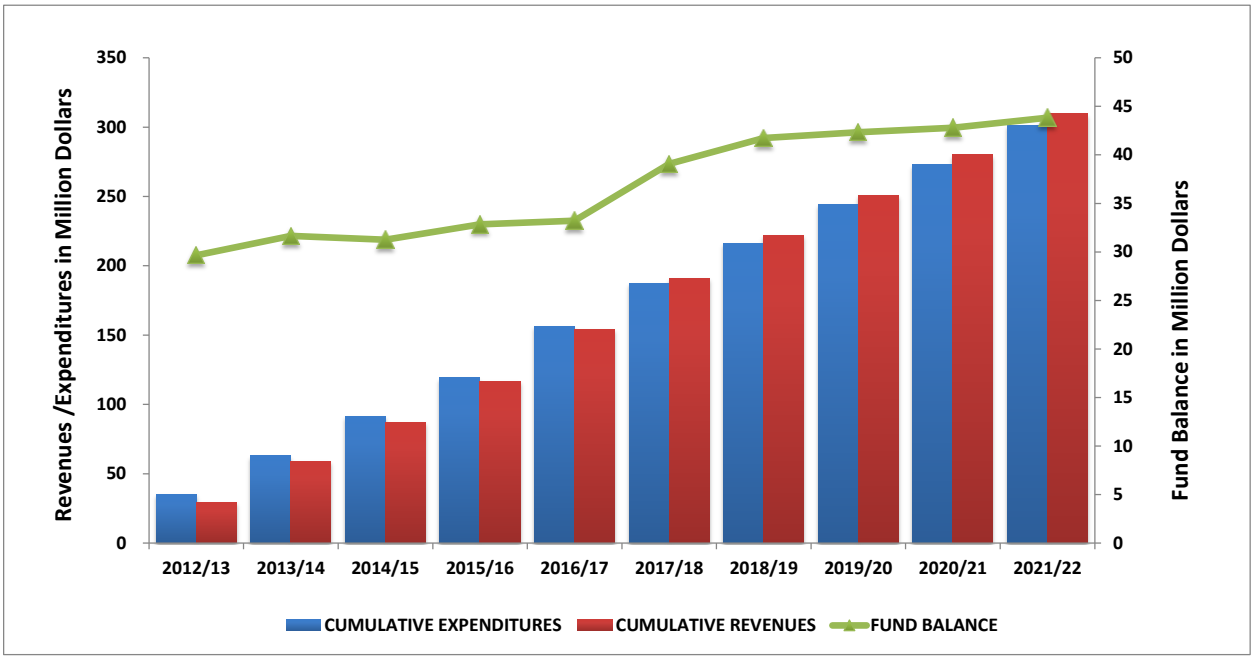


The financing strategy of the Agency's TYCIP Plan is to utilize funding from the following sources: user charges (Pay-Go) – 73% or $159 million; low interest SRF loans – 24% or $52 million; and Federal and State grants – 3% or $7-8 million.

Figure ES-7 shows how the RC Fund revenues and expenditures compare throughout the ten years, and the effect on the cumulative fund balance. The projected fund balance of $30 million at the end of FY 2012/13 improves to an estimated $45 million at the FY 2021/22 as revenues are cumulatively projected to exceed expenses. The projected ending fund balance in FY 2021/22 is comprised of approximately $19 million for debt service reserves, as mandated by bond covenants, and $23 million designated to support capital construction and improvement investments.

The TYCIP is developed on the basis of a highly conservative outlook of a regional economy that is plagued by above normal unemployment, high foreclosures and the negative impact of underwater mortgages. The key assumption of the TYCIP is minimal growth in system flows; therefore no need to expand the existing facilities during the ten year period. A reversal from the present stagnant growth to an acceleration of growth will place additional demand on existing facilities and require revisions of future TYCIPs to address any inadequacies.

FIGURE ES-7
RC FUND CUMULATIVE REVENUES AND EXPENDITURES



CHAPTER 1

I E U A

TYCIP

TEN-YEAR CAPITAL IMPROVEMENT PLAN

1.0 INTRODUCTION

1.1 Background

The Inland Empire Utilities Agency (IEUA) is a wholesale distributor of water and recycled water and provides regional wastewater treatment services for a 242-square-mile area of western San Bernardino County. The Agency provides industrial and municipal wastewater collection through regional wastewater interceptors and two non-reclaimable waste pipeline systems, and produces recycled water at four regional treatment plants. The Agency also produces energy from biogas, solar, and wind generation at its regional facilities and produces biosolids compost at its state-of-the-art composting facility. The Agency provides these utility services to seven Contracting Agencies:

1. City of Chino
2. City of Chino Hills
3. Cucamonga Valley Water District (CVWD)
4. City of Fontana
5. City of Montclair
6. City of Ontario
7. City of Upland

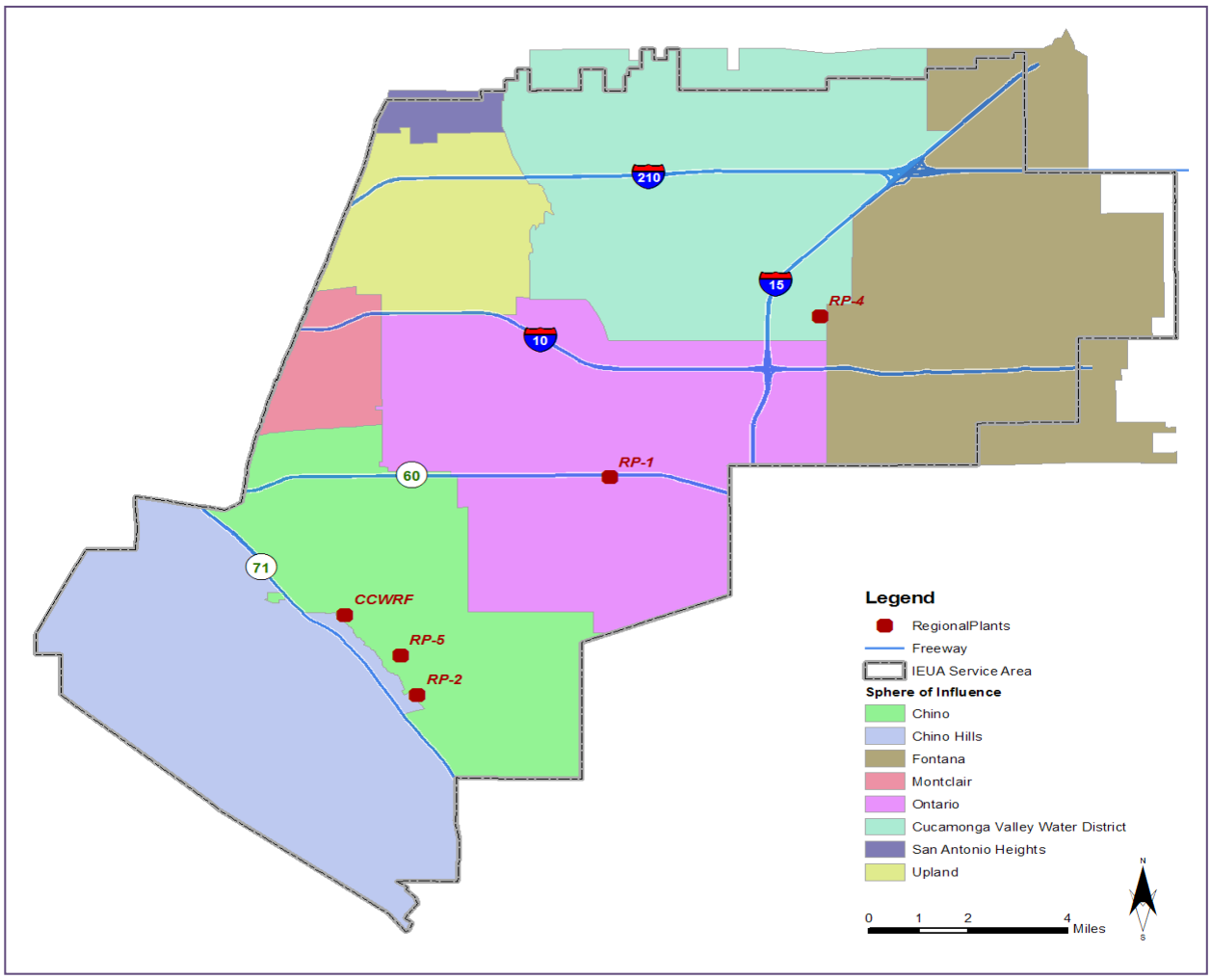
Figure 1-1 depicts the the Agency's service area, each Contracting Agency's sphere of influence, and the Agency's regional water recycling facilities.

> "The mission of the Agency is to supply imported and recycled water; collect, treat,and dispose of wastewater; and provide other utility-related (renewable electrical energy, compost) services to the communities it serves.The Agency strives to provide these services in a regionally planned, managed, and cost-effective manner."

1.2 IEUA's Mission

The Agency, its Board and staff, strive to provide reliable, cost-effective water utility services which protect and enhance the environment while fostering economic development. The Agency is focused on providing three key products at its wastewater facilities: recycled water to drought-proof our service area; organic compost made from recycled materials; and electrical energy generated from renewable sources. The Agency provides these services in close coordination with its Contracting Agencies and strives to maintain a high level of public awareness. This Ten-Year Capital Improvement Plan, beyond being a requirement of the Regional Sewerage Service Contract between IEUA and our member agencies, is an additional means of communicating with the public concerning priorities for future projects and capital spending requirements needed to meet future demands in the service area.

FIGURE 1-1
IEUA CONTRACTING AGENCIES



The residents of the Chino Basin area voted to form IEUA (originally incorporated as the Chino Basin Municipal Water District) in June 1950. The Agency is governed by a five-member Board of Directors (Board), elected to represent individual areas or Divisions. The Agency became a member of the Metropolitan Water District of Southern California (MWD) in 1950 and the Santa Ana Watershed Project Authority (SAWPA) in 1972. The Agency is a member of the MWD, SAWPA and Chino Basin Watermaster (CBWM) Board of Directors.

1.3 IEUA Regional Program

The Agency's Regional Program encompasses the activities associated with construction and replacement of the Agency's wastewater, energy generation, and solids handling facilities. It includes the regional sewerage system consisting of the sewage collection trunk lines and pump stations, the wastewater treatment and disposal facilities, the recycled water production facilities, and also the facilities for generating energy and recycling biosolids. Capital projects necessary to construct, repair,

replace, operate and maintain the regional facilities are budgeted in the Regional Program Funds, which include the RC (Regional Capital) Fund and the RO (Regional Operations) Fund, within the Agency's adopted budget.

A description of the regional facilities and Regional Program capital projects is given in Chapter 4. IEUA has four regional water recycling plants: Regional Plant No. 1 (RP-1), Regional Plant No. 4 (RP-4), Regional Plant No. 5 (RP-5), and Carbon Canyon Water Recycling Facility (CCWRF). In addition, the Agency has three facilities where the biosolids produced at the water recycling plants are handled: RP-1 Solids Facility, RP-2 Solids Facility, and the Inland Empire Regional Composting Facility. IEUA also has a solids handling facility at RP-5, which will provide future capacity when wastewater flows increase and biosolids production exceeds the current capacity at RP-1 and RP-2 (in approximately 10 years). In the meantime, the RP-5 Solids Handling Facility is being used to recycle other forms of organic waste, including manure and food wastes, and generate biogas that can be used to produce energy.

1.4 Integrated Water Resources Management

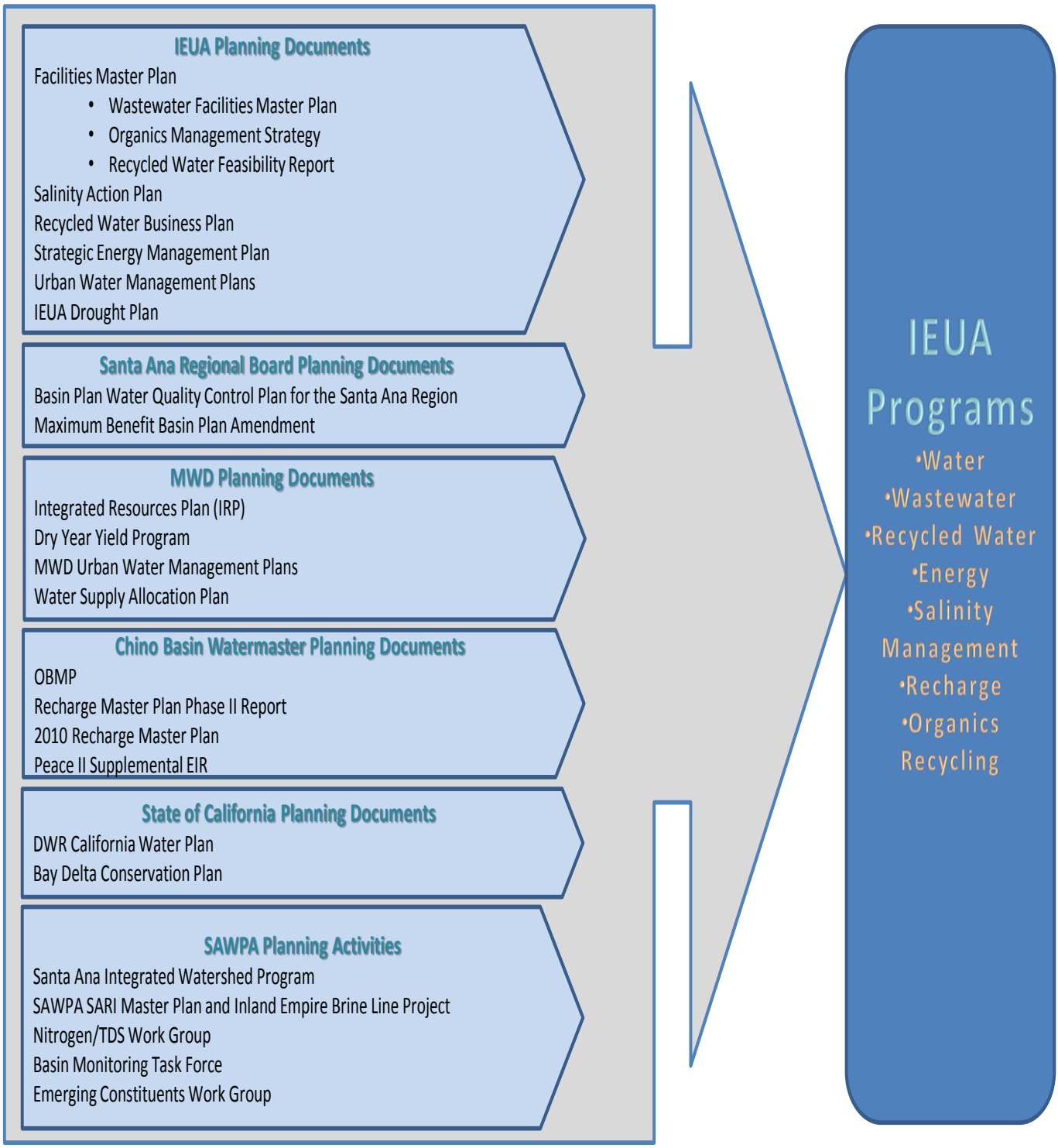
A new addition to the TYCIP this year is a chapter on Water Resources Management (Chapter 6). This is in recognition of the need to integrate all of the Agency's planning activities into Chino Basin's overall water supply management strategy. This need has become ever more apparent, as there has been a profound shift in California Water Supply Planning since the three consecutive years of drought in 2007 through 2009. In addition, regulatory restrictions on pumping imported water from the Bay-Delta, rising energy costs, economic recession, climate change, greenhouse gas emission reduction legislation, and drought allocation plans have all led to decreased imported water reliability and a strong call for water conservation.

This has led to increased involvement of the Agency with the development of regional planning documents (SAWPA, MWD, and the Regional Water Quality Control Board) and State of California Planning Documents (Department of Water Resources, CalEPA, etc.) The Agency closely coordinates its water resources management program in the Chino Groundwater Basin with the CBWM, the San Bernardino County Flood Control District, the Chino Basin Water Conservation District, and local water and wastewater retail agencies. Figure 1-4 illustrates some of the most significant IEUA, regional and state planning documents that are having an impact on Agency operations and capital programs.

1.5 IEUA Facilities Master Planning

IEUA's Wastewater Facilities Master Plan (WFMP) was adopted in August 2002 with the approval of the Regional Technical and Policy Committees. The Wastewater Facilities Master Plan integrated all of the Agency's related planning activities into one comprehensive document in order to address the overall effects of the projects contemplated by the Agency. This comprehensive planning process is illustrated in Figure 1-5.

FIGURE 1-2
IEUA COORDINATED REGIONAL PLANNING PROCESS



Some of the 2002 WFMP were to: (1) identify facilities that need to be replaced or expanded in the near- and long-term to meet projected growth and wastewater flow needs; (2) develop a cost-

effective, phased implementation plan; (3) determine space and location needs for additional or expanded treatment facilities; (4) develop strategies for flow diversion between service areas to optimize existing treatment capacity utilization; and (5) maximize water recycling, energy efficiency, and organics recycling.

The WFMP included plans for expansion of wastewater facilities to meet the needs of growth within the service area through 2050. Specifically, it included improvements and expansion of wastewater facilities at RP-4; construction of a new wastewater facility at RP-5; conversion of RP-2 to a solids handling facility only (elimination of wastewater treatment at RP-2); and numerous upgrades and odor control facilities at RP-1 and Carbon Canyon RWRF. These plans have all been implemented.

In addition, a new, state-of-the art composting facility was put into service near RP-4 that handles biosolids and green waste; a LEED-Platinum administration building and wetlands educational park were constructed near RP-5; the recycled water system was expanded to include additional recycled water pump stations, pipelines, and reservoirs in the northeast and central areas; and organics management facilities were constructed for handling biosolids, manure and food waste in the southern area.

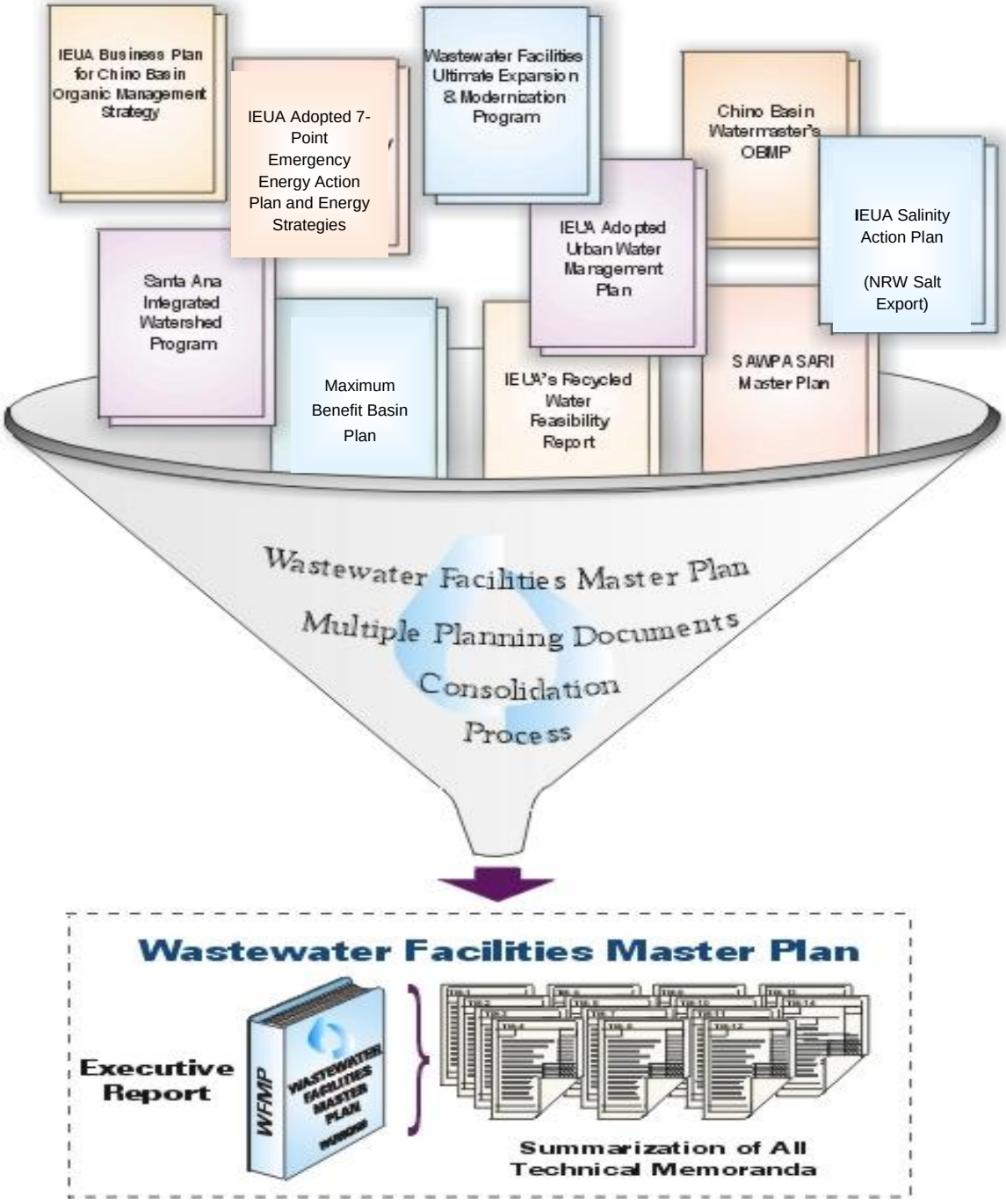
1.6 Chino Basin Organics Management Strategy Business Plan

The Chino Basin Organics Management Business Plan developed a strategy to manage the organics in the Chino Basin, including biosolids, dairy animal manure, and composting of local community green waste material. The Business Plan was published in May 2001, along with a Project Report containing ten Technical Memoranda, which provided the background and basis for the recommendations in the Business Plan. The IEUA Board of Directors certified the Programmatic EIR for the Business Plan in June 2002 and adopted the Business Plan together with the Wastewater Facilities Master Plan and Recycled Water Feasibility Study in August 2002. The Business Plan presented specific short-term and long-term recommendations as well as outlining of the steps and considerations that must be addressed in implementing projects consistent with the IEUA's goals and mission.

The Business Plan, as an integral tool for implementing the CBWM's Optimum Basin Management Plan (OBMP) includes two key initiatives. The first is a comprehensive renewable energy reliability program and the second initiative is a local organics recycling program. Implementation of those initiatives advances one of the paramount goals of the Business Plan: protection of the Chino Groundwater Basin from infiltration of salts and nitrogen compounds, in agricultural wastes. As a result, IEUA can avoid the need for costly removal of those contaminants from ground water.

As a major milestone for implementation of the Business Plan, construction of the Inland Empire Regional Composting Facility (IERCF) was completed in 2007. The IERCF provides the Agency with self-sufficiency as far as biosolids disposition, rather than being subject to the uncertainties of other options. Some options, such as land application of biosolids, are undependable because of changes in public attitudes and the need to haul longer and longer distances. Many options are increasingly expensive because of increasing contract costs, high energy costs, air pollution regulations, and lack of nearby facilities or markets.

FIGURE 1-3
2002 FACILITIES MASTER PLAN—CONSOLIDATION OF RELEVANT IEUA PLANNING DOCUMENTS



The IERCF is designed to process over 200,000 tons per year of recycled wood wastes and biosolids producing over 250,000 cubic yards of high-quality compost each year. The facility began daily operations in April 2007 and ramped up to full capacity in late 2008 receiving over 500 tons per day of biosolids and recycled wood waste products. Compost, which is created and marketed as SoilPro

Premium Compost, is sold as a soil conditioner which helps improve water retention resulting in better plant growth and water savings.

In order to receive recycled products year-round, a compost storage facility has been constructed to allow the facility to store compost during the winter season when compost demand is low.

1.7 IEUA Recycled Water Feasibility Study

The Agency prepared a Recycled Water Feasibility Study, adopted by the Board of Directors in August 2002, which delineated the Agency's recycled water program through the year 2020. In 2004, IEUA initiated development of the Regional Recycled Water Program Implementation Plan, which updated information from the 2002 study. In 2005, the IEUA Recycled Water Program Implementation Plan identified additional future recycled water demand, primarily in the developing areas of the cities of Chino and Ontario. The Agency recognizes that water recycling is a critical component of an effective water resources management strategy; over the years, recycled water will become a larger portion of the overall water resources supply mix for the Chino Basin. Water recycling will help "drought proof" the Basin, help achieve the objectives of the OBMP, and provide a lower cost water supply to all the residents within IEUA's service area.

The 2002 Feasibility Study recommended and the 2005 Recycled Water Program Implementation Plan confirmed that interconnection of all four of the Agency's regional treatment plants in a looped distribution system would maximize beneficial use of recycled water, increase system reliability and flexibility, and provide other operational and cost reducing benefits. The looped system will also allow more customers to be served and provide the flexibility to release surplus recycled water to spreading basins throughout the Basin for recharge.

IEUA's adopted Recycled Water Feasibility Study (August 2002), indicated that by the year 2020 the projected use of recycled water would exceed 70,000 acre-feet per year (AFY), with over 1,700 customers projected to be connected to the regional recycled water distribution system. Subsequent implementation of the 2005 Recycled Water Program Implementation Plan and the 2005 IEUA Urban Water Management Plan showed that a total of over 93,000 AFY of recycled water could be delivered to over 1,900 potential customers. The Agency will recharge up to 33,000 AFY of recycled water (blended with storm water and imported water to meet the overproduction replenishment needs) into the Chino Groundwater Basin and facilitate direct deliveries of over 60,000 AFY of recycled water to local customers. The Agency's goal is to use as much recycled water for local beneficial uses as is economically practical and replenish the Chino Groundwater Basin. In June 2007, IEUA received a new permit for recycled water recharge adding several more basins that can be utilized for recharge with recycled water. These added basins will increase both the volume and distribution of recycled water availability in the Chino Basin.

1.8 Recycled Water Business Plan

In FY 2007/08, in response to potential water supply shortages and reductions in MWD imported water supplies, IEUA accelerated implementation of the recycled water program deliveries by committing to a Recycled Water Business Plan. The Recycled Water Business Plan (initially adopted in December 2007) is intended to be a "short-term" action-oriented document that will be updated

annually to adjust the goals, timelines and projects that will expand the use of recycled water. The Recycled Water Business Plan, as updated in 2008, has a goal of increasing the total recycled water connected demand to 50,000 AFY by FY 2011/12. The program is to be funded by a combination of state and federal grants, State Revolving Fund Financing (SRF) and MWD rebates. In addition, the recycled water supply is not impacted by drought and will mitigate the impacts of regional or statewide water supply limitations.

1.9 Chino Basin Watermaster's Optimum Basin Management Plan (OBMP)

The OBMP for the Chino Basin was prepared by the Court-appointed Watermaster to address groundwater quality problems and identify groundwater management opportunities to be pursued for the benefit of the basin resources. The OBMP consisted of recommended studies, programs and facilities to further the objective of developing cost-effective, reliable, potable water supplies for the long-term while enhancing and protecting the yield and quality of the Basin groundwater aquifers and downstream uses. The OBMP provided a framework for developing a cooperative groundwater management program among agencies which use, manage or regulate water resources in the Basin. To facilitate implementation of the OBMP, an agreement (referred to as the "Peace Agreement") was signed by Watermaster, IEUA, Orange County Water District, and various other stakeholders on June 29, 2000. The OBMP Program EIR was certified on July 12, 2000, with IEUA acting as the lead agency.

The purpose of the OBMP was to develop a water quality and quantity based management plan for the Chino Groundwater Basin. The OBMP was intended to allow continued reliance on groundwater for beneficial uses within the basin - while minimizing demand for imported water - and encourage the beneficial use of the large available storage space in the aquifer system. This Ten-Year Program is consistent with Watermaster's OBMP.

The OBMP addressed the need to develop additional water sources within the Chino Basin to meet future demands through water quality treatment, groundwater recharge, groundwater desalination, and water recycling programs. It has resulted in the design and construction of a looped pipeline recycled water system, along with storage reservoirs, and pump stations, that connects the IEUA recycled water production facilities with local recycled water customers as well as groundwater recharge basins. Construction and improvement of 18 groundwater recharge basins have also been completed, allowing for conservation of storm water, recycled water, and imported water in the underground Chino Basin. The OBMP Phase I Desalter program was also implemented which provided 12 MGD of new groundwater desalination capacity. In addition, the 100,000 acre-ft per year (AFY) MWD Dry Year Yield Program funded six new groundwater treatment facilities.

The original Peace Agreement was updated to redefine the future programs and actions required to implement the OBMP, based on nine years of experience and accomplishments. The "Peace II Agreement" was approved by the Court on December 21, 2007. IEUA served as the lead agency under CEQA for a focused Subsequent EIR for the OBMP, called the "Peace II SEIR." The Peace II SEIR was adopted in October 2010.

The Peace II Agreement provides, among other things, for "re-operation" and attainment of "hydraulic control" in the groundwater basin. Hydraulic control is defined as the reduction of groundwater

discharge from the Chino North Management Zone to the Santa Ana River to *de minimis* quantities. Hydraulic control ensures that the water management activities in the Chino North Management Zone will not impair the beneficial uses of the Santa Ana River downstream of Prado Dam. Re-operation means the gradual increase in controlled overdraft of the Chino Groundwater Basin from 200,000 acre-ft to 600,000 acre-ft. Both of these objectives would be achieved through expansion of the desalter program such that the groundwater pumping for the desalters will reach 40,000 acre-ft/yr and that the pumping will occur in amounts and at locations that contribute to the achievement of hydraulic control and the strategic reduction in groundwater storage (re-operation).

The final expansion of the desalter program will be accomplished with the installation and operation of the Chino Creek well field. This expansion will produce an additional 10,000 acre-ft/yr from the Desalter II facility. The new product water developed at Desalter II would be conveyed to the Jurupa Community Services District ("JCSD"), the City of Ontario, and/or Western Municipal Water District ("WMWD") through existing and new pipelines.

1.10 MWD Integrated Resources Plan

The Integrated Resources Plan (IRP) is the long-term water resources strategy for MWD's six-county service area. The IRP is the blueprint that guides Metropolitan's efforts to increase water supplies and lower demands through 2035. MWD's first IRP was developed in 1996 and updated in 2004.

The 2010 IRP was completed in September of 2010. Metropolitan is setting a new course for planning its water supply with the 2010 Integrated Resource Plan (2010 IRP Update) that builds on Metropolitan's core resources and programs and then adds a supply buffer and an adaptive management approach to address the challenge of uncertainty. Inherent in an adaptive management approach is the ability to effectively respond to un foreseen water supply disruptions through cost-effective strategies that ensure water supplies and facilities are in place when needed.

The 2010 IRP Update will:

- Maintain a core resource strategy that will meet demands through 2035 under foreseeable hydrologic conditions;
- Commit to additional resource actions as part of a supply buffer to ensure reliability under uncertain circumstances beyond foreseeable hydrologic conditions;
- Increase the regional goals for water-use efficiency, including recycling, in order to account for future uncertainty; and
- Establish foundational, preparatory actions necessary to further develop options for alternative resources that may be needed in the future.

1.11 MWD Dry Year Yield Program

In accordance with the goals of the OBMP, in 2003, IEUA entered into an agreement with Metropolitan Water District (MWD), CBWM, and Three Valleys Municipal Water District to provide up to 100,000 acre-feet of groundwater storage in the MWD Storage Account in the Chino Basin as part of the Dry-

Year Yield Program (DYY). This program provides for the extraction of up to 33,000 acre-feet per year (AFY). As of July 2008, the Operating Parties under this Agreement are: City of Chino, City of Chino Hills, Cucamonga Valley Water District, City of Ontario, City of Upland, Monte Vista Water District, and Jurupa Community Services District. As part of the Program, MWD helped fund ion exchange plants that treat well water for removal of nitrate and salinity.

In June 2007, MWD agreed to fund $1.5 million, for technical and environmental studies, to expand the DYY Program's storage from 100,000 acre-feet to 150,000 acre-feet. It was used to characterize the DYY program objectives and Chino Basin capabilities, conduct conceptual designs for potential facilities development, prepare CEQA documentation, and produce a project development report (PDR). The DYY Program Expansion Project Development Report (PDR) was published in December 2008, determined the facilities needed to expand the program, and a Mitigated Negative Declaration for the DYY Expansion Project was adopted by the IEUA Board on December 17, 2008.

Since 2003, the DYY storage account has been filled up and emptied in conjunction with Metropolitan's surplus and shortage conditions. While the storage account is currently empty, upon completion of a few clarifications to the performance requirements of the existing agreement, it is anticipated that the storage account will be filled up and emptied at least twice more prior to the end of the agreement in 2023. This 200,000 acre-ft will be a critical component to IEUA's member agencies supply portfolio and reliability.

1.12 MWD Water Supply Allocation Plan

In 2008, MWD worked jointly with its member agency to develop a Water Supply Allocation Plan (WSAP). The WSAP includes the specific formulas for calculating member agency supply allocations and the key implementation elements needed for administering an allocation should a shortage be declared. Ultimately, the WSAP has become the foundation for the urban water shortage contingency analysis required under Water Code Section 10632 and has been incorporated into MWD's Regional Urban Water Management Plan.

On April 14, 2009, the MWD Board implemented the WSAP, effective July 1, 2009. This decision came at a time when California was facing its third consecutive year of drought, the State Water Project 2009 Table A allocation was 20% and Governor Schwarzenegger had proclaimed a statewide water shortage emergency (February 26, 2009). The WSAP was in effect for two years before a rainy wet 2010 season brought the region out of storage. Since coming out of the WSAP, MWD has been able to put more water in storage than it has ever had (almost 3 million acre-feet), helping to keep the region out of another shortage and WSAP in the near future.

1.13 IEUA Drought Plan

Working together in response to MWD's WSAP, IEUA, its member agencies, Chino Basin Watermaster and the Chino Basin Water Conservation District, prepared the IEUA Drought Plan. The purpose of the IEUA Drought Plan is to implement the MWD WSAP according to these goals:

- Ensure equity and fairness throughout IEUA's service area.
- Avoid any payment of MWD WSAP or Dry Year Yield penalties to MWD.

- Recognize IEUA/MWD investments in local supplies to "drought proof" the IEUA service area.
- Encourage additional local investments to further drought proof the economy.
  - Enhanced Conservation
  - Recycled Water – Connect parks, schools and other landscapes
  - Interconnections to promote flexibility (Azusa Pipeline)
  - Increase Chino Desalter deliveries to the maximum
  - Groundwater Recharge (recycled water and capture of storm water when available)
- Coordinate IEUA service area communication strategy.
- Implement consistent with MWD WSAP and DYY contracts.

If and when IEUA is forced to implement its drought plan again, its service area is well prepared for an extended period of water shortages, as the result of earlier investments in recycled water, the Chino Basin Desalter, groundwater and water use efficiency programs.

1.14 Recharge Master Plan

The Groundwater Recharge Program is a comprehensive plan to increase artificial groundwater recharge within the Chino Basin using stormwater, recycled water, and imported water. As a component of the CBWM's OBMP, the recharge program is described in the Recharge Master Plan, Phase II Report (August, 2001). In January of 2002, the IEUA Board of Directors approved the Recharge Master Plan Implementation Memorandum of Agreement, between CBWM, Chino Basin Water Conservation District, San Bernardino County Flood Control District (SBCFCD), and IEUA. Members of these four agencies formed a Groundwater Recharge Coordinating Committee to implement the initial $40-million program entitled the Chino Basin Facilities Improvement Project (CBFIP). The CBFIP is described further in Chapter 5 of this document.

In July 2010, the CBWM completed and submitted the Chino Basin Groundwater Recharge Master Plan Update (Update) to the court. In July 2012, the CBWM will have completed and submitted the Implementation Plan of the Update to the court. The Implementation Plan includes revised assessments on demand, recharge capacity, safe yield and identifies opportunities for enhancing stormwater, recycled water and imported water recharge (including low impact development, new recharge projects and integrated storm water and supplement water facilities). It will also include a financing plan that outlines how funding for projects will be developed.

1.15 IEUA Adopted Seven-Point Emergency Energy Action Plan

In response to the uncertainty in energy pricing and supply experienced in the winter of 2000, IEUA developed a Seven-Point Emergency Energy Action Plan. Some of the goals of this plan were to:

- Maximize the efficiency and self-sufficiency of existing office and plant operations
- Generate new local sources of energy and minimize external energy/fuel costs
- Maximize operational flexibility of plants to "roll off" the electric grid and natural gas sources, particularly during peak usage periods
- Promote regional energy and water conservation programs

Through this plan, IEUA has made major strides in building self-sufficiency and local control over long-term energy supplies and assisting the region and California in meeting their energy needs.

IEUA's Energy Management Strategy is evolving in response to both the volatility of the energy market and the new legislation (AB 32) governing greenhouse gas emissions. IEUA completed a Solar Power Project in 2008 which will account for up to about 9% of its energy needs from renewable, non-polluting energy sources. IEUA's goal is to maximize the amount of power that is self-generated from renewable sources, which will help the Agency in its goal of going "gridless" by the year 2020 and produce all electricity "in-house." To accomplish these goals, IEUA has developed an Energy Management Strategy (first presented to Board 11/12/08). The Energy Management Strategy includes optimizing energy consumption at Agency facilities; increasing the production and use of digester gas; increasing self-generation capacity utilization; pursuing new technologies; and utilizing effective energy procurement strategies. The energy action plan also deals with South Coast Air Quality Management District rule 1110.2, which limits natural gas usage to 10% of total gas usage.

1.16 Salinity Management Action Plan—Regionalization of NRW System to Maximize Salt Export

The IEUA and its contracting agencies are implementing a regional recycled water distribution system to serve recycled water for non-potable reuse and groundwater recharge. Salinity is a critical element of recycled water quality for recharge and many other uses. Reduced salinity will enhance the marketability of recycled water and help IEUA meet the goals of the OBMP and the Maximum Benefit Basin Plan objectives. Reduced wastewater salinity will also help IEUA to comply with effluent limitations for TDS in its wastewater discharge permits. IEUA developed a Salinity Management Action Plan in 2002. Some of the strategies that were identified included:

- Maximizing the use of the IEUA's non-reclaimable waste (NRW) system by connecting more industries
- Reducing the use of water softeners in the area to decrease saline flows into the regional water recycling plants
- Reducing the salt contributions from IEUA treatment plant operations by optimizing the use of chemicals at the facilities

This is also consistent with the Maximum Benefit Basin Plan, adopted in 2004 by the Santa Ana Regional Water Quality Control Board, which established new groundwater TDS and nitrogen water quality objectives. The Plan allows the use of recycled water for groundwater recharge while providing reasonable protection for the groundwater quality in the region. Key commitments in the plan included construction of Chino Desalters, recycled water quality management through industrial waste control, optimum use of the NRWS, reducing the use of water softeners to decrease saline flows into the regional water recycling plants, ion-exchange plants, and groundwater monitoring programs.

As an outgrowth of the Salinity Management Plan, IEUA also developed an NRW Action Plan with extensive coordination and discussion with IEUA's Regional Technical and Policy Committees, the CBWM, and the Regional Board. IEUA has achieved substantial avoided costs and valuable benefits for the region as a result of implementation of the current NRW Action Plan.

1.17 IEUA Urban Water Management Plan

In June 2011, the IEUA Board adopted the completed 2010 Urban Water Management Plan (2010 UWMP). The 2010 UWMP outlines the plan for the region's water management needs and complies with the California Urban Water Management Planning Act. The 2010 UWMP updated the current Urban Water Management Plan, adopted by the Board in December 2005. It includes the following sections:

- Introduction
- Population and Land Use
- Water Supplies
- Water Use Efficiency Program
- Wastewater Flows
- Recycled Water Program
- Regional Groundwater Management Programs
- Alternative Water Supplies
- Water Shortage Contingency Plan
- Water Quality Impacts on Reliability
- Water Service Reliability
- UWMP Adoption and Implementation

Important additions to IEUA's 2010 UWMP, compared to its 2005 UWMP, are Wastewater Flows and Projections, Climate Change, Storm Water Management and development of a Regional Water Efficiency Plan that meets the new 20% reduction in per capita water use by 2020 mandate and other conservation related requirements that have been adopted by the legislature since 2005.

Staff also prepared the 2010 UWMP's for consideration and adoption by the Water Facilities Authority and the Chino Basin Desalter Authority, using the IEUA UWMP as a basis. This approach ensured continuity among the Urban Water Management Plans within our service area and provided an important cost-saving service to both of these agencies.

The 2010 UWMP was prepared in coordination with the regional planning efforts of the Chino Basin's Optimum Basin Management Plan (OBMP), the Chino Basin Groundwater Recharge Master Plan Update, the Santa Ana Watershed Project Authority's One Water One Watershed (OWOW) Plan and the Metropolitan Water District of Southern California's Integrated Resources Plan (IRP).

The 2010 UWMP was prepared in close coordination with the retail agencies within IEUA's service area as well as with the Metropolitan Water District of Southern California (MWD), Santa Ana Watershed Project Authority, Chino Basin Watermaster, Water Facilities Authority, the Chino Basin Desalter Authority and other cities and agencies within the watershed.

1.18 Regional Board Maximum Benefit Basin Plan Amendment

The Regional Water Quality Control Board, Santa Ana Region, (Regional Board) adopted amendments to the Water Quality Control Plan for the Santa Ana River Basin (Basin Plan) on January 22, 2004 incorporating a "maximum benefit" proposal recommended by IEUA and CBWM. The Maximum

Benefit Basin Plan establishes new groundwater Total Dissolved Solids (TDS) and Total Inorganic Nitrogen (TIN) water quality objectives and waste load allocations that allow the use of recycled water for groundwater recharge while providing reasonable protection of the groundwater quality in the region.

Reuse of recycled water for groundwater recharge is a critical component of the OBMP and water supply plans for the region. As part of the Maximum Benefit Basin Plan, IEUA and CBWM have committed to a specific set of projects and requirements in order to demonstrate that the water quality of the groundwater basin is protected and that the plan provides the maximum benefit to the users of the groundwater basin. These commitments include:

- Surface water and groundwater monitoring programs
- Chino Desalters (consistent with OBMP requirements of 40 MGD by 2020)
- Recharge facilities/conjunctive use program
- Recycled water quality management (through industrial waste source control and optimum utilization of the IEUA's non-reclaimable waste (NRW) system), and
- Hydraulic control to protect the Santa Ana River quality (consistent with the Orange County Water District and IEUA Memorandum of Understanding)

If IEUA and CBWM achieve timely and appropriate implementation of these commitments, then the Basin Plan's "maximum benefit" water quality objectives will be applied instead of more restrictive historical "anti-degradation" objectives. This will result in significant savings to the Agency for outside water imports and wastewater treatment costs.

1.19 SAWPA Integrated Watershed Program

Since its formation in 1967, Santa Ana Watershed Project Authority (SAWPA) has been a water resource planning agency for the Santa Ana River Watershed region. In 2002, SAWPA acted as a coordinator for the stakeholders of the region to produce the Santa Ana Integrated Watershed Program (SAIWP). It consisted of seven major elements:

- Water storage to drought-proof the watershed by storing up to 1.3 million acre-ft (MAF) of new water underground throughout the Santa Ana River Basin
- Water quality improvement to mitigate negative impacts from past agricultural, industrial and residential point and non-point source pollutants
- Implementation of water recycling as a means of reducing the area's overall need for imported water
- Development of flood protection along the main stem of the Santa Ana River
- Enhancement of wetlands environment and habitat to restore the Pacific Flyway
- Recreation and conservation to bring additional recreational opportunities and increase public awareness of the Santa Ana River's environmental needs and purposes
- Use of the Santa Ana Regional Interceptor (SARI) brine disposal pipeline to carry saline wastes to the ocean in order to protect the long-term beneficial uses of the groundwater basins

SAWPA has pursued those elements simultaneously based on the availability of state grant funding and the aggregated needs of SAWPA member agencies, including the IEUA, water districts, cities,

counties, and several environmental groups. The success of this planning effort provided $235 million of Proposition 13 grand funding for the watershed. In 2005, SAWPA updated the SAIWP to include the urban water management plans of the member agencies and provide an updated summary of the many planning processes underway and priority projects of the stakeholders of the watershed. As a result of this effort, SAWPA received a $25 million integrated planning grant (Proposition 50) from the Department of Water Resources and provided a $4.9 million to grant to IEUA for recycled water projects during FY 2008/09.

In early 2009, SAWPA completed a new integrated water management plan for the region known as "One Water One Watershed," or OWOW. Part of the impetus for starting the OWOW planning process was the passage of Proposition 84 by the California voters in 2006. Proposition 84 allocated $1 billion to regions with qualifying integrated watershed plans. The OWOW plan provides the basis for seeking Proposition 84 grant funds from DWR and will help to address the significant water supply crisis which has arisen throughout the state. The goal of OWOW is a sustainable watershed that is drought-proofed, salt-balanced, and supports economic and environmental vitality.

1.20 SAWPA Planning Work Groups

SAWPA is a joint powers agency which conducts water-related investigations and planning studies, and builds physical facilities where needed for water supply, wastewater treatment or water quality remediation. Since the early 1970's, SAWPA has played a key role in the development and update of the Basin Plan for the Santa Ana Region. Several task forces have been formed to address complex technical and regulatory issues and resolve inter-Agency conflicts. These task forces generally include staff of the Regional Water Quality Control Board-Santa Ana Region as active members or advisors, and may see buy-in from other state and federal regulatory bodies.

The Maximum Benefit Basin Plan Amendment described above was an outgrowth of SAWPA's Nitrogen/Total Dissolved Solids (N/TDS) Task Force. The task force, which met between 1996 and 2003, included the IEUA and 21 other water supply and wastewater agencies from the region as well as the Regional Board. Coordinated by SAWPA, the task force completed multimillion dollar studies to review groundwater TDS and nitrogen objectives, groundwater sub-basin boundaries, the TIN and TDS waste load allocations and other components of the Regional Board's nitrogen and TDS management plans. The purpose of this study was to develop more scientifically defensible water quality objectives and avoid any unnecessary constraints on water recycling opportunities. The original scope of work of the N/TDS Task Force included conducting a nitrogen loss coefficient monitoring program for Santa Ana River, Reach 3, which was completed in 2005.

IEUA is currently participating in SAWPA's Basin Monitoring Program Task Force (BMPTF). This task force was an outgrowth of the N/TDS Task Force study and the 2004 Basin Plan amendments. The group is tasked with executing some of the monitoring and reporting commitments of the Maximum Benefit Basin Plan Amendment, such as a triennial compilation of ambient groundwater quality data and an annual report of Santa Ana River water quality.

The BMPTF also funds updates to the Santa Ana River Wasteload Allocation model that was developed by Wildermuth Environmental, Inc., and uses the models to evaluate different discharge scenarios and

the impacts on Orange County groundwater. In late 2009, the Basin Monitoring Task Force proposed an amendment to the task force's founding agreement. The amendment to the agreement includes the new task of conducting Santa Ana River wasteload allocations and other related studies to be used for new Basin Plan Amendments. Recent activities include wasteload allocation modeling for the Chino South groundwater sub-basin to update the N/TDS Management Plans; and drafting the Declaration of Conformance with the Recycled Water Policy.

Another SAWPA work group in which IEUA is an active participant is the Emerging Contaminants (EC) Work Group. The EC Workgroup was formed in 2007 to develop a characterization program for emerging constituents. The workgroup is comprised of imported water agencies and publicly-owned treatment works. The EC Work Group study effort was separated in two phases:

- Phase 1 covered current water quality monitoring programs, regulatory issues, stakeholder concerns, analytical methods, and the state-of-the-science with respect to potential public health & environmental impacts. This phase culminated in a written report submitted to the Regional Board in December 2008 characterizing the workgroup's preliminary findings.

- Phase 2 defines the Emerging Constituents Investigative Plan based on ongoing characterization studies and other related evaluations. The work plan was approved by the RWQCB during the December 2009 Regional Board meeting as Resolution No. R8-2009-0071.

In accordance with the adopted work plan, each participating wastewater agency samples and pays for their own analyses. Two rounds of sampling have been completed for a list of emerging constituents identified during the characterization phase of the study. The results were summarized in a report to the Regional Water Quality Control Board and released to the public.

1.21 California Water Plan

In March 2009, California's Department of Water Resources published the latest update to the California Water Plan (Update 2009). The five-volume report is a comprehensive reference document on California water conditions, challenges and water resource management. It is a blueprint for sustainable water management in a condition of uncertainty and vulnerability due to climate change and changing ecosystem needs. Update 2009 came on the heels of a historic water legislation package passed by the California State Legislature and signed by the Governor in November 2009.

Updates of the 1957 California Water Plan are required by law every five years. These reports have evolved from statistical summaries of water supply and demand to expert analyses of complex issues of hydrology, water use, conservation, and emerging trends in water resource management, flood safety and climate change adaptation. The Plan also provided broadly supported strategic recommendations to guide future investments and inform resource management policy-making.

1.22 Bay-Delta Conservation Plan

The Bay-Delta Conservation Plan (BDCP) is being prepared through a collaboration of state, federal, and local water agencies, state and federal fish agencies, environmental organizations, and other interested parties. These organizations have formed the BDCP Steering Committee. The plan will

identify a set of water flow and habitat restoration actions to contribute to the recovery of endangered and sensitive species and their habitats in California's Sacramento-San Joaquin Delta. The goal of the BDCP is to provide for both species/habitat protection and improved reliability of water supplies.

As the BDCP evaluates habitat, physical and operational alternatives necessary to restore the Delta ecosystem while providing water supply reliability, state and federal agencies are developing a joint Environmental Impact Report/Statement (EIR/EIS) under the Delta Habitat Conservation and Conveyance Program (DHCCP). The EIR/EIS will determine the potential environmental impacts of the proposed BDCP.

Lead agencies for the EIR/EIS are the California Department of Water Resources, the Bureau of Reclamation, the U.S. Fish and Wildlife Service, and NOAA's National Marine Fisheries Service, in cooperation with the California Department of Fish and Game, the U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers.

The BDCP is being developed in compliance with the Federal Endangered Species Act (ESA) and the California Natural Communities Conservation Planning Act (NCCPA). When completed, the BDCP would provide the basis for the issuance of endangered species permits for the operation of the state and federal water projects. The plan would be implemented over the next 50 years.

1.23 Environmental Documentation

To comply with the California Environmental Quality Act (CEQA), IEUA certified a Programmatic Environmental Impact Report (PEIR) on June 28, 2002. It encompassed IEUA's Wastewater Facilities Master Plan, Organics Management Strategy Business Plan and the Recycled Water Feasibility Study. This CEQA document is known as the Facilities Master Plan Programmatic Environmental Impact Report (FMP PEIR). The FMP PEIR integrated all of the Agency's related planning activities into one comprehensive document in order to address the environmental concerns of the overall effects of the projects contemplated by the Agency. IEUA also served as the lead Agency under CEQA for preparation of the Program EIR for the CBWM's OBMP, certified on July 12, 2000.

This TYCIP is consistent with the IEUA's approved FMP PEIR. Supplements to the Programmatic EIRs have been prepared as necessary, when specific project elements were better defined during each project design. For example, for the Inland Empire Regional Composting Facility, IEUA prepared a CEQA Initial Study and Finding of Consistency with the FMP PEIR. Similarly, for several of the recycled water projects, IEUA prepared Addenda to the FMP PEIR as well as NEPA documents to comply with federal funding requirements. The Agency also served as the lead agency for coordination and preparation of a focused Subsequent EIR for the updated OBMP or "Peace II Agreement" and adopted it in October 2010. Furthermore, in December 2008, the Agency certified a Mitigated Negative Declaration for the Dry Year Yield Expansion Project.

2.0 WASTEWATER FLOW PROJECTIONS

Exhibits I through V show total wastewater flow projections for the next ten years from IEUA's service area and individually for the RP-1, RP-4, CCWRP and RP-5 service areas. The flow projections are compared to current and future planned plant capacities. On these exhibits, the "baseline" flow is defined as raw sewage flow from the service area that is tributary to a treatment plant, without reflecting any of the current or planned diversions, bypasses, or recycle streams. In contrast, the "adjusted" flow does include bypasses, diversions and recycle streams and it is the actual flow that was received at a treatment plant. Exhibits I through V also point out any planned projects or major operational changes that will significantly affect capacity utilization.

2.1 Wastewater Flow Trends

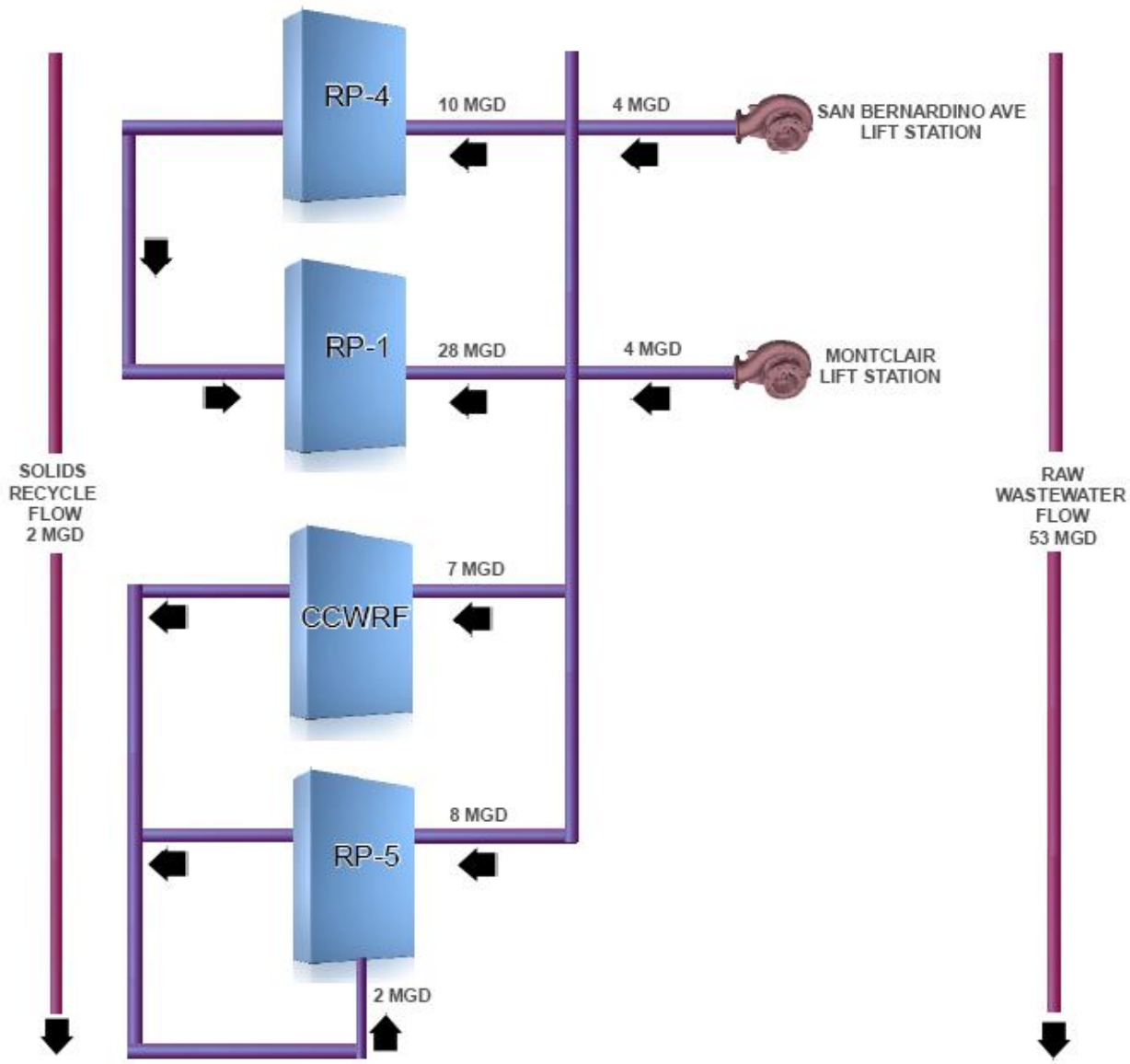
Figure 2-1 shows the current flows being treated at each of the Agency's regional water recycling facilities. During January – December 2011, the average wastewater flow treated was 53.2 MGD. Over the past several years, the Agency's wastewater flows have declined by approximately 10% (similar to other local regions). However, with the completion of the San Bernardino Avenue Lift Station and the existing Montclair diversion structure, the Agency's ability to route wastewater flows and deliver recycled water to high demand areas has allowed the Agency to drastically increase recycled water deliveries.

TABLE 2-1
AVERAGE ANNUAL FLOW (JANUARY – DECEMBER 2011)

Agency	RP-1	RP-4	RP-5	CCWRP	TOTAL
Chino	0.1		1.6	2.1	**3.8**
Chino Hills			3.2	2.0	**5.2**
Ontario	8.9		3.5		**12.3**
Montclair	0.2			2.0	**2.1**
Upland	4.0			1.0	**5.0**
Fontana	6.9	5.5			**12.4**
CVWD	7.7	4.5			**12.2**
Total	**27.8**	**10.0**	**8.3**	**7.1**	**53.2**

Note: This does not include 2.0 MGD of recycle flow from RP-2.

Figure 2-1: Current Wastewater Flows



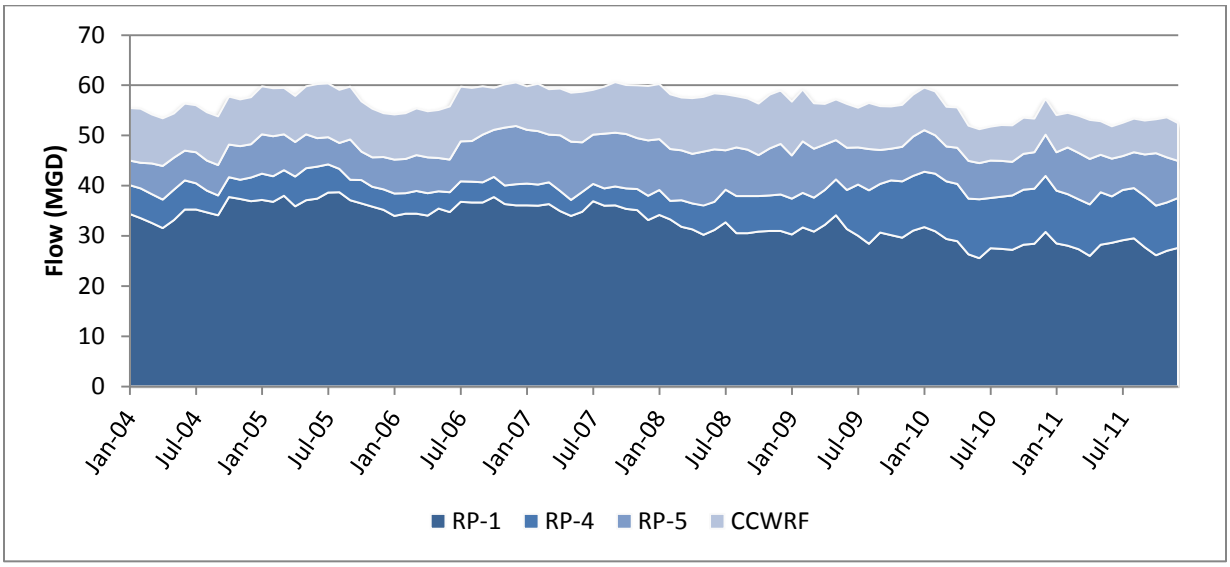
TOTAL TREATED FLOW

- **53 MGD RAW SEWAGE**
- **2 MGD SOLIDS RECYCLE**

55 MGD TOTAL TREATED

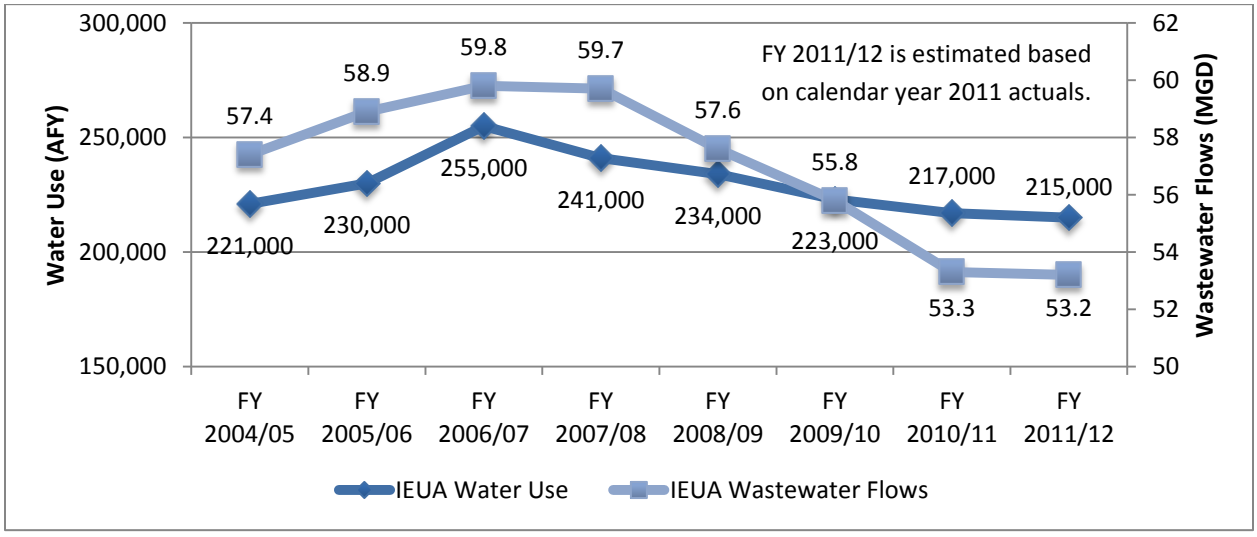
IEUA's historical wastewater flow trend is shown below in Figure 2-2. This figure depicts the raw sewage from each regional water recycling plant's tributary area and the total for all facilities combined.

FIGURE 2-2
REGIONAL PLANT WASTEWATER FLOW HISTORY



In FY 2011/12, Southern California experienced another very dry year. This followed a very cool and wet FY 2010/11 that had brought the region out of a three-year drought. Consistent with the four previous year's downward water use trend, for a fifth year in a row, water use in the Inland Empire Utilities Agency (IEUA) service area declined. IEUA's service area overall water use has decreased approximately 55,000 acre-feet (19%) since FY 2006/07. In addition, this reduction in water use can be largely attributed to IEUA and its member agencies' public education, water use efficiency programs, ordinance enforcement and the economic downturn.

FIGURE 2-3
RECENT WATER USE AND WASTEWATER FLOW TRENDS



FY 2010/2011 Building Activity

In FY 2010/11, building activity within the Regional Sewer System totaled 1,116 EDUs. As shown in Table 2-2, this is 96% of the initial projected level of building activity (1,158 EDUs). This resulted in approximately $5.3 million in revenue. The approved TYCIP budgeted building activity was based on 1,000 EDUs ($4.8 million). The current soft housing market conditions are directly affecting the amount of growth in the region. FY 2010/11 had the lowest EDU growth on record (Note: data only goes back to FY 1988/89).

TABLE 2-2
FY 2010/11 FORECASTED AND ACTUAL BUILDING ACTIVITY

Contracting Agency	Forecasted Activity (EDUs)	Actual Activity (EDUs)	Actual Activity / Forecasted Activity (%)
Chino	42	123	293%
Chino Hills	107	46	43%
C.V.W.D.	121	333	275%
Fontana	550	315	57%
Montclair	20	59	295%
Ontario	260	96	37%
Upland	58	144	248%
Total	**1,158**	**1,116**	**96%**

Forecasting growth within IEUA's service area has not been easy in the last few years. With the significant drop in housing prices, limited credit availability and the softening real estate market, accurate forecasting has become a difficult task in Southern California. However, as shown in Figure 2-4, FY 2010/11 forecasts were quite close to actual building activity, compared to prior years where forecasts and actual activity were significantly different. This underscores the conservative planning strategy that the region has been forced to take. In the near future, the region will continue to be challenged with changing economic conditions and the local market response.

FY 2010/11 Building Activity Comparison by Contracting Agency

Consistent with the last few years and as presented in Figure 2-5, the majority of the building activity in FY 2010/11 occurred within the Cucamonga Valley Water District and the City of Fontana. Building activity within the service areas of these two agencies totaled about 58% of the building activity for the IEUA service area.

Implications of FY 2010/11 Building Activity on the Regional Sewer System

Overall, there was approximately 0.3 million gallons per day (MGD) of new wastewater flow permitted during FY 2010/11 (this was calculated using the 270 gpd/EDU capacity requirement from the Chino Basin Regional Sewer Service Contract). There is adequate capacity within the four reclamation plants to accommodate the total amount of growth experienced in the past year.

Overall, flows are averaging about 53.2 MGD with a total system-wide permitted treatment capacity of 85.7 MGD.

FIGURE 2-4
FY 1988/89 TO FY 2010/11 FORECASTED AND ACTUAL BUILDING

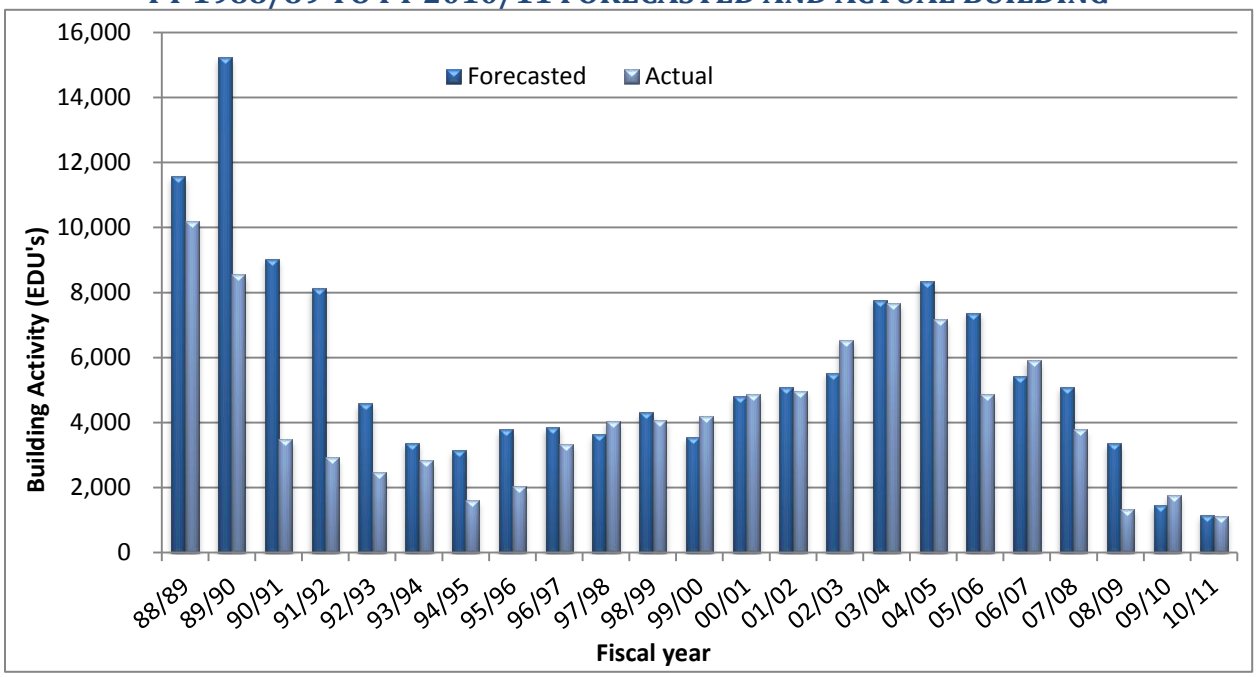
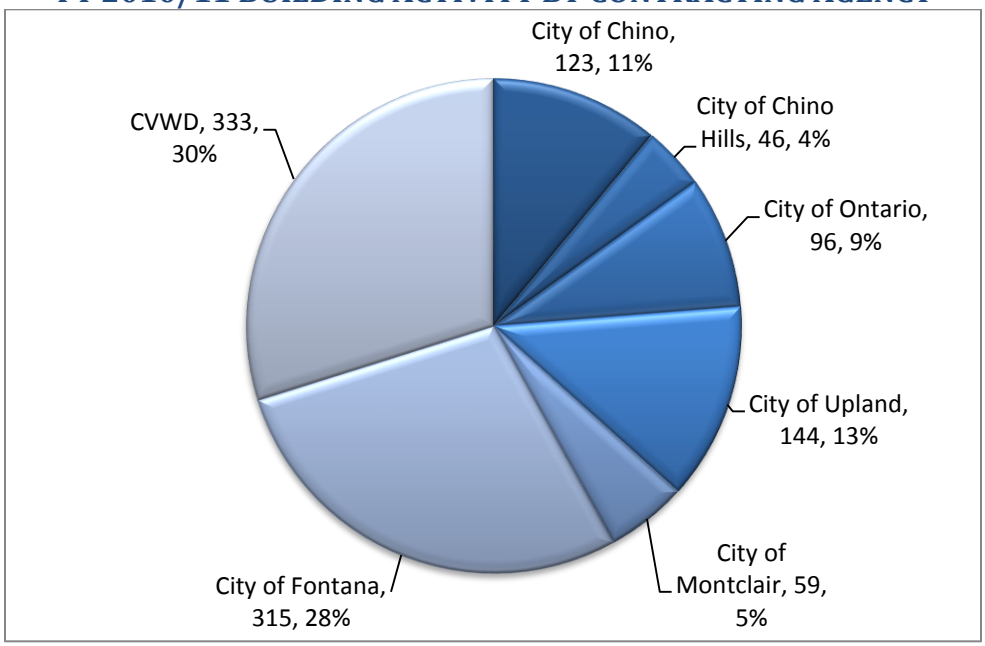


FIGURE 2-5
FY 2010/11 BUILDING ACTIVITY BY CONTRACTING AGENCY



It is important to note that the completion of the San Bernardino Pump Station (SBPS) in June 2009 enhanced the regional systems bypass capacity among the reclamation plants, which is currently

accommodating the growth seen in the Cucamonga Valley Water District and the City of Fontana service areas. It also enhances the ability of the regional system to handle the forecasted flows, especially in preparation for the City of Ontario's New Model Colony (expected to double the City of Ontario's population over the next twenty-five years).

2.2 Flow Factors

The backbone of the regional collection system and treatment plant site plans have been planned designed using the raw sewage flow rate specified in the Regional Sewerage Service Contract—Exhibit J—which is 270 gallons per day per equivalent dwelling unit (gpd/EDU). IEUA still plans its regional system around Exhibit J. However, IEUA estimates that the current average flow rate from new residential developments may be as low as 200 gpd/EDU due to the installation of water-saving devices in new construction. In addition, all developments are using less water due to water conservation and the current high rate of property foreclosures. The City of Ontario conducted an evaluation of new residential sewerage flow factors using the Edenglen development as a model. The City found that the data supported the use of a flow factor of 240 gpd/EDU for planning purposes. For this TYCIP, the future flow projections for the service area were performed using both 200 and 270 gpd/EDU in order to bracket the expected range of flow rates. These projections are used to determine the need for facility expansion within the ten year planning horizon. With the required implementation of several new water use efficiency laws, IEUA expects newly-constructed and remodeled homes to continue to generate less wastewater on average. It is expected that the overall average IEUA service area flow per EDU will decline, given the rising price of water, decreases in water supply availability and greater need for water conservation.

2.3 Anticipated Service Area Growth

A survey of IEUA's Contracting Agencies is conducted in September of each year to determine the rate of projected growth for the next ten years, in terms of EDUs. The results of the 2011 survey are summarized below and included in Appendix A.

FY 2012/13 Ten-Year Capacity Demand Forecast

The results of the Ten-Year Capacity Demand (TYCD) forecast based on the September 2011 member agency survey are summarized by Contracting Agency in Table 2-3. For FY 2010/11, the forecasted building activity is 1,158 EDUs. This is slightly lower than last year's building activity (1,459 EDUs) but comparable to the FY 2011/12 TYCD budgeted forecast (1,000 EDUs). The recent policy change on reporting of new connections (from time of building permit to no later than certificate of occupancy) could have an additional effect of lowering the reported building activity in FY 2010/11.

Over the next ten years, building activity is projected to total 32,570 EDUs. This is slightly higher than last year's TYCD projection of 29,684 EDUs but still lower than projections from two years ago that were 37,287 EDUs. The City of Ontario is still anticipating growth from the New Model Colony to begin increasing in FY 2012/13, although, with the housing market in flux, it is difficult to predict exactly when the increase in building activity will occur. Total building activity is projected to peak in FY 2014/15 at 5,237 EDUs.

TABLE 2-3
FY 2012/13 TEN-YEAR CAPACITY DEMAND FORECAST BY CONTRACTING AGENCY

Fiscal Year	City of Chino	City of Chino Hills	CVWD	City of Fontana	City of Montclair	City of Ontario	City of Upland	Total
	(EDUs)	(EDUs)	(EDUs)	(EDUs)	(EDUs)	(EDUs)	(EDUs)	(EDUs)
2012/13	57	392	152	333	326	1,017	52	2,329
2013/14	57	562	171	388	168	1,850	204	3,400
2014/15	217	574	121	444	42	3,350	489	5,237
2015/16	217	347	171	499	42	1,700	625	3,601
2016/17	217	243	121	555	42	1,600	677	3,455
2017/18	217	525	121	610	42	1,450	634	3,599
2018/19	217	382	121	665	42	1,450	289	3,166
2019/20	217	205	221	665	42	1,150	225	2,725
2020/21	217	124	121	665	42	1,150	210	2,529
2021/22	217	124	121	665	42	1,150	210	2,529
Totals	1,850	3,478	1,441	5,489	830	15,867	3,615	32,570

As shown in Figure 2-6, the TYCD forecasts have substantially dropped over the last five years. FY 2007/08 had a ten-year projection of 69,651 EDU's compared to FY 2012/13's ten-year projection of 32,570 EDU's. However, FY 2012/13 has approximately the same total expected EDU's as last year's ten-year projection, as well as the same peak growth year, FY 2014/15.

FIGURE 2-6
HISTORICAL BUILDING ACTIVITY AND SUCCESSIVE YEAR GROWTH FORECASTS

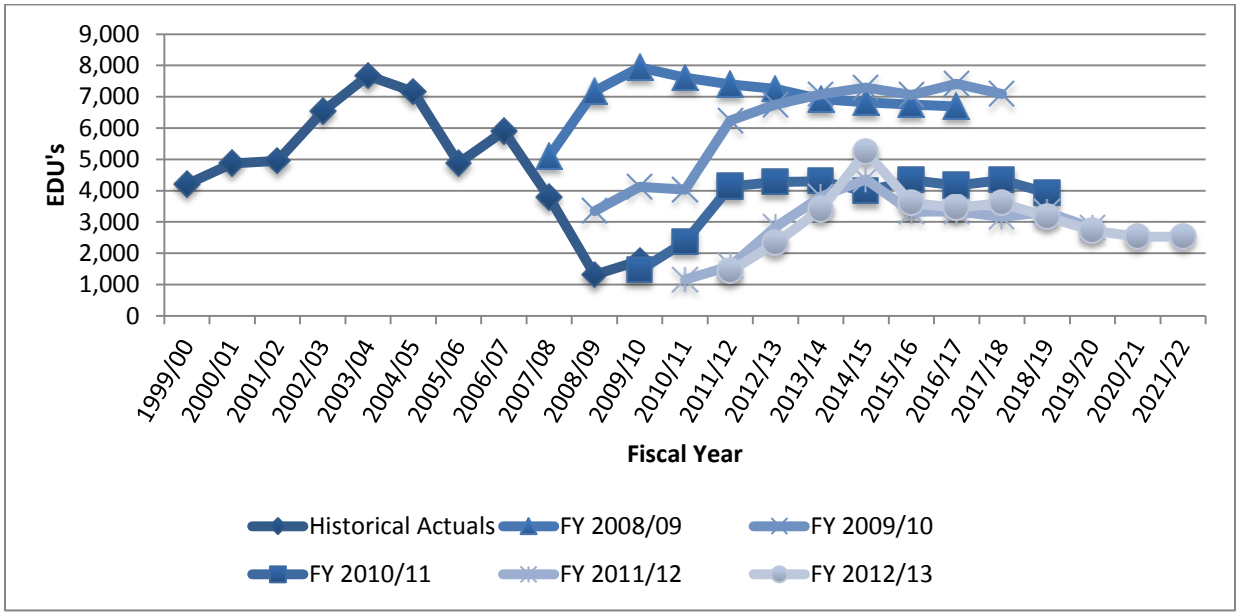


Table 2-4 presents the TYCD forecast by land use. Over the next ten years, building activity is projected to be approximately 73% residential and 27% commercial/industrial by EDUs.

TABLE 2-4
FY 2011/12 TEN-YEAR CAPACITY DEMAND FORECAST BY LAND USE

Fiscal Year	Residential	Commercial	Total
2012/13	1,218	1,110	2,328
2013/14	2,421	979	3,400
2014/15	4,052	1,184	5,236
2015/16	2,755	846	3,601
2016/17	2,592	862	3,454
2017/18	2,701	898	3,599
2018/19	2,338	829	3,167
2019/20	1,987	739	2,726
2020/21	1,851	679	2,530
2021/22	1,851	679	2,530
Totals	23,766	8,805	32,571

2.4 Ten-Year Wastewater Flow Forecast

Table 2-5 presents the Contracting Agencies TYCD Forecast by water recycling plant. For the purposes of this report, the current service areas of each reclamation plant were used to allocate projected sewage flows. With the completion of RP-4 expansion (7 – 14 MGD) and the completion of the San Bernardino Interceptor and Pump Station, staff continues to work on how to optimize the Agency's flows to maximize recycled water deliveries while minimizing overall pumping and treatment costs. This will also help relieve some of the potential capacity issues at CCWRP, RP-5, RP-2, where the majority of the Agency's growth is forecasted to occur. The impact of these changes will be evaluated as part of the preparation of the TYCIP.

Consistent with the Regional Contract assumption that the average flow is 270 gpd/EDU, the TYCD forecast predicts an additional flow associated with new development of about 9.2 MGD for the entire service area. Due to the New Model Colony development, the RP-5 service area is projected to experience the largest increase in sewage production at about 5.1 MGD. This is higher than last year's estimate of 3.7 MGD. The RP-1 and RP-4 service areas are projected to have increased flows of about 2.4 MGD and 1.1 MGD, respectively. The CCWRP service area is projected to experience a lower increase in sewage production of approximately 0.8 MGD.

Flow monitoring conducted by IEUA and the contracting agencies, in recent years, suggests that future growth flows per EDU may be lower than the regional contract level of 270 gpd/EDU (most likely due to water conserving devices being installed in new homes). Monitoring of new development in Chino (The Preserve) has shown a flow factor of 180-220 gpd/EDU. In addition, monitoring data is showing that the strength of the waste has continued to increase with reduced flow factors.

TABLE 2-5
FY 2011/12 TEN-YEAR CAPACITY DEMAND FORECAST BY REGIONAL RECYCLED WATER PLANT

Fiscal Year	RP-1		RP-4		CCWRP		RP-5		Total	
	EDUs	MGD	EDUs	MGD	EDUs	MGD	EDUs	MGD	EDUs	MGD
2012/13	566	0.15	279	0.08	341	0.09	1,142	0.31	2,328	0.63
2013/14	725	0.2	329	0.09	306	0.08	2,039	0.55	3,399	0.92
2014/15	1,037	0.28	310	0.08	321	0.09	3,568	1.36	5,236	1.81
2015/16	1,143	0.31	391	0.11	419	0.11	1,648	0.44	3,601	0.97
2016/17	1,020	0.28	372	0.1	379	0.1	1,683	0.45	3,454	0.93
2017/18	1,064	0.29	403	0.11	327	0.09	1,805	0.49	3,599	0.98
2018/19	735	0.2	434	0.12	256	0.07	1,742	0.47	3,167	0.86
2019/20	845	0.23	434	0.12	206	0.06	1,241	0.34	2,726	0.75
2020/21	785	0.21	434	0.12	124	0.03	1,187	0.32	2,530	0.68
2021/22	785	0.21	434	0.12	124	0.03	1,187	0.32	2,530	0.68
Totals	8,705	2.36	3,820	1.05	2,803	0.75	17,242	5.05	32,570	9.21

Note: Projection includes 0.4 MGD of anticipated flow from The Preserve in FY 2014/15.

Alternative flow forecast scenarios, based on the contracting agencies projections, have been developed to evaluate the range of potential future flows. As shown in Table 2-6, if all projected growth occurs at an average rate of 270 gpd/EDU, then the additional flow would be 9.2 MGD by FY 2021/22. If all projected growth occurred at an average rate of 200 GPD/EDU, then the additional flow would be 6.9 MGD by FY 2021/22. Given that current wastewater flow is approximately 53.2 MGD, the range of total projected flows in ten years is approximately 60.1 MGD to 62.4 MGD.

TABLE 2-6
ALTERNATIVE FLOW SCENARIOS – NET INCREASE BETWEEN FY 2016/17 AND FY 2021/22

Flow Alternatives	Additional Flow FY 2016/17	Additional Flow FY 2021/22	Total Flow FY 2021/22	% Capacity Used*
Forecast EDU's @ 270 GPD	5.3 mgd	9.2 mgd	62.4 mgd	73%
Forecast EDU's @ 200 GPD	4.0 mgd	6.9 mgd	60.1 mgd	70%

*Assumes a region-wide capacity of 85.7 mgd.

Exhibits I through V at the back of this report show the flow projections for each individual facility and the Agency as a whole in graphical form. These projections are based on the Agency's budgetary estimates of EDU growth. Figure 2-7 below shows a comparison of projected wastewater flows using the original Contracting Agency estimates and the budgetary estimates.

Figure 2-8 provides the same comparison using a flow factor of 270 gpd/EDU. The upper horizontal solid line is the combined capacity of the Agency's water recycling facilities. Regardless of which flow factor and which growth forecast is used, the treatment capacity is adequate for the projected flows.

FIGURE 2-7
10-YEAR FLOW FORECAST (200 GPD/EDU)

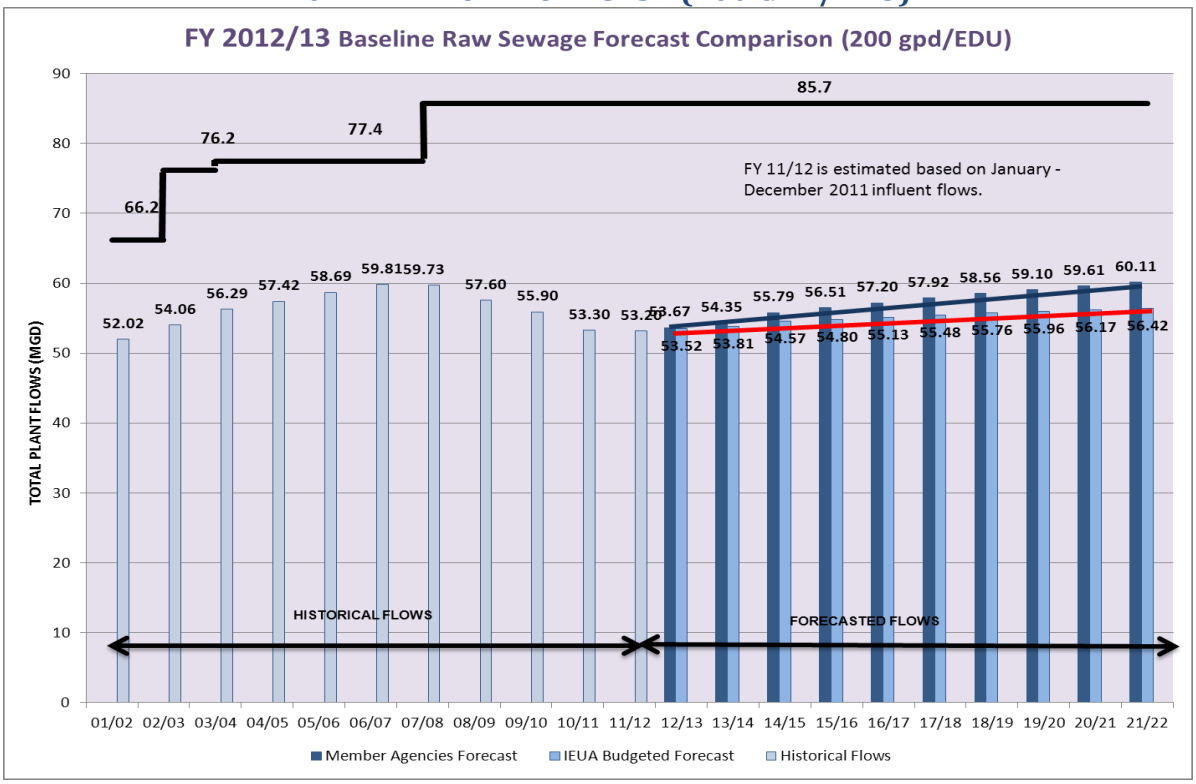
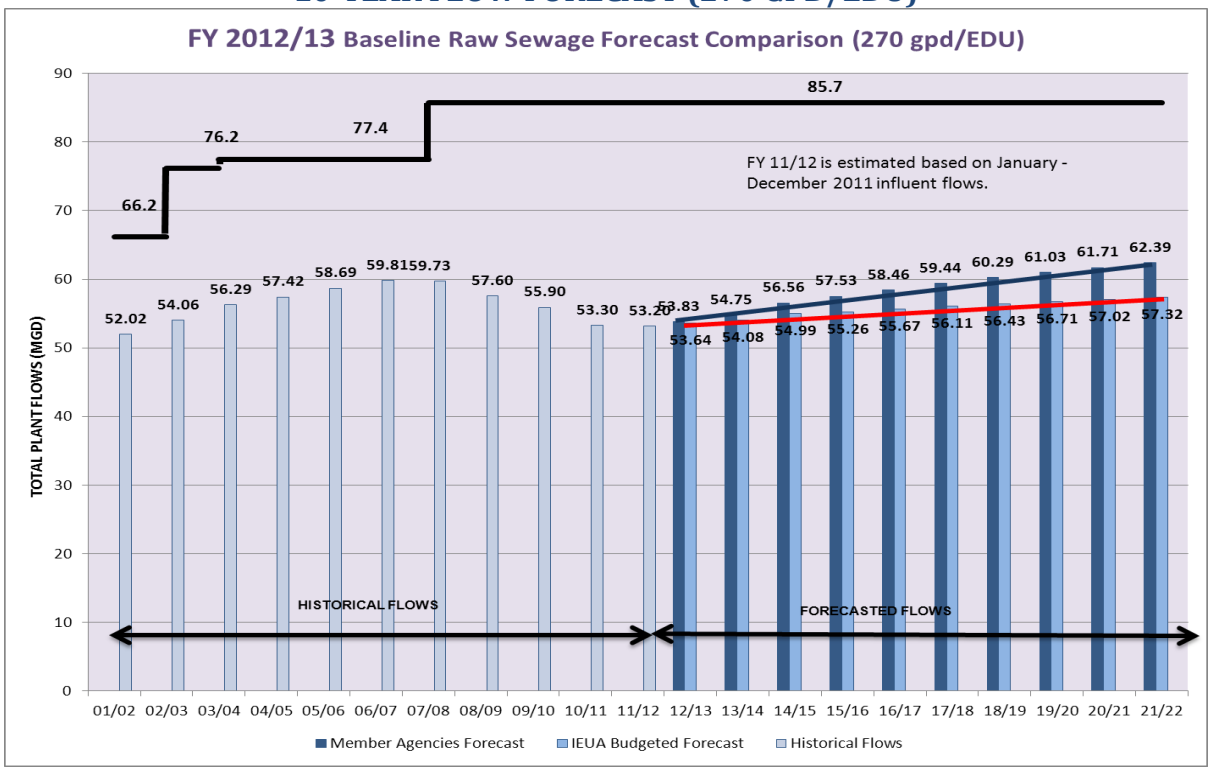


FIGURE 2-8
10-YEAR FLOW FORECAST (270 GPD/EDU)



2.5 Capacity Utilization Forecast

Table 2-7 presents the Ten-Year Capacity Demand Forecast by regional water recycling plant. The current service areas of each Regional Plant were used to allocate projected sewage flows to each plant. Table 2-7 compares the anticipated average regional plant influent flows now (FY 2011/12) and in FY 2021/22. The flows are the expected actual treated flows including bypasses, diversions, and the solids handling liquid recycle stream that is pumped from RP-2 to RP-5. Currently, the total flow is 53.2 MGD.

Table 2-7 Assumptions Looking Forward:

- Assumes 270 gpd/EDU and uses the contracting agencies projected EDU growth
- Former Ontario Lift Station flow (2.5 MGD) is considered part of RP-5 raw service area flow
- San Bernardino Lift Station routing 4 MGD (tributary to RP-1) to RP-4
- All Montclair Interceptor flows (4.0 MGD) are assumed to be routed to RP-1 (although winter months flows are typically split 50/50 to RP-1 and CCWRF)
- 2.0 MGD of solids handling side-stream flow is recycled from RP-2 to be treated at RP-5

TABLE 2-7
REGIONAL SYSTEM FLOW AND CAPACITY UTILIZATION SUMMARY (MG)

	FY 2011/12 Estimate			FY 2021/22 Projection		
Regional Water Recycling Plant	**Plant Influent Flow**	**Plant Rated Capacity**	**Percent Capacity Utilization**	**Plant Influent Flow**	**Plant Rated Capacity**	**Percent Capacity Utilization**
RP-1	27.80	44.0	63%	30.15	44.0	69%
RP-4	10.00	14.0	71%	11.03	14.0	79%
CCWRP	7.10	11.4	62%	7.86	11.4	69%
RP-5	8.30	16.3**	51%	13.36	16.3	82%
IEUA Total	53.20	85.7	62%	62.39	85.7	73%

*Note: Projections are based on the member agencies EDU growth scenario and 270 gpd/EDU.
**Note: RP-5's current discharge permit establishes the plant's rated capacity, including recycle flows, at 16.3 MGD.

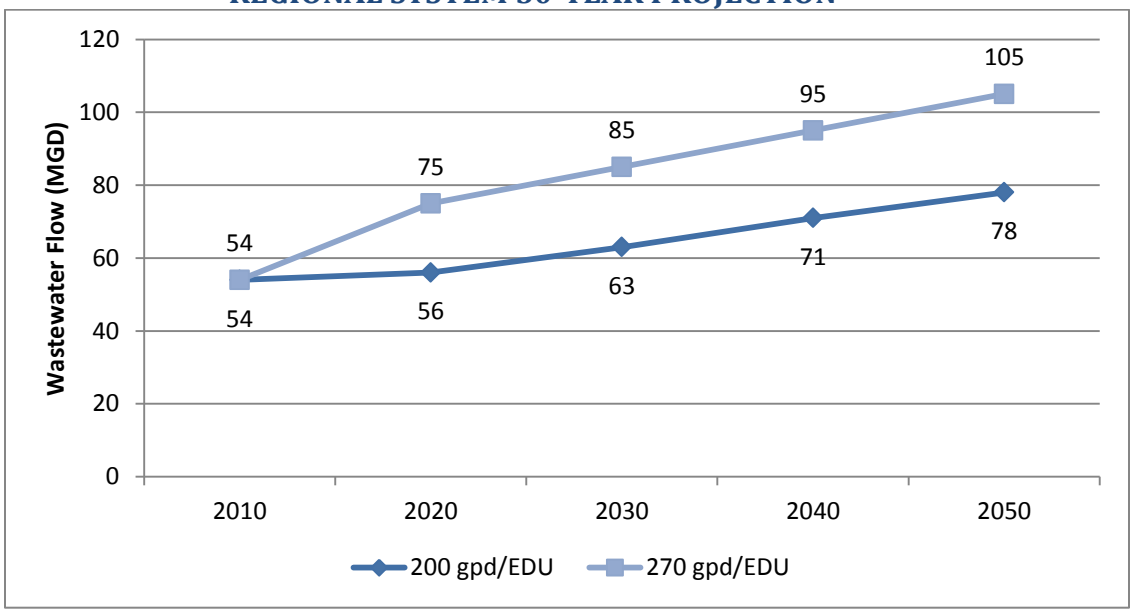
As shown in Table 2-7, the forecasted total system flow for FY 2021/22 is 62.39 MGD, including the recycle stream from RP-2 to RP-5. The overall treatment plant capacity utilization is expected to be 73% at the end of the ten year planning period. Agency-wide capacity utilization will be balanced

and optimized between facilities to achieve the lowest operational cost while satisfying recycled water demands and water quality requirements. This will be accomplished using the bypass and diversion capabilities discussed in Chapter 1. As reflected in Table 2-7, it is likely that capacity utilization at RP-4 and RP-5 will be selectively higher than at the other water recycling facilities, with the operational goal being to supply recycled water to the users with the least amount of pumping energy.

2.6 Fifty-Year Flow Projection

As indicated in Figure 2-9 ("Regional System 50-Year Flow Projections"), wastewater flows have been projected to reach somewhere between a low of 78 MGD to a high of 105 MGD by the year 2050. These projections were developed considering current, historical and future growth information, as well as 2010 Urban Water Management Plan population projections. The lower projection uses 200 gpd/EDU and the higher projection uses 270 gpd/EDU. Conservation, water use efficiency, new 20% by 2020 legislation and additional flow monitoring will all play a part in achieving the lower projected ultimate flows.

FIGURE 2-9
REGIONAL SYSTEM 50-YEAR PROJECTION



*Note: Projections after 2030 are based on a 1%/year increase in population.

2.7 Wastewater Facilities Master Plan Update

The current Wastewater Facilities Master Plan that IEUA is operating under was developed in 2002. Since 2002, there have been substantial changes to the service area land use, water use, population estimates and wastewater flow projections. In conjunction with the anticipated increase in growth within the service area, an update to the Wastewater Facilities Master Plan has been scheduled for FY 2014/15. This will include supporting CEQA documentation as well.

3.0 REGIONAL PROGRAM CAPITAL IMPROVEMENT PLAN SUMMARY

3.1 Regional Program Overview

IEUA's Regional Program encompasses the activities associated with construction and replacement of the Agency's wastewater, energy generation, and solids handling facilities. It includes the Regional Sewerage System consisting of the sewage collection trunk lines and pump stations, the wastewater treatment and disposal facilities, the recycled water production facilities, and also the facilities for generating energy and recycling biosolids.

The capital improvements planned for the Regional Program are consistent with the recommendations in the Agency's Wastewater Facilities Master Plan (adopted in 2002). A basic requirement of the capital improvement program is to keep pace with the needs for wastewater treatment and solids handling capacity based on future growth projections provided by the Contracting Agencies and managing Assets at all the facilities. The adequacy of the capital improvement program is demonstrated by the projected flow and capacity comparisons for individual regional plants presented in Exhibits I through V at the end of this report. The forecasted flow curves are adjusted to take into account the Agency's ability to make planned diversions within the system to optimize the use of existing facilities.

3.2 IEUA Regional Facilities

IEUA's Regional System includes 90 miles of regional sewage interceptors. The sewage lateral pipelines are owned and maintained by the individual contracting agencies. All of the wastewater is treated at IEUA's regional water recycling plants (RWRPs), which provide advanced tertiary treatment that meets or exceeds all California Department of Public Health Services (Title 22 regulations) and California Regional Water Quality Control Board waste discharge permit requirements.

3.2.1 Regional Water Recycling Plants

Figure 3-1 illustrates the service area boundaries for IEUA's four RWRPs. The four Regional facilities are: Regional Plant No. 1 (RP-1), Regional Plant No. 4 (RP-4), Regional Plant No. 5 (RP-5), and Carbon Canyon Water Recycling Plant (CCWRP). The biosolids produced at RP-4 and RP-1 are thickened, digested, and dewatered at solids handling facilities located at RP-1. Similarly, the CCWRP and RP-5 biosolids are treated at Regional Plant No. 2 (RP-2). The stabilized and dewatered

solids are 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 being used only for processing solids from RP-5 and CCWRP. Biosolids processing at RP-2 will continue until the plant reaches the end of its useful life or until the RP-2 land can no longer be leased from the U.S. Army Corps of Engineers. Some land at RP-5 has been reserved for future solids processing facilities.

3.2.2 Regional Interceptor System

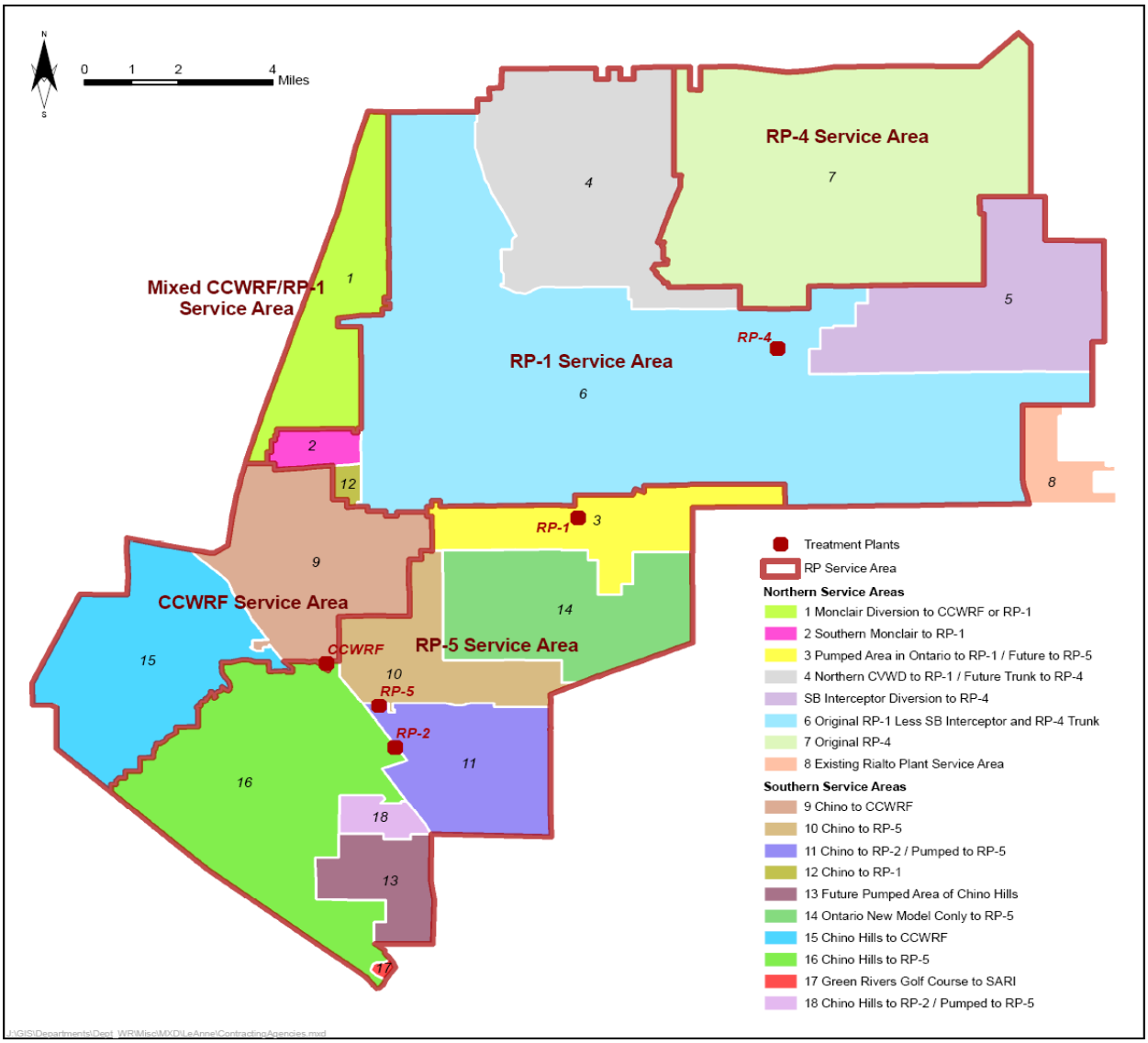
IEUA has a network of regional interceptor sewers that can be used to bypass flow from one water recycling plant to another to balance and optimize the use of treatment capacity. Currently, the regional interceptors can bypass flow from RP-4 to RP-1 and from CCWRP to RP-5. In addition, primary effluent can be bypassed from the RP-1 equalization basins to RP-5. Figure 3-2 illustrates the existing regional trunk wastewater system and tributary areas. The main routes for bypassing/diverting flow are:

- Operators can bypass up to 6 million gallons per day (MGD) from RP-4 to RP-1 through the Etiwanda Interceptor.
- Operators can bypass flow from CCWRP to RP-5 through the Chino Interceptor-- typically 1 to 2 MGD.
- A portion of the flow from the Cities of Upland and Montclair (about 4 MGD) can be diverted either to CCWRP, through the Westside Interceptor, or to RP-1, via the Montclair Lift Station and Montclair Interceptor. Typically, most of the flow is routed to CCWRP to avoid pumping costs.
- Primary effluent and sludge can be diverted from the RP-1 equalization basins into the Eastside Interceptor and then it flows by gravity to RP-5. Up to 9 MGD could potentially be bypassed; however, operational experience has shown that 1 to 2 MGD is currently the optimum in terms of wastewater treatment plant performance.

As shown on Figure 1-3, IEUA has four wastewater lift stations:

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

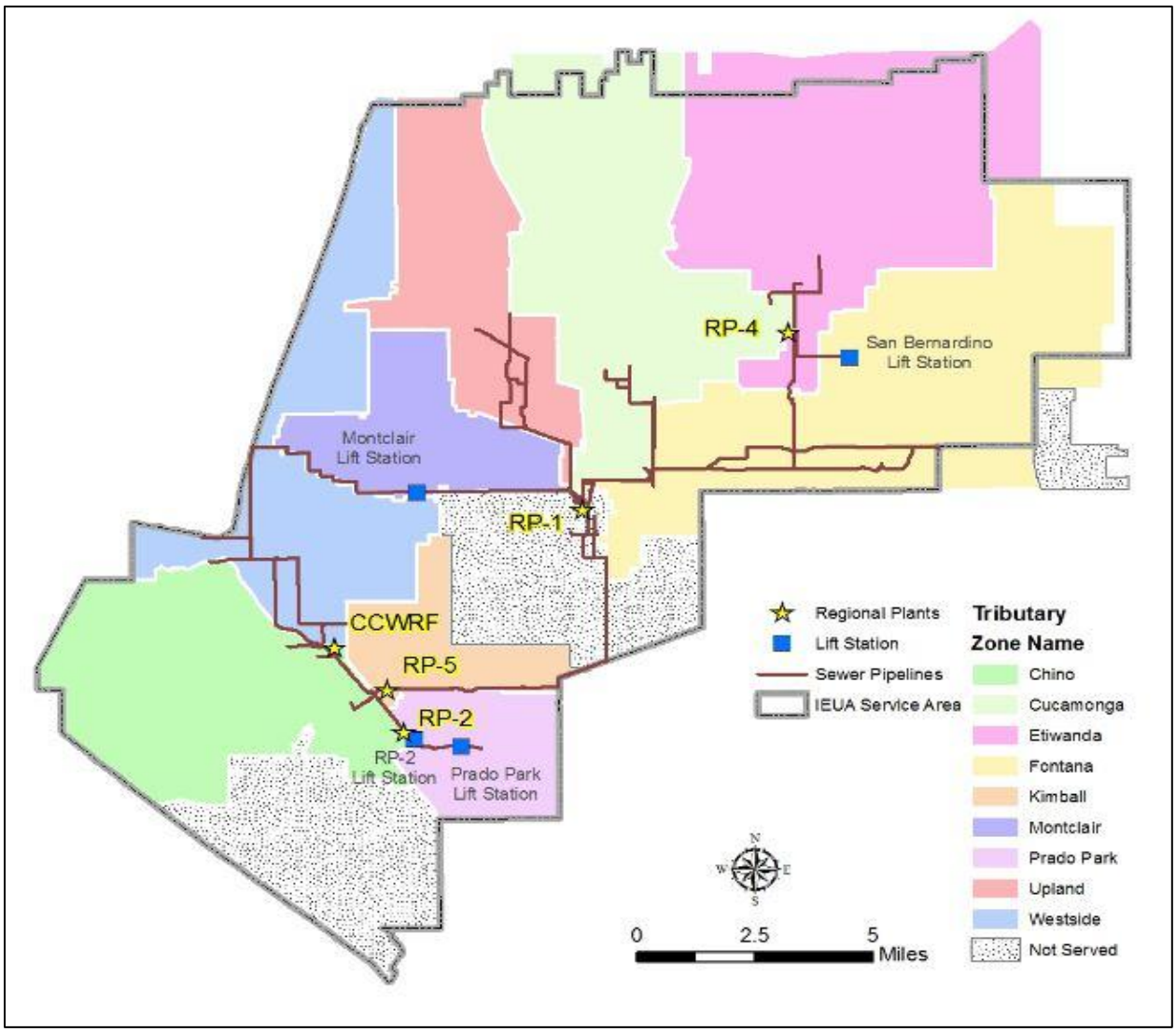
FIGURE 3-1
REGIONAL PLANT SERVICE AREA BOUNDARIES



3.3 Regional Program Capital Projects

The current Regional Program emphasis is on repair and replacement of existing equipment and structures, providing system redundancy where needed to guarantee performance and compliance, and achieving energy sustainability. This year's Regional Program Ten-Year Plan recommends $101.8 million in capital project expenditures, including $49.5 million in the Regional Capital (RC) Fund and $52.3 million in the Regional Operations (RO) Fund. The largest projects (in terms of costs over the next ten years) are listed in Table 3-1.

FIGURE 3-2
EXISTING REGIONAL TRUNK WASTEWATER SYSTEM & TRIBUTARY AREAS



There are no plans in the next ten years to expand the flow capacity of any of the Agency's Regional Wastewater Facilities.

The following projects will be completed in FY 2011/12:

- Facilities SCADA Master Plan
- RP-1 Dewatering Facility Expansion (EN06015.00)
- RP-1 Digester Gas Condensate Sump Improvements (11038.00)
- RP-1 Odor Control Improvements to Phase 1B (PL03006.00)
- TP-1 (RP-1) SBS Pump Improvements (EN07006.04)
- RP-1 Outdoor Lighting Replacement - First Phase (EN11040.00)
- RP-1/RP-2 Boiler Replacements
- RP-1 Fuel Cell Power Purchase Agreement Project (EN10012)
- CCWRP Tertiary Filters Rehabilitation (EN11032.00)

- CCWRP 12KV Switchgear Repair
- RP-4 Emergency Lagoon Repairs (EN11045)
- RP-4 Wind Turbine (EN11001.00)
- RP-5 SHF/REEP Lease – Phase 1 (EN09023)
- RP-5 SHF Digester Cleaning (EN06020.27)
- HQ Parking Lot Repairs (EN11055)
- HQ Crack Repairs (EN1056)
- HQ Perimeter Drainage Improvement (11057)
- IERCF Amendment Hopper Sliding Plate (RA11003)
- IERCF Backup Power Generator (RA08003)

TABLE 3-1
REGIONAL WASTEWATER PROGRAM—MAJOR CAPITAL PROJECTS

Project Number	Project Title	FY 11/12 Projected Actual	FY12/13	FY 13/14	FY 14/15	FY15/16 - FY21/22	Total TYCIP FY12/13-FY21/22
EN13015/ EN08013/ EN08023	Asset Improvement and Replacement	$1.2 M	$4.0 M	$4.0 M	$4.0 M	$28.0 M	$40.0M
EN11017	Capital Upgrades RP-1, RP-2, CCWRP, RP-4, RP-5	$3.7 M	$2.0 M	$2.0 M	$2.0 M	$14.0 M	$20.0 M
EN06015	RP-1 Dewatering Facility ExpansionProject	$6.5 M	$0.2 M	-	-	-	$0.2 M
EP13001/ EP13002	Major Facilities Repairs & Replacement Project	$0.5 M	$1.2 M	$1.0 M	$1.0 M	$7.0 M	$10.2 M
EN13300/ EN13006/ EN13009	Misc. Wastewater Construction & Emergency Projects	$0.4 M	$0.7 M	$0.6 M	$0.6 M	$4.2 M	$6.1 M
EN11042	RP-1 Flare & RP-1/RP-2 Boiler Replacements	$0.1 M	$1.2 M	$0.2M	-	-	$1.4M
EN08009	New Operations Laboratory	-	.1	.1	.1	$14.9 M	$15.2 M
	Total—Major RC/RO Projects	**$12.4 M**	**$9.4 M**	**$7.9 M**	**$7.7 M**	**$68.1 M**	**$93.1 M**
	All RC/RO Projects	**$16.8 M**	**$15.7 M**	**$9.1 M**	**$8.5 M**	**$68.5 M**	**$101.8 M**

The Agency's facility control systems are over 20 years old and large portions are coming to the end of their useful lives. The Facilities SCADA (Supervisory Control and Data Acquisition) Master Plan, completed in FY 2011/12 was undertaken to address the issue of the aging Control Infrastructure as part of the Agency Automation Program. The Master Plan identified a migration from the current Invensys Foxboro Distributed Control System (DCS) to a Rockwell Automation SCADA system for a

robust Agency-wide Enterprise solution. The design phase of the Agency SCADA Migration Project will begin in FY 2012/13 and will be followed by 5 projects over 5 years for a total budget of $10 million.

Other capital projects in the Regional Program TYCIP relate to essential system and equipment repair, replacement and upgrade.

The major projects are further defined below:

- Asset Improvement and Replacement (EN13015, EN08013, and EN08023)(RO Fund)
  - $4 M average per year for designing the replacement of wastewater equipment or processes at any of the Regional Wastewater Facilities at end of useful life. Includes phased repair or replacement of essential equipment and major processes based on the priorities and schedule identified during the detailed 2005 RP-1 Condition Assessment Study, as well as evaluation of detailed physical condition assessments for critical risk systems identified in FY 2011/12 plant assessments.
  - Examples: RP-4 headworks improvements (new bar screens and gates); CCWRP blower controls upgrade; the existing Invensys Foxboro distributed control system (DCS) has a significant number of components reaching their useful end-of-life and will require replacement. The facilities Supervisory Control and Data Acquisition (SCADA) masterplan shows a migration to a new platform as the way to address the necessary replacements. Facility lighting improvements; Chemical pumps control upgrade; Air diffusers replacement.
- Major Facilities Repairs and Replacement (EP13001/EP13002)(RO Fund)
  - Average $1 M per year for purchase and replacement of major equipment and facilities at end of useful life as a maintenance function (similar to EN08013 except these projects do not require engineering support for preparation of construction drawings).
  - Examples: Digester cleaning, Asphalt and roofing repairs; critical spare equipment; projects to address operation and maintenance emergencies.
- Miscellaneous Wastewater Construction and Emergency Projects (EN13006, EN13009 and EN13300)(RC Fund)
  - $0.6 M per year for emergency engineering and construction projects
  - Examples: Emergency projects not foreseeable through the normal planning process including regional sewers, CCWRP sodium hypochlorite containment, Concrete saddles over sewers crossing Union Pacific Rail Road, Kimball interceptor manhole adjustment, Traffic control design services, Surveys, Permits. These are examples of projects done in the past.
- RP-1 Dewatering Facility Expansion Project (EN06015) (RC Fund)
  - Consists of a new building, new centrifuge technology for dewatering, and additional sludge storage; is currently in construction and is scheduled for completion in FY 2011/2012.
- RP-1 Flare and RP-1/RP-2 Boiler Replacements (EN11042)(RC Fund)

- Two boilers at RP-1 and one boiler at RP-2 must be replaced in FY2011/12 to satisfy South Coast Air Quality Management District (SCAQMD) Rule 1146. The new boilers will have low-NOx burners and will have enough capacity to accommodate the future digester heating requirements.
- Existing RP-1 flare (waste gas burner) will not meet anticipated increased gas production and will require an additional flare for the increased capacity. The design for the additional flare is currently underway.

- Capital Upgrades at RP-1, RP-2, CCWRP, RP-4 and RP-5 (EN11017) (RC Fund)
  - $2 M average per year for regulatory, safety, or redundancy for essential systems at Regional Wastewater Facilitiesagency-wide.
  - RP-1 upgrade projects:
    - HVAC improvements for motor control centers, lab and control rooms; RP-1 lab boiler upgrade/replacement
    - Aeration ducting repairs
    - RP-1 digester gas condensate sump improvement
    - TP-1 disinfection pump improvements
  - CCWRP upgrade projects:
    - Tertiary filter media & pumps replacement
    - Odor control system replacement
    - 12KV switchgear repair
  - RP-4 upgrade projects:
    - RP-4 headworks retrofit
    - RP-4 backup generator analysis
  - RP-5 upgrade projects:
    - Upgrade chemical metering pumps
  - Agency-wide HVAC and server room fire suppression
    - Identify the 3 most critical areas that need HVAC replacement (in kind) or upgrades and the most critical server rooms that need fire suppression for completion during FY 2012/13. The remaining HVAC improvements and server rooms' fire suppression will be done in following years.

3.3.1 Northern Service Area (RP-1, RP-4)

In general, the RP-1 projects in the TYCIP involve energy efficiency and modernization of facilities. The RP-1 projects which involve major expenditures in the next two fiscal years fall under the Asset Management Program. They include: HVAC replacement and upgrades at various locations; RP-1 Flare addition; RP-1 Asset Replacement; and miscellaneous capital upgrades. These projects all focus on maintaining facilities at RP-1 to ensure that performance standards and regulatory requirements are met. Several of the electrical rooms, server rooms and buildings have HVAC systems that have reached the end of their useful life and need to be replaced. Replacement of these systems will result in better performance and longevity of the equipment in the buildings.

The RP-1 Asset Replacement Project will also have a major impact on the aging infrastructure within the RP-1 facility. The project was initiated in July 2006 to implement several of the

recommendations of the RP-1 Condition Assessment Study conducted by Metcalf and Eddy in 2005. The study evaluated all of the major equipment and provided a prioritized list of improvements that needs to be completed for the facility over a ten-year time period. Improvements included repairs, rehabilitation or studies to assess the condition of the equipment and devise a proper response as needed. The project was divided between three phases to address the items by priority level. The recommendations are being implemented over six years, starting in FY 2009/10, with most of the construction occurring in FY 2010/11 and beyond.

The Agency has entered into a power purchase agreement (PPA) using Fuel Cells to generate 2.4 MW of power at RP-1 in lieu of using internal combustion engines. The fuel cell project is expected to be in operation by the end of FY 2011/2012. The Agency has also entered into a PPA using wind turbines as an alternative energy source at the RP-4 facility to generate 1MW of power. The wind turbine is currently operational and producing power. Wind power is a green energy source that is becoming more viable for small to medium-sized facilities.

3.3.2 Southern Service Area (RP-2, RP-5, CCWRP)

The Agency is in the process of doing a full condition assessment of CCWRP. This is one part of the overall Asset Management Process that will be integrated into SAP, the Agency's Enterprise Resource Management System.

CCWRP Aeration blower ducting was identified as a project that would dramatically improve energy efficiency of the system. The project is currently in the construction phase and will be completed by the end of this fiscal year.

The only major project specifically planned for the RP-2 biosolids handling facility is the RP-1 & RP-2 Boiler Replacement Project. This project is necessitated by the South Coast Air Quality Management District (SCAQMD) Rule 1110.2. More on this regulation and its impact on the Agency is found in the Emerging Planning Issues Chapter of this TYCIP. Eventually, when the solids handling capacity at RP-2 is exceeded or the RP-2 facilities reach the end of their useful life, the Agency intends to move the Southern Service Area's biosolids handling operations to the RP-5 SHF. In the meantime, IEUA has negotiated a PPA for converting and using the RP-5 SHF as a processing facility for food waste with use of the resulting biogas for power generation. The plans for the facility are in the design, testing and permitting phase.

Although it is not expanded within the ten-year window of the TYCIP, RP-5 is expected to be the first wastewater plant to reach its rated capacity because of the high growth potential in the Southern Service Area. Future projects, outside the ten-year window, such as re-commissioning of the Whispering Lakes Lift Station, have been identified and may be implemented as necessary to alleviate flow from RP-5. The CCWRP has been re-rated to a higher capacity, which will alleviate some flow from RP-5.

3.4 Asset Management Program

The purpose of the Agency's Asset Management Program is to develop a comprehensive roadmap to address IEUA's infrastructure challenges. The Agency has invested significant resources in each

of the facilities. With this investment, the Agency places the highest importance on maintaining established "Levels of Service" and preserving asset reliability while protecting the health and safety of staff and the public.

The Asset Management Program consists of fundamental steps to assemble a comprehensive list of assets and to identify their respective criticality to the successful operations of the Agency. The determination of an assets' criticality rests with its capacity to maintain the Levels of Service the Agency provides to its member agencies. Assets with the greatest criticality are the subject of detailed condition assessments. Information collected from the condition assessments aid in the management of the asset, both in fine-tuning preventive maintenance programs and identifying capital rehabilitation projects.

Levels of Service serve to guide the development of the management strategies by aligning risk and economic factors. Through this alignment, the Agency is able to prioritize its use of funds and resource assignments to meet its customer-focused objectives. Preliminary information and data indicate the Agency should consider reserving $15 million each year for the preservation of the Agency's assets.

The Agency anticipates startup expenses for the Asset Management Program to be higher than for an established program. Deferment of capital improvements contributes to the Asset Management Programs startup expenses. Further development of the Asset Management Program will consider additional factors such as an asset's remaining useful life and replacement cost to provide better resolution of an assets criticality.

Beginning in FY 2011/12, the Asset Management Program focused on developing a relatively quick and responsive method to review and document the criticality of systems at each facility. Systems identified with a high-risk signature were placed on the pending capital projects list for full condition assessment. The following facilities were recommended for further evaluation and condition assessment:

- Linear assets at CCWRP;
- Electrical System at RP-5; and
- RP-2 Lift Station.

Continuing criticality assessments at RP-1, RP-4, IERCF and the desalters will be completed in FY 2012/13. These assessments will be the base for generation of future capital projects.

3.4.1 Asset Management Program History

IEUA's Asset Management Program began in 2004 when the Board of Directors and the Management Team took the initial steps in adopting an Asset Management Program for the condition assessment of the Agency's physical assets. The Agency adopted "Development of an Asset Management Strategy and Program" in its FY 2005/06 Budget. Additionally, the Board requested to include an Asset Management Program in the Agency's Mission Statement. The four major objectives for IEUA's asset management program include:

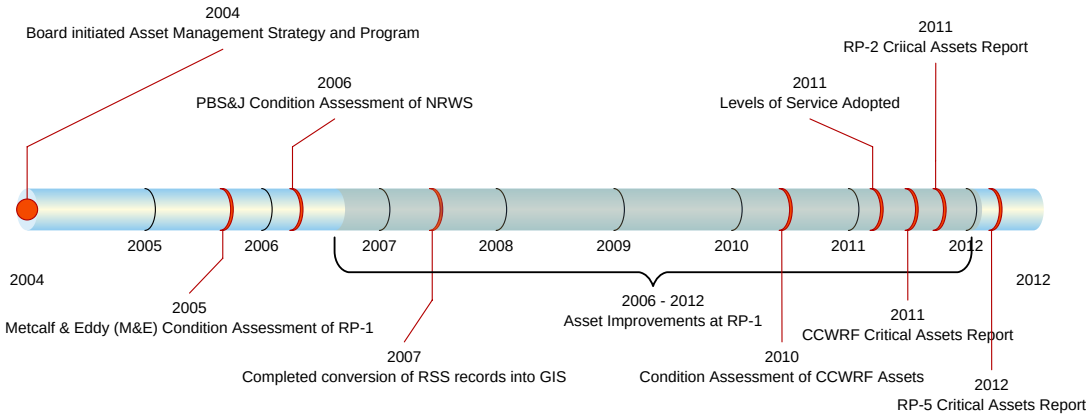
- Identify and compile an inventory of the Agency's major capital assets;
- Assess the current condition and remaining useful life of each asset;
- Identify rehabilitation and replacement needs and costs for the physical assets; and
- Develop a replacement capital improvement plan and replacement reserve policy.

In 2006 a revised work plan developed for IEUA's Asset Management Program involved the following objectives:

- Identify and create an inventory of the Agency's "major" capital assets;
- Assess the current condition and remaining useful life of each piece of asset;
- Evaluate, select and possibly procure asset maintenance management tools;
- Identify rehabilitation and replacement capital improvement plan;
- Institute a replacement reserve policy; and
- Develop an asset management system implementation plan.

The following timeline (Figure 3-3) illustrates the asset management activities and accomplishments since its inception.

FIGURE 3-3
ASSET MANAGEMENT TIMELINE



3.4.2 Aging Assets

IEUA collects and treats wastewater to produce recycled water within the five (5) major treatment plant facilities in its service area as follows:

1. RP-1, the oldest plant built in 1948
2. RP-2, treating solids only, began operations in 1960
3. CCWRF, commissioned in 1992
4. RP-4, originally built in 1997 and expanded in 2009
5. RP-5, the most recently constructed plant, in service in 2004

Based on the Level of Service that IEUA strives to provide, a strong Asset Management Program must be in place to cope with the challenge of maintaining the aging infrastructure within those plants. IEUA assets have been estimated as high as one billion dollars based on replacement cost. Industry standards suggest between one and three percent of an agency's assets be replaced per

year to maintain an adequate asset management program. The FY 2012/13 – FY 2021/21 TYCIP allocates slightly more than one percent per year for asset replacement.

The Agency continues to focus efforts to improve business processes that utilize the Agency's enterprise software tools to capture assets, including all related equipment specifications, performance characteristics, and financial data. Through an integrated process, the Agency expects to derive a holistic view of assets that support decision making in various areas such as maintenance programs, business case evaluation, and long term financial planning.

3.4.3 Asset Management Program Possibilities

The IEUA's Asset Management Program currently employs basic asset management concepts such as Levels of Service, Risk, Consequence of Failure, and Probability of Failure. The employment of simple and basic concepts ensures that the beginning and start of the program is easy to understand and comprehend by all staff. The program will begin to add additional sophistication such as remaining useful life and replacement costs. The addition of these concepts allows the identification of critical assets with more precision. The following table illustrates what the program has accomplished and what the Asset Management Team would like it to fulfill in the future.

IEUA Asset Management Program

Current Capabilities	Future Capabilities
Identify critical systems	Routine identification of Capital Improvement Projects
Tracking maintenance records to identify critical assets	Recommend the proper level of financial reserves to maintain Levels of Service
Recommend detailed condition assessment of Agency critical assets	Develop trend analysis
Critical Assets Reports for CCWRP, RP-2, RP-5, and RP-4	Identify critical equipment
Development of the Asset Risk Signature	Establish triggers for repair and replacement
Provided exposure of Asset Management concepts to Agency Staff	Promote the employment of proven equipment
	Develop historical life expectancy of assets
	Enhance the knowledge base of the Agency
	Ensure asset database accuracy and totality

3.4.4 Prevention of Escalating Costs

According to the National Association of Clean Water Agencies, the Association of Metropolitan Water Agencies, and the Water Environment Federation, asset management can reduce the operating and maintenance costs and long-term capital expenses by preserving facility efficiency and avoiding unnecessary investments. In addition, collateral costs from system failures, such as emergency restoration, damage to private property, lawsuits, and fines are minimized or eliminated. Timely rehabilitation extends the life of infrastructure assets and reduces long-term

replacement needs. Asset management practices help to identify the optimal point at which an asset should be replaced, thus minimizing overall life-cycle costs.

3.5 Organics Management

Even though wastewater flows within the Agency's service area have been decreasing in the last three years, the amount of organic matter and suspended solid materials in the wastewater that must be treated is roughly the same. Once the RP-1 Dewatering Facility Expansion Project is completed in 2012, IEUA will have enough solids handling capacity for the next ten years.

IEUA's long-range plans for treating and utilizing biosolids as well as addressing the problems of dealing with manure and wood waste generated within its service area were addressed in the Chino Basin Organics Management Business Plan, dated May 31, 2001 and related Organics Management Strategy Technical Memoranda. The Business Plan was developed to be consistent with IEUA's mission to protect public health, the groundwater basin, and the environment (e.g., reduces air pollution and improves water quality).

Included in the Business Plan was a local organics recycling program that includes the local communities as partners to divert organic solids from landfill disposal and to be consumers of recycled organic products generated from within the community. IEUA formed a Joint Powers Authority with the Sanitation Districts of Los Angeles County (SDLAC), called the Inland Empire Regional Composting Authority (RCA), to implement the shared goal of development of a sustainable biosolids management project. In 2007, the two joint powers agencies completed the construction of a biosolids composting facility, called the Inland Empire Regional Composting Facility (IERCF). The IERCF is located in Rancho Cucamonga, adjacent to RP-4. This new composting facility replaced IEUA's Co-Composting Facility in Chino, which was closed in 2006, with a state-of-the art facility that 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 IEUA and SDLAC's wastewater treatment processes as well as wood waste from local communities. It produces over 220,000 cubic yards of high-quality compost each year for local landscaping and horticultural use. The composted product, which is marketed as SoilPro Premium Compost, has been 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 construction of the RP-1 Dewatering Facility will use centrifuges to dry solids to a higher percentage. This has the potential of freeing up 50 wet tons per day of additional capacity at the IERCF.

The TYCIP for the RCA includes $10 million of capital improvement, 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 lighting and structure protection evaluations. The lighting and

structural evaluation will result in future projects for improvements in both areas. Future demands and operational issues will determine what specific future capital projects and needed. Any capital maintenance, enhancement, or replacement projects will be jointly analyzed and determined with the SDLAC.

In previous years, the Regional Program Capital Fund budget also included approximately $0.3 million per year for the Agency's share (50%) of capital contributions for the Inland Empire Regional Composting Facility. There is no other IERCF contribution included in the current TYCIP because the composting facility has adequate reserves and the ongoing costs will be covered by tipping fees.

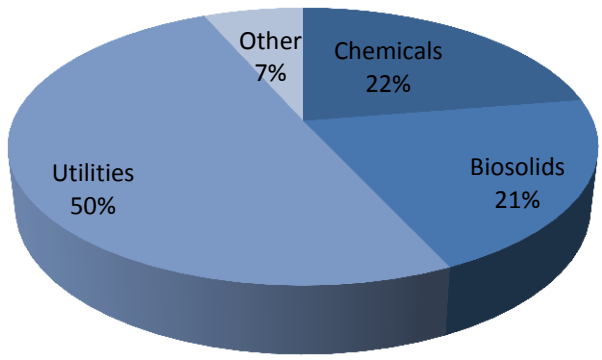
4.0 ENERGY MANAGEMENT

4.1 Background

Water and energy resources are inextricably connected. The transportation and treatment of water, the treatment and recycling of wastewater, and the energy used to heat and consume water account for nearly 20 percent of the total electricity consumed in California. This water-energy nexus is an important factor to consider during both short and long-term planning to achieve energy reliability in a sustainable manner that demonstrates good environmental stewardship.

The Agency currently uses approximately 65,000 Megawatt hours (MWh) of electrical energy annually at its regional water recycling plants (RWRPs) and other facilities at an annual cost of about $8,000,000. Currently, energy costs for these facilities account for approximately 50% of the non-labor operation and maintenance (O&M) costs (Figure 4-1). As population is expected to increase by more than 50% within the Agency's service area through 2030, demand for electricity will increase. The cost of electricity is also expected to continue to climb as it has done historically (averaging approximately 6% per year since 1970). Therefore, sound energy management planning and practices are critical to the Agency's Operations & Maintenance cost containment strategy, as well as meeting regulatory compliance goals, carbon footprint reduction targets and maintaining service reliability.

FIGURE 4-1
IEUA NON-LABOR O&M COSTS



To this end, the Agency has developed an energy management plan with a specific focus on energy independence from the grid during the peak energy use/pricing period (noon to 6:00 PM) by the year 2020 or sooner. This initiative has been titled "Go Gridless by 2020"

(Go Gridless) and will be achieved through a combination of efforts including increased energy efficiency, increased on-site energy generation, optimization of energy procurement strategies and effective energy demand response. The word "gridless" does not imply the Agency would sever ties entirely with the service provider Southern California Edison (SCE), but rather would strive towards relative independence from the grid during peak periods. This strategy contributes to reducing demand on an already taxed California power grid system while enhancing the Agency's energy reliability and rate stability in an environmentally prudent manner. In February 2012, the IEUA Board of Directors officially endorsed support of the Go Gridless plan through the adoption of Resolution No. 2012-2-1, which reads as follows:

> ***WHEREAS,*** *the Agency's vision is "to enhance the quality of life in the Inland Empire by providing optimum water resources management for the area's customers while promoting conservation and environmental protection"; and,*
>
> ***WHEREAS,*** *the Agency will fulfill its mission and vision by demonstrating leadership and expecting "prudent and cost-effective resource planning, management and utilization; innovation in meeting the present and future needs of the Agency"; and,*
>
> ***WHEREAS****, the Agency recognizes that water and energy resources are inextricably connected and account for nearly 20 percent of the total electricity consumed in California; and,*
>
> ***WHEREAS****, the Agency desires to invest in energy projects using fiscally sound funding approaches and public-private partnerships, where applicable, that provide a long term strategy to hedge against energy market volatility; and,*
>
> ***WHEREAS****, the Agency currently uses approximately 65,000 Megawatt hours (MWh) of electrical energy annually at its water recycling and other facilities at an annual cost of approximately $8,000,000; and,*
>
> ***WHEREAS****, the Agency desires to exhibit exemplary environmental stewardship and continue to reduce its carbon footprint; and,*
>
> ***WHEREAS****, the Agency desires to support legislation and policies that promote and incentivize renewable energy and energy efficiency projects; and,*
>
> ***NOW, THEREFORE, BE IT RESOLVED****, the Inland Empire Utilities Agency Board of Directors support pursuing a "Go Gridless by 2020" initiative as detailed in the Energy Management Plan of the Fiscal Year 2011/12 Ten Year Capital Improvement Plan.*

4.2 Electrical Load Gap Analyses

Using 2010 as the baseline, Agency staff performed an energy demand gap analysis identifying 2020 as the target year to achieve peak period grid independence. The baseline data showed that approximately 7,500 kW were purchased by the Agency during peak energy usage hours in 2010. Agency-wide peak energy demand is expected to increase in the future due to increased influent flows, increased recycled water demand and in the near future, the startup of the Centrifuge Project at RP-1. Based on projected increased power demands, a preliminary evaluation was conducted to identify opportunities to employ new projects/technologies and as a way to increase energy efficiency to meet the Go Gridless goal. Potential projects include: additional solar at the Regional Plant No.1 (RP-1), Regional Plant No.2 (RP-2), Regional Plant No.4 (RP-4), Regional Plant No.5 (RP-5), and headquarters; additional wind turbines at the Inland Empire Regional Composting Facility (IERCF) and Carbon Canyon Water Recycling Plant (CCWRP). Table 4-1 and Figure 4-2 summarize the projected impacts of Go Gridless on energy demand at Agency facilities within the TYCIP period.

TABLE 4-1
GO GRIDLESS PLAN

Year	Plant Peak Load [KW]	ICE [KW]	Food Waste to Energy [KW]	Solar [KW]	Wind [KW]	Fuel Cell [KW]	Efficiency [KW]	Purchased (Gap) [KW]
2008	10,070	1,400	0	0	0	0	0	8,670
2011	12,150	1,400	0	2,750	250	0	0	7,750
2012	12,710	400	1,500	2,760	250	2,400	640	4,760
2014	12,915		1,500	4,200	500	2,400	930	3,385
2015	13,020		3,000	4,600	500	2,400	1,100	1,420
2020	13,440		3,000	5,960	600	2,400	1,480	0

4.3 Go Gridless Plan

The Go Gridless plan provides planning and implementation guidelines for the reduction in energy demands from the grid within the Agency.

The cornerstones of Go Gridless are:

- Energy Conservation and Efficiency
- Renewable Energy
- Energy Purchasing
- Project Financing
- Regulatory and Legislation

The outline for Go Gridless is also outlined in Figure 4-3.

FIGURE 4-2
GO GRIDLESS PLAN

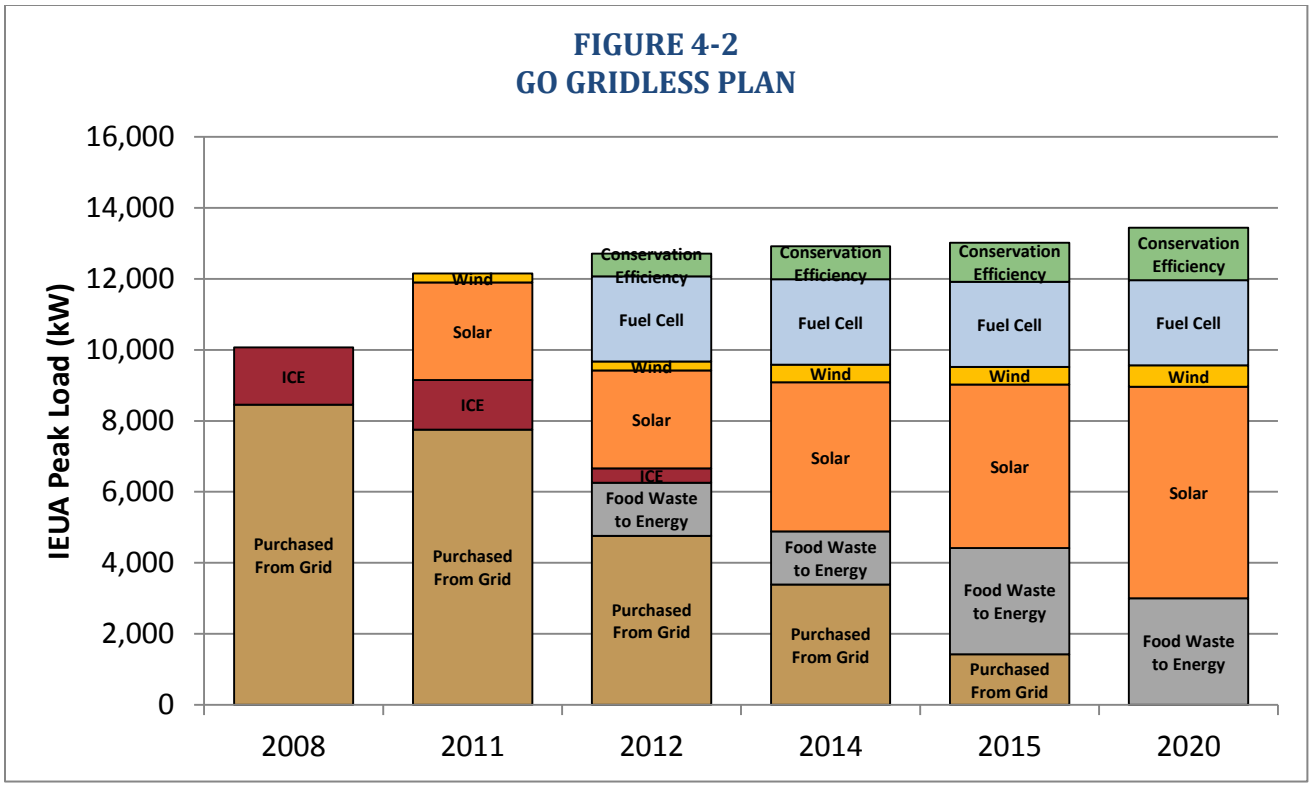
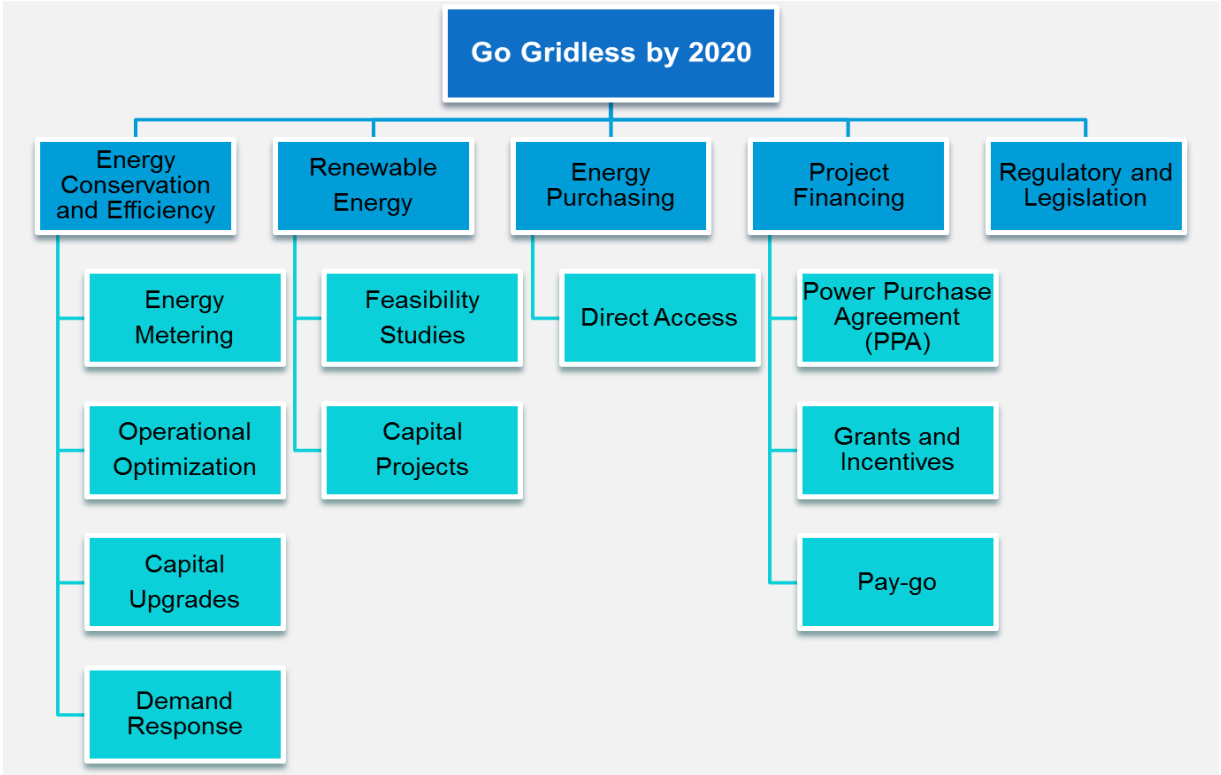


FIGURE 4-3
GO GRIDLESS PLAN



4.3.1 Energy Conservation and Efficiency Planning

Evaluating a facility for energy efficiencies and adopting Go Gridless not only results in reduced O&M costs, but can also result in increased treatment efficiency and capacity. To meet these goals, staff will continue to evaluate all the major process systems and follow through with the development and implementation of the effective energy conservation and efficiency projects. Improvement in this area is a key to reducing the Agency's peak demand (estimated 13% reduction in 10 years).

Some of the key components of the Energy Conservations and Efficiency planning include:

- Energy Usage Evaluation
- Operational Optimization
- Capital Upgrades
- Demand Response

4.3.1.1 Energy Usage Evaluation

When the Go Gridless initiative was started, one of the first efforts was to gain a thorough understanding and itemization of all facility energy uses. A series of detailed evaluations were completed by staff to quantify where and when energy is used at each facility, this information allowed facility staff to identify appropriate candidates for conservation and to determine where energy is being used inefficiently. At many facilities the energy use is recorded at a single metering location. Although this is effective for billing purposes, it does not allow personnel to see the energy used by each individual process.

Implementation and use of energy sub-metering can be a very valuable tool in tracking and therefore optimizing energy usage. The Agency has recently initiated and partially implemented an energy sub-metering program. Sub-metering involves the use of digital meters connected to the SCADA system as a resource to help monitor kW, kWh, amperes, load factor and other units of energy consumption. A combination of sub-meters and load profiling data can help staff understand operating patterns, increase operating efficiency, assist in identifying malfunctioning equipment and reduce energy demand charges. In addition, this electronic data can be brought into the RWRP control systems which will enhance operational control of the facilities, reduce maintenance costs and help prolong operating life of equipment. It is expected that energy costs will be reduced by increasing employee awareness and accountability for energy usage.

The Agency has already implemented sub-metering at each of its recycled water pump stations. The ultimate goal is to implement sub-metering for all high-power/high-use equipment at Agency facilities. The Agency will implement a sub-metering project at each

motor control center during the next fiscal year. Sub-metering will give the Agency visibility in energy usage, which will allow the staff to effectively and efficiently select and participate in certain Demand Response programs.

4.3.1.2 Operational Optimization

A comprehensive energy audit allows a facility to determine the largest, most energy-intensive operations. By determining the energy demands of the various processes and equipment at a RWRP, personnel can look at improving the treatment energy efficiency. The objectives at most facilities are lower energy consumption, demand and costs. In some cases, life-cycle cost analyses can be used to help assess and optimize the selection of individual components and systems.

To the extent allowed by currently available data, performance management tools (i.e., Key Performance Indicators (KPI) and Unit Production Costs (UPC)) are being used to monitor energy use and energy generation at the facilities. These tools are an important component of an effective energy management program. As more data on energy use become available through the implementation of sub-metering, the KPI and UPC tools will be expanded to take full advantage of the information in facility energy audits. The "Go Gridless by 2020 Energy Task Force" will be required to perform a great deal of technical analysis to achieve its goals. The effective use of performance management tools will significantly improve the quality of the technical analysis.

Along with sub-metering information data, an energy audit can determine the most energy-intensive operations. A facility's energy usage can be compared with design or energy usage at similar facilities to identify areas that should be examined further. Once the efficiencies of different pieces of equipment and process operations are determined, the facility can begin to develop energy conservation measures by answering the following questions for each piece of equipment and process:

- Does the process/equipment need to run at all?
- Is it possible to run the process/equipment for fewer hours?
- Is it possible to shift this activity to off-peak hours (for some auxiliary functions)?
- Will process optimization and modifications or equipment upgrades reduce energy usage?
- What equipment is most energy efficient for this process?

The answers to these questions will help determine what processes can be modified or what equipment can be operated more efficiently or replaced to save energy.

4.3.1.3 Capital Upgrades

Agency staff has already targeted a variety of processes that can be upgraded to improve energy efficiency. Nearly 40% of the energy demand at the treatment facilities is from aeration blowers and recycled water pumping. Energy efficiencies have been realized through the installation of high-efficiency pumps, high-efficiency motors and extensive use of variable frequency drives (VFDs). A VFD is an electronic controller that adjusts the speed of an electric motor by modulating the power being delivered. VFDs enable pumps to accommodate fluctuating demand, resulting in operating at lower speeds and conserving energy while still meeting pumping needs. According to the California Energy Commission, VFDs can result in significant energy savings: a VFD can reduce a pump's energy use by as much as 50 percent.

Since energy usage by pump and blower motors account for more than 80% of a RWRP's energy costs, and since high-efficiency motors are up to 8% more efficient than standard motors, it can be expected that upgrading to high-efficiency motors can significantly reduce the facility's energy costs. Design improvements and more accurate manufacturing tolerances are key to the improved efficiencies with these motors. In addition, these motors typically have greater bearing lives, lower heat output and less vibration than standard motors. While high-efficiency motors have a 10-15% higher initial cost, with their lower energy consumption and lower failure rates, these motors are included as a standard requirement in all new purchases and replacements.

Another major source of RWRP energy use, and therefore a focus area for demand reduction, is the aeration systems used to treat the wastewater. Fine bubble diffusion, which is inherently more effective than coarse bubble diffusion in improving oxygen transfer efficiency, has already been widely employed at Agency facilities. High rate diffusers supply large quantities of air with low pressure drop and small bubble size (approximately 1-4 mm). Therefore, the combination of efficient blowers and air diffuser operation is critical to reducing the energy demand from this high power demand system.

The Agency has recently imitated aeration basin panel replacements at RP-5 and RP-1 to reduce blower power demands and increase operational efficiencies. This year, repairs will also be completed to the air distribution system at CCWRP, which will significantly reduce power demands at that facility.

During this planning period, the Agency will also evaluate dissolved oxygen control system enhancements through online ammonia and nitrate analyzers to optimize aeration blowers output; and large bubble mixing instead of using propeller mixing in the anoxic zones.

Capital projects over the next few years are planned to include: aeration blower replacement with high speed turbo blowers; optimization of recycled water pumping and storage; oxygen delivery system to aeration basins improvements.

4.3.1.4 Demand Response

SCE offers a variety of Demand Response (DR) Programs that help curtail statewide electricity usage during the peak season (June to early October). From 2008 to 2010 the Agency has participated in one of these programs designated as Time-of-Use Base Interruptible Program (TOU-BIP); however, because of the financial risk associated with the participation in the BIP program, the Agency has terminated the TOU-BIP contract and since July 2011, has participated in a Demand Response (DR) program through EnerNOC (a SCE authorized third-party DR provider).

Some of the benefits of the DR program compared to the BIP are:

- No penalties for under-performance or non-performance other than reduced future payments to reflect the actual delivered capacity;
- Curtailment capacity may be adjusted on a monthly basis;
- Real time electricity usage monitoring through a web based software; and
- Eligibility to SCE Technical Assistance and Technology Incentives (TA&TI) Program

IEUA has agreed to provide EnerNOC a total cumulative curtailment of 1,700 KW for all IEUA facilities enrolled in the program (RP-1, RP-2, RP-4/IERCF, RP-5 and CCWRP) at a value of approximately $100,000 per year.

Reduced energy import from the grid is primarily achieved can be reduced by shutting down some of the recycled water pump stations and through reduced ventilation at the IERCF. The DR event doesn't have any negative impact to the recycled water customers (operations staff was able to increase the reservoir level prior to the event) or to the indoor air quality at IERCF.

4.3.2 Renewable Energy

Production of renewable energy has been a longstanding goal of the Agency. The traditional use of biogas-fueled internal combustion engines (ICE) has provided up to 25% of the peak energy demands of the Agency. Recent regulatory updates by the South Coast Air Quality Management District (SCAQMD) have resulted in significant restrictions for the future use of ICEs in southern California. In an effort to diversify and maximize renewable energy generation as outlined in the Go Gridless plan, the Agency pursued the installation of 3.5 MW of solar power in 2010, a 1 MW wind turbine in 2011 and a 2.8 MW biogas fuel cell in 2012. The combination of these projects has resulted in providing 60% of peak

energy demand. Details of key renewable energy capital project activity are outlined below.

Solar Project

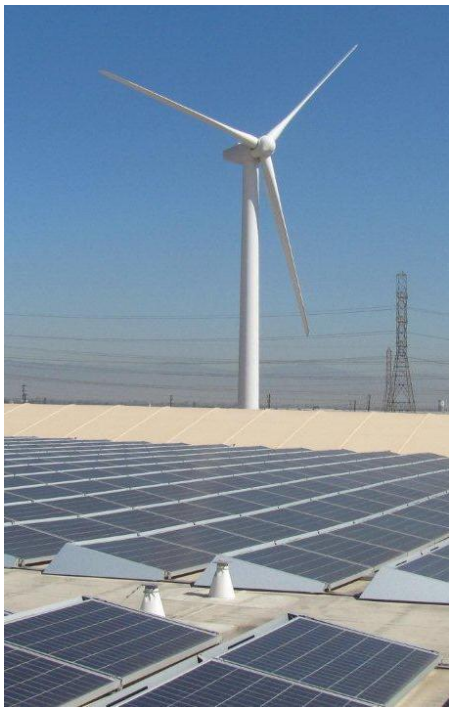
IEUA installed 3.5 MW of solar power at five Agency facilities: CCWRP, RP-5, IERCF and two arrays at RP-1. The project was financed through a power purchase agreement (PPA). The PPA provider designed and installed the entire project in 2008. The PPA provider operates and maintains the solar system, while IEUA buy all the power generated by the solar PV arrays for a period of 20 years. The price agreed is fixed with a predefined escalation rate, this helps to hedge the effects of price swings by their local power utility.

Fuel Cell Project

In 2010 the Agency signed a 20-year PPA to install, operate and maintain a 2.8 MW fuel cell system at the RP-1. Under the agreement, the PPA provider is responsible for funding, design, construction, operation and maintenance of the system. IEUA will purchase power generated from the fuel cell plant at the agreed upon price over the next 20 years, and use the heat generated from the process to heat the anaerobic digesters. The fuel cell plant, expected to be operational in 2012, will be fueled primarily with renewable biogas, making it the largest unit of its kind in the world.



Wind Power Project



A 1 MW wind turbine generator was commissioned at RP-4 in December 2011. The tower is 180 feet high, with a rotor diameter of 201 feet. Similar to the prior mentioned projects, the facility was financed and developed through a PPA. The PPA provider worked to assess the wind resource, select equipment, manage installation, and secure construction financing and tax equity investment. IEUA will purchase the power generated from the wind turbine at the agreed upon price over the next 20 years.

RP-5 Food Waste Project

In 2010 the Agency signed a multi-year agreement with a private company to lease the site and operate and maintain the RP-5 Solids Handling Facility (RP-5 SHF) for a ten-year term. The company will be processing food waste using the two existing vertical digesters at RP-5 SHF with the purpose of generating digester gas. The digester gas will be conveyed to the RP-5 for power generation using two ICE engines (1,500 kW each). The Agency will be purchasing power and heat at a discounted rate. The company will complete Phase I by 2012 using one digester and one ICE. Phase II will follow after two years. Total food waste processed will be approximately 300 tons per day.

4.3.3 Energy Purchasing

Electricity

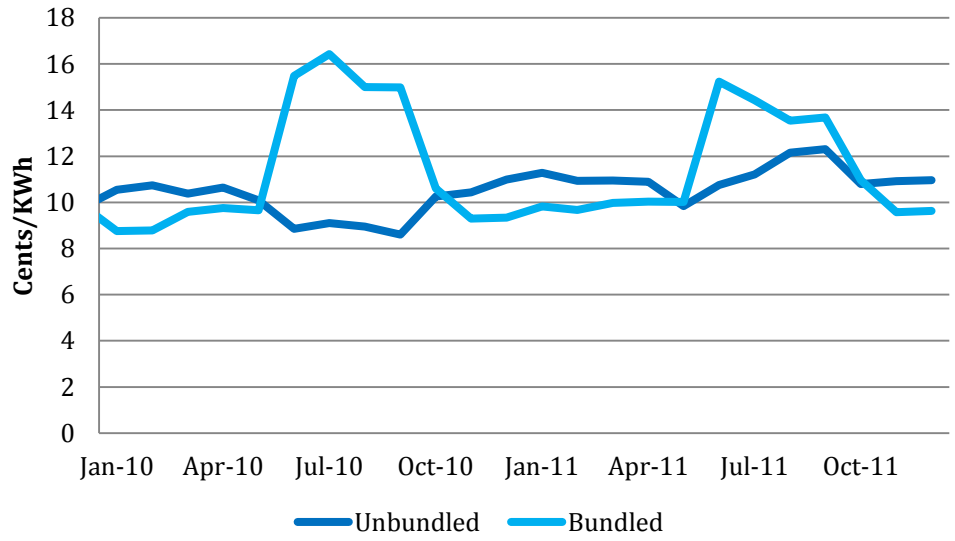
The Agency has unbundled service, or Direct Access (DA) at 4 of its 5 largest accounts and bundled service to the remaining ones. In the unbundled service, the commodity is provided by an electricity service provider (ESP). The current two-year agreement provides cost stability, lower commodity prices and reduces the Agency's exposure to volatility within the energy market. A portion of the Agency's electricity is purchased at a fixed price from the ESP. The excess electricity consumed is based on the average "day ahead" cost from an index within the Intercontinental Exchange. The Agency pays SCE for delivery costs. In the bundled service the Agency pays electricity and transmission costs to SCE. The Agency has realized considerable savings utilizing direct access (DA) agreement. A list of the Agency's facilities, along with the respective tariff at each facility, is listed in Table 4-2.

TABLE 4-2
FACILITY SCE TARIFFS AND ANNUAL IMPORTED USAGE

Facility	SCE Tariff	Direct Access (DA)
RP-1	TOU-8-B-STANDBY	yes
RP-2 Solids	TOU-8-B-STANDBY	yes
RP-4	TOU-8-B	yes
RP-5	TOU-8-B	no
CCWRP	TOU-8-B	yes

Figure 4-4 shows the energy cost at a facility with direct access such as RP-1 (for comparison the cost includes also SCE transmission costs) and a facility that purchases the entire energy from SCE such as RP-5 (bundled contract). Savings are more visible during the summer months.

FIGURE 4-4
MELDED ENERGY COST



4.3.4 Project Financing

There are several federal and state incentive and rebate programs available for renewable energy projects in California (Table 4-3). The incentives which are usually performance

based are available to both public and private sectors at different rates. Public sector implementation of renewable projects requires the public entity to finance, design and construct the projects to avail of any performance incentives. The public sector also has the option to play host site to a renewable project and have private entity finance, design, construct and perform the O&M. This type of arrangement is normally implemented through a Power Purchase Agreement. The energy produced by the privately funded power plant is then purchased by the host (IEUA) for an agreed upon price for a specified period, usually 20 years. The private sector is able to take advantage of tax credits and accelerated depreciation opportunities not available to the public sector, though these advantages are somewhat offset by lower performance incentive level rates than offered for public sector delivered projects.

As discussed in the prior section, the Agency has successfully used the PPA approach for its Solar, Wind and Fuel Cell renewable projects. This approach has allowed the Agency to transfer the financing and other risks including O&M to the contractor. The Agency has avoided more than $45 million in capital outlay through this process. The Agency will continue to evaluate PPAs for upcoming projects.

TABLE 4-3
ENERGY FINANCIAL INCENTIVES

Financial Incentive	Type
Federal	
Modified Accelerated Cost-Recovery System (MACRS) + Bonus Depreciation (2008-2012)	Corporate Depreciation
Business Energy Investment Tax Credit (ITC)	Corporate Tax Credit
Renewable Electricity Production Tax Credit (PTC)	Corporate Tax Credit
USDA - High Energy Cost Grant Program	Grant Program
USDA - Rural Energy for America Program (REAP) Grants	Grant Program
Qualified Energy Conservation Bonds (QECBs)	Loan Program
U.S. Department of Energy - Loan Guarantee Program	Loan Program
USDA - Rural Energy for America Program (REAP)	Loan Program
State	
Property Tax Exclusion for Solar Energy Systems	Property Tax Incentive
California Solar Initiative - PV Incentives (CSI)	State Rebate Program
California Solar Initiative - Solar Water Heating Rebate Program	State Rebate Program
Emerging Renewables Program	State Rebate Program
Self-Generation Incentive Program (SGIP)	State Rebate Program
Feed-In Tariff	Performance Based Incentive
Southern California Edison	
Savings by Design	Utility Rebate Program
Rebates and Savings	Utility Rebate Program
Southern California Gas Company	
On-Bill Financing Program	Utility Loan Program

There are significant incentives for implementation of energy saving upgrades that reduce demand. This has been accomplished at the IERCF, where a substantial rebate was received from SCE to pay for approximately half of the capital cost of the upgrade. Similar opportunities are been evaluated and implemented as needed.

In addition to well-funded State rebate programs like the California Solar Initiative (CSI) and Self-Generation Incentive Program (SGIP) several other agencies (Department of Energy, California Energy Commission, Air Quality Management District) may provide grant opportunities for energy efficiency and renewable energy projects. However, these grants are very competitive, funding is limited, and usually only emergency technologies or demonstration projects are eligible, not established technologies.

4.3.5 Regulatory and Legislation

Changes in environmental regulations and new legislation can be major factors impacting energy programs and costs. The revision of Rule 1110.2 by SCAQMD is an example of a regulatory change that significantly changed the direction of the Agency's renewable energy generation portfolio.

Two bills approved by the governor in 2011 will have a positive impact on distributed generation in California: the revised net metering tariffs will allow Net Energy Metering (NEM) to all renewables up to 1MW; and the Renewable Energy Self Generation Bill Credit Transfer Program (RESBCT) will allow a local governments to generate electricity at one account and transfer any available excess bill credits (in dollars) to another account owned by the same local government (eligible renewable generating systems are limited to a maximum capacity of 5 MW).

In December 2011 the California Public Utility Commission (CPUC) approved the Portfolio Content Categories for the new 33% by 2020 Renewables Portfolio Standard (RPS). This law established three portfolio content categories that define the types and quantities of eligible renewable energy that retail electricity sellers must use to meet the 33% requirement. The CPUC placed the unbundled renewable energy credits (RECs) in the least valuable of the categories. Unbundled RECs can be created from renewable generation that is produced and consumed onsite at the facilities. The value of these unbundled RECs will be severely limited based on this decision, and the revenue gained by selling RECs will not overcome the administrative cost of registration, certification and ongoing reporting.

Additionally, in order to reduce California's carbon footprint and increase the use of renewable energy resources, the State Legislature adopted Assembly Bill 32 in 2006. AB 32

contains aggressive greenhouse gas (GHG) reduction goals in California over the next 40 years, as well as reporting requirements for facilities that produce GHG emissions above an established threshold. Although the impact to the Agency is estimated to be de minimus at this time, the rules and regulations will need to be watched closely to ensure that we are prepared for any changes.

Due to the propensity for changes from new regulations and/or new legislation to have major impacts on the direction of Go Gridless and the cost of power, it is crucial that any changes in these areas are proactively tracked and impacted where appropriate in the best interest of the Agency. This important role is achieved through dedicated Agency staff in conjunction with trade organizations like Southern California Alliance of Publicly Owned Treatment Works (SCAP), California Association of Sanitation Agencies, WateReuse and others.

4.4 Carbon Footprint

A key driver in the implementation of the Go Gridless plan is the carbon footprint reduction. From 2009 to 2011, the IEUA solar facilities generated approximately 20,300 MWh; this is equivalent to 14,000 metric tons of CO_2 greenhouse gas emission reduction, 2,744 passenger vehicles off the road for an entire year, or the carbon sequestered annually from 3,000 acres of pine forest.

The estimated annual benefit of the Go Gridless plan would be 27,600 metric tons of CO_2 greenhouse gas emission reduction, 5,400 passenger vehicles off the road, or the carbon sequestered from 5,900 acres of pine forest.

> Source: USEPA Greenhouse Gas Equivalencies Calculator
> http://www.epa.gov/cleanenergy/energy-resources/calculator.html#results

4.5 Glossary

Base Interruptible Program (BIP) – Program that pays an incentive to reduce facility's load to or below a pre-selected Firm Service Level (FSL).

Bundled Service - Customers who receive electric power, transmission, distribution, billing, metering and related services from SCE.

Carbon Footprint - The amount of carbon dioxide emitted through the combustion of fossil fuels. In case of a business organization is the carbon dioxide emitted either directly or indirectly as a result of its everyday operations.

California Public Utilities Commission (CPUC) - State agency that regulates the rates and services of privately owned utilities (electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies).

Demand Response (DR) - Programs to help qualifying customers reduce their energy usage during peak times, while earning financial incentives.

Direct Access (DA) - Customers who purchase electricity from an Electric Service Provider (ESP), and receive distribution and transmission electric service from SCE.

Electric Power Grid (Grid) - A network of power lines and associated equipment used to transmit and distribute electricity over a geographic area.

Electric Service Provider (ESP) - A third party who provide electricity generation.

Energy (Usage) = Energy is the ability to do work (pump water, blow air, cooling, lighting)

- kWh = kilowatt hour
- MWh = Megawatt hour = 1,000 kWh

Feed in Tariffs (FIT) – Allows small renewable generators (1.5 MW or less) to sell power to the utility at predefined terms and conditions, without contract negotiations.

Firm Service Level (FSL) - The amount of electricity customer determines is necessary to meet their operational requirements during a curtailment event.

Greenhouse gases (GHGs) - Carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF6). CO2-equivalent (CO2-eq) is the universal unit of measurement to indicate the global warming potential (GWP) of each of the six greenhouse gases.

ICE = Internal Combustion Engine

Load - The amount of electric power delivered or required at any specified time at a facility.

Load Gap – The difference between the facility electric load and the electricity generated on site. Equivalent to the electricity purchased from the grid.

Net Energy Metering (NEM) - Allows a customer-generator to receive a financial credit for power generated by their onsite system and fed back to the utility (grid).

Non Renewable Energy - An electricity-generating source that can only be used once, such as oil, coal, natural gas and nuclear energy.

Peak Load - The highest electrical demand within a particular period of time.

Power (Demand) = Rate at which energy is used, or work is performed (energy used for a given unit of time)

- kW = kilowatt
- MW = Megawatt = 1,000 kW

Renewable Energy (Green Power) - Sources of energy which can be generated from natural resources such as wind, solar, biomass, small hydropower and geothermal sources.

Renewable Energy Credit (REC) - Also known as green tags, green energy certificates, or tradable renewable certificates. RECs represent the technology and environmental attributes of electricity generated from renewable sources (1 REC = 1 megawatt-hour).

Self-Generator - A plant whose primary product is not electric power, but does generate electricity for its own use or for sale on the grid.

Single Family Home Electricity Usage (*) = 12,773 kWh/yr.

Sub Metering - Meter connected after the main revenue meter typically used for information monitoring purposes.

Tariff - A published volume of rate schedules and general terms and conditions under which a product or service will be supplied.

Time of Use (TOU) - A rate in which predetermined electricity prices vary as a function of usage period, typically by time of day, by day of the week, and/or by season.

Transmission - The movement or transfer of electric energy over an interconnected group of lines and associated equipment between points of supply and points at which it is transformed for delivery to consumers or is delivered to other electric systems. Transmission is considered to end when the energy is transformed for distribution to the consumer.

Variable Frequency Drive (VFD) - A device that converts incoming power into other desired frequencies to allow for motor speed control.

(*) EIA (2008). 2005 Residential Energy Consumption Survey.
EPA (2011) eGRID2010 Version 1.1. U.S. Environmental Protection Agency, Washington, DC

5.0 RECYCLED WATER AND RECHARGE PROGRAMS

5.1 Recycled Water Program Background

IEUA has been serving recycled water to its member agencies since formation of the Regional Sewerage Service Contract in 1972. Initially, recycled water was 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, IEUA planned and built the first phase of the Carbon Canyon Recycled Water Project, which now serves several customers in Chino and Chino Hills. IEUA also initiated planning of a regional recycled water delivery system. This planning effort culminated with the completion of the IEUA Regional Recycled Water Program Feasibility Study in January 2002.

The 2002 Feasibility Study included an assessment of the potential recycled water customers within the IEUA service area. IEUA staff worked with the IEUA member agencies to identify over 1,000 potential customers. This information was used to plan the regional and local recycled water distribution pipelines. Pipeline locations were selected to provide recycled water to the largest customers or groups of customers, resulting in cost-effective facilities. The Feasibility Study identified facilities to ultimately deliver over 70,000 acre-feet of recycled water per year (AFY) to customers and recharge sites throughout the service area.

In 2005, IEUA completed development of the Regional Recycled Water Program Implementation Plan, which updated information from the 2002 Feasibility Study. The Implementation Plan identified additional future recycled water demand, primarily in the developing areas of Chino and Ontario. The plan identified plans for phased construction of a backbone distribution system over ten years, with provision for additional expansion beyond the ten-year planning horizon. Ultimately, this distribution system layout was planned to serve over 1,200 of the largest customers and supply over 93,000 acre-feet per year (AFY), including 33,000 AFY for recharge.

IEUA adopted the Recycled Water Business Plan in 2007 to accelerate the implementation of the 2005 Regional Recycled Water Program Implementation Plan. The Business Plan established concrete goals for connecting customers to the recycled water backbone system. Since its adoption in 2007, the Business Plan was updated to reflect the Agency's Fiscal Year 2010/11 approved budget. A connected recycled water demand goal of 50,000 AFY by FY 2011/12 was established.

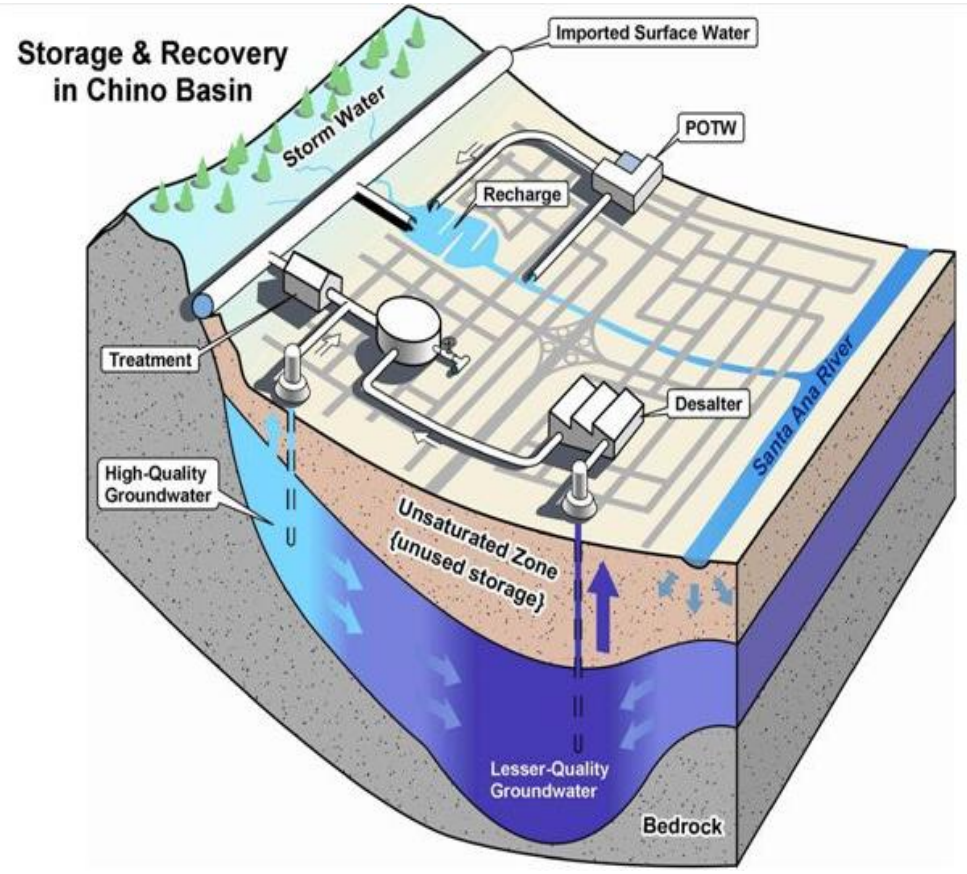
The following were the significant events in the history of the recycled water program through 2012:

1972	Regional Contract, IEUA begins delivery of recycled water
1993	Recycled Water Master Plan
1995	Carbon Canyon Recycled Water System Plan
1998	Carbon Canyon Recycled Water System Initial Deliveries
2001	Recycled Water Facilities Planning Study
2002	Regional Recycled Water Program Feasibility Study
2002	Program EIR
2003	SWRCB Grant ($5 million) and Loan ($15 million) Approved
2003	Initiate Construction of Phase I Facilities
2003	MWD LPP Rebate Agreement Amendment
2004	RWQCB Basin Plan Amendment
2004	DWR Grant ($9 Million)
2005	Regional Recycled Water Program Implementation Plan
2005	Phase I Recycled Water Groundwater Recharge Permit
2006	Initiate construction of Phase II Facilities
2006	SWRCB Grant ($4 Million) and SRF Funds ($14.7 Million for Phase II)
2007	Initiate construction of Phase III facilities
2007	SWRCB Grant ($4.9 Million) and SRF Funds ($11 Million for Phase III)
2007	Recycled Water Business Plan (adopted December 2007)
2007	MWD Public Sector Rebate Program
2007	Phase II Recycled Water Groundwater Recharge Permit
2008	Chino Basin Water Conservation District ($4M) assistance for Retrofits of Parks and Schools
2008	USBR Federal Grant ($950,000 received of the $20M)
2008	MWD Local Resources Program Agreement
2008	DWR Grant ($1M) for Urban Drought Assistance for Retrofit Projects
2008	Updated Three-Year Business Plan
2009	USBR Federal Grant ($5 Million received; total receipts $6 M of $20 M)
2009	USBR Title XVI ARRA Funds Northeast Area Project ($6 Million)
2009	USBR Title XVI ARRA Funds Northwest Area Project ($8 Million)
2009	SWRCB Grant ($4.2 Million) and SRF Funds ($15 Million) Phase IV
2009	SWRCB Funds ($1.5 Million) Phase V
2009	Amended Recycled Water Groundwater Recharge Permit
2010	Rescinding of the MWD Local Resources Program Agreement
2011	SWRCB Grant ($4 Million) and SRF Funds ($20 Million) Phase VI

5.2 Recharge Program Background

The Chino Basin Water Master (CBWM) and IEUA joint recharge program partnership is described in the CBWM's Optimum Basin Management Program (OBMP) Recharge Master Plan, Phase II Report (August, 2001). It is a comprehensive plan to increase artificial groundwater recharge within Chino Basin using storm water, recycled water, and imported water. The recharge program is one of the centerpieces of the Chino Basin OBMP. Through the development of increased recharge capacity in the Basin, greater quantities of high quality water can be captured and stored during wet years and be made available during drought years and times of imported water supply shortages. Figure 5-1 illustrates in general how the recharge program fits into the overall plan for Chino Basin groundwater management as outlined in the Watermaster's OBMP and the Recharge Master Plan.

FIGURE 5-1



In January of 2002, the IEUA Board of Directors approved the Recharge Master Plan Implementation Memorandum of Agreement, between CBWM, Chino Basin Water Conservation District, San Bernardino County Flood Control District (SBCFCD), and IEUA. Members of these four agencies formed a Groundwater Recharge Coordinating Committee to implement an initial $40-

million program, entitled the Chino Basin Facilities Improvement Project (CBFIP), to develop recharge facilities from existing flood control basins. IEUA serves as the lead agency for implementation (design, construction, operation, and maintenance) of this cooperative program. The Recharge Master Plan included enhancements to existing flood control and recharge basins through the CBFIP (Phase I and Phase II).

The CBFIP will maximize recharge capacity, protect and increase the yield of the Chino Basin, increase the amount of recycled water that can be recharged, and improve groundwater quality. Construction and improvements have been made to 19 recharge sites with a total potential recharge capacity of approximately 110,000 AFY.

In the summer of 2005, Phase I CBFIP improvements were completed and recharge operations commenced in the upgraded facilities. Figure 5-2 is a map of the current CBFIP recharge sites. Operational experience in the ensuing 3 years identified lower infiltration rates, system limitations, and recharge capacity than envisioned during the original recharge master plan. Additional recharge capacity and operational flexibility were the goals of the Phase II CBFIP.

In April 2006, IEUA and Watermaster approved the $10.5 million Phase II CBFIP improvements made possible by a Department of Water Resources grant and matching funding from IEUA and CBWM. The Phase II improvements were complete and operational in early 2009, and enhance the storm water capture, imported water delivery, and operational flexibility of the existing recharge facilities.

In October 2009, IEUA and CBWM received an amendment to the program's Recycled Water Groundwater Recharge permit that facilitates increasing the amount of recycled water that may be recharged. Specifically, it will increase the amount of recycled water recharge during dry years by allowing groundwater underflow to a recharge site to be used as a diluent water source when calculating the percentage of recycled water in the total recharge. The amendment also allows compliance with the limit on percent recycled water recharge to be calculated over 120 months rather than 60 months enabling the recharge of recycled water during extended periods of low rainfall and stormwater recharge.

In July 2010, the original Recharge Master Plan was updated as part of CBWM's Peace II agreement. The updated plan evaluated potential methods of increasing groundwater recharge to the Chino Basin and categorized them based on relative cost per acre-foot of water. Since then, past infiltration rates have been used to update the potential recycled water recharge capacity. Based on those recent updates completed in early 2012, Table 5-1 of this report was updated and describes the potential recharge capacities of the recharge sites assuming optimum operation and maintenance.

FIGURE 5-2
CHINO BASIN RECHARGE SITE LOCATIONS

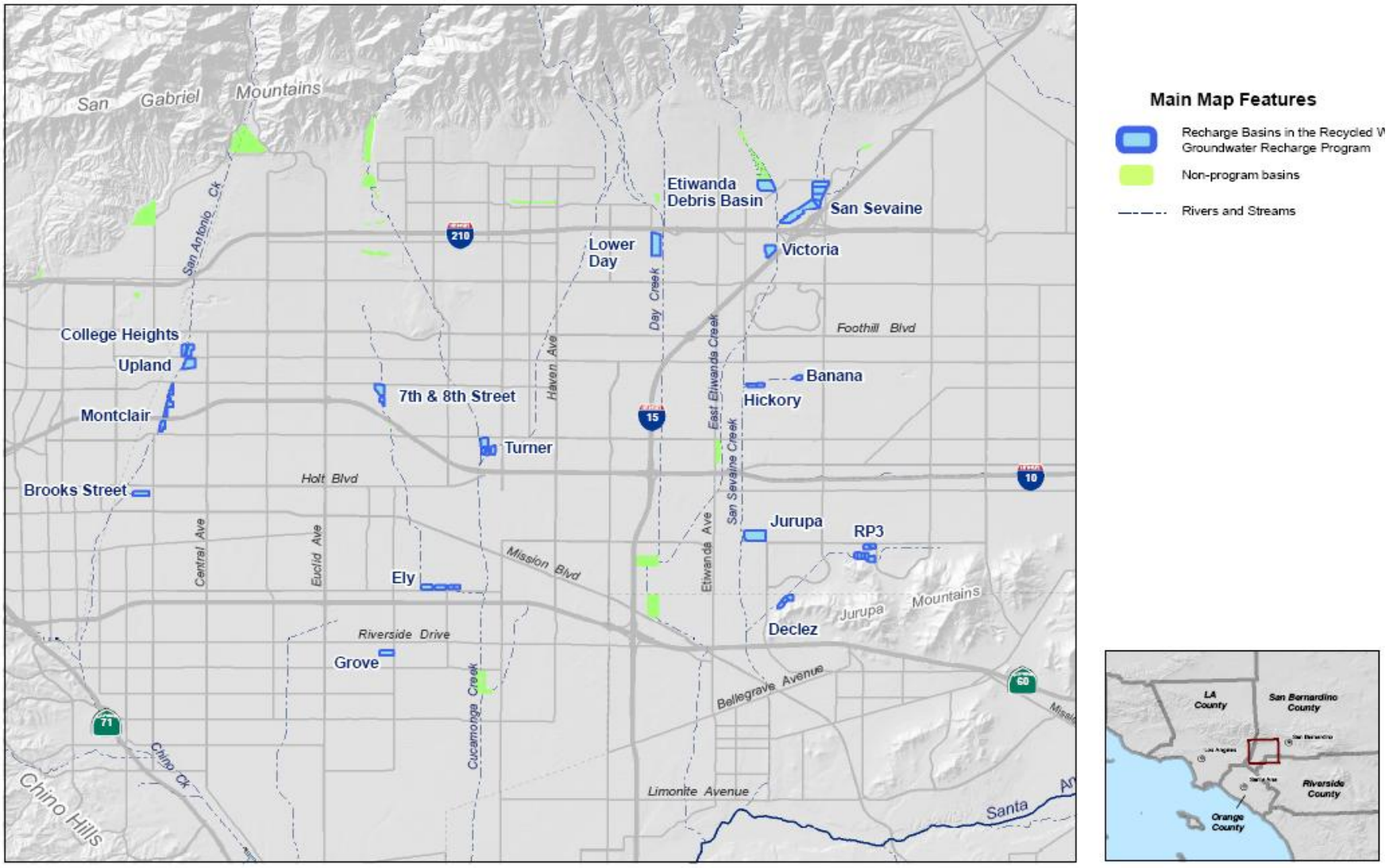


TABLE 5-1 CHINO BASIN POTENTIAL SOURCE WATER RECHARGE CAPABILITIES				
Recharge Site	**Potential Basin Recharge Capacity Acre Feet Per Year (AFY)**			
	Storm Water (1)	**Supplemental Water Capacity** (2)	**Imported Water** (3)	**Recycled Water** (4)
Ely Basins	1,411	2,474	2,474	964
Banana Basin	483	2,474	2,061	816
Declez Basin	995	2,968	2,474	1,057
Etiwanda Conserv. Ponds	0	0	0	0
Hickory Basin	231	2,474	2,061	949
Jurupa Basin	0	0	0	0
RP-3 Basins	466	9,895	8,245	5,320
Turner Basin Nos. 1 & 2	814	1,484	742	1,540
Turner Basin Nos. 3 & 4	772	1,484	742	
7th & 8th Street Basins	1,234	2,474	2,474	1,190
Etiwanda Spreading Basins	1,617	3,463	3,463	1,840 (5)
Lower Day Basin	637	4,453	4,453	2,377 (5)
Brooks Street Basin	713	2,474	2,474	1,314
College Heights Basins	0	7,421	7,421	0
Montclair Basins Nos. 1-4	1,076	19,789	19,789	0
Upland Basin	637	9,895	9,895	0
San Sevaine Nos. 1-5	3,975	24,736	11,379	540
Victoria Basin	937	2,968	2,968	800
Wineville Basin	296	0	0	0
Grove Basin	268	0	0	0
Total	**16,562**	**100,926**	**83,115**	**18,706**

1. Average Annual Future Stormwater Recharge at Build Out (includes no new recharge from MS4 Permits).
2. Supplemental Water is non-stormwater recharge such as imported water and or recycled water. Sources: CBWM, IEUA, CBWCD, 2010 Recharge Master Plan Update, and Table 6-3-Supplemental Water Recharge Capacity Estimates. Imported water and recycled water volumes together would not in theory exceed this value.
3. Theoretical Maximum Imported Water Recharge Capacity. Sources: CBWM, IEUA, CBWCD, 2010 Recharge Master Plan Update, and Table 6-3 Supplemental Water Recharge Capacity Estimates.
4. RWC Management Plan: IEUA and CBWM, 2009 Recycled Water Groundwater Master Plan Update completed by IEUA in February 2012.
5. Etiwanda Debris Basin and Lower Day Basin are permitted for recycled water recharge, but currently does not have the infrastructure to deliver water to them. The projection of Etiwanda Spreading Basin and Lower Day Basin is based on history of infiltration rates seen at the basins.

5.3 Recycled Water Use for Recharge

Reuse of recycled water for groundwater recharge is a critical component of the OBMP and water supply plans for the region. It will increase the reliability of water supplies during dry years and save $6 million to $9 million per year in imported water costs. The recharge of high-quality recycled water and high-quality imported and storm water sources will allow Chino Basin groundwater quality objectives to be met. Improvements in groundwater quality through recharge will ultimately lower the cost of the Chino Basin Desalter groundwater treatment process.

In April 2005, IEUA and CBWM obtained their Phase I Recycled Water Groundwater Recharge Permit which included six recharge sites and a 20-percent by basin recycled water recharge limit. In June 2007, IEUA and CBWM obtained their Phase II Recycled Water Groundwater Recharge permit, which added seven more recharge sites and included changes allowing as much as 50% by basin recycled water recharge as driven by water quality performance. However, operational experiences since 2005 indicate a more likely average of 30% recycled water recharge.

In October 2009, IEUA and CBWM received an amendment to the recharge permit that will increase flexibility of recycled water recharge operations, especially during a multi-year drought. The amendment allows groundwater underflow to be included as a diluent water source which can now be factored into the volume-based recycled water contribution (RWC) running average. The RWC average calculation period was also increased from 60 to 120 months which will maintain a more stable RWC average by allowing the other diluent water sources (storm water and imported water) to remain in the RWC average for a longer period of time.

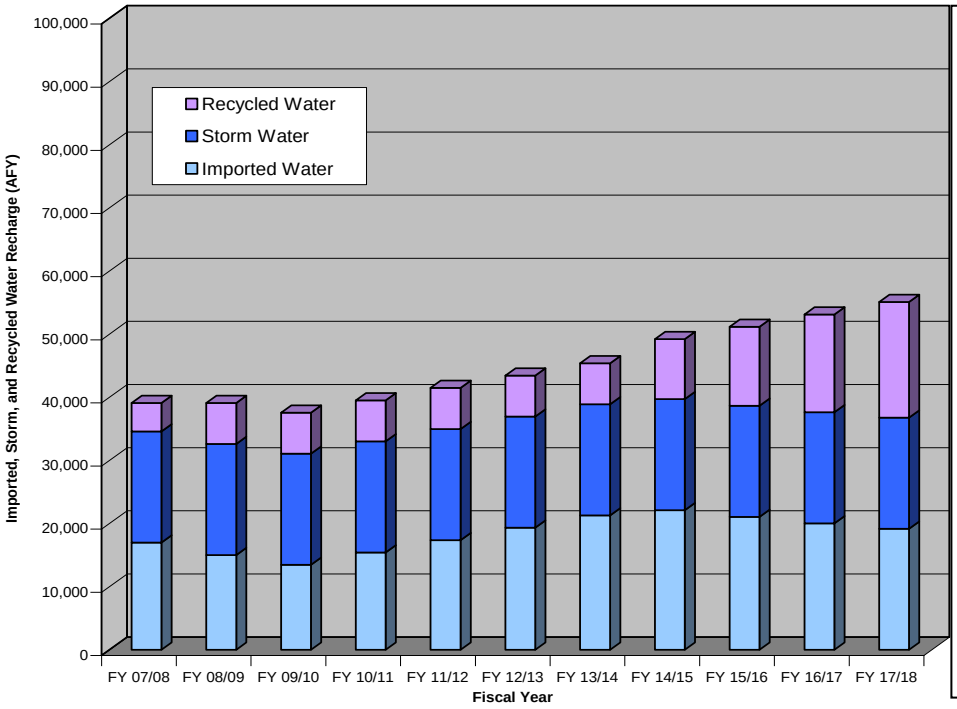
The schedule for increasing the amount of recycled, storm, and imported water recharged into the Chino Groundwater Basin is illustrated in Figure 5-3.

5.4 Recycled Water Business Plan Update

The Recycled Water Business Plan (Business Plan) was developed in 2007 to accelerate the Regional Recycled Water Implementation Plan (2005) as a response to potential water supply shortages and reductions in MWD imported water supplies. The implementation of the Business Plan has resulted in multiple benefits as summarized below. Since the inception of the Business Plan, the Recycled Water Program has made significant improvements in recycled water usage and connected demand. The connected demand for the recycled water has more than tripled since FY 2006/07 and recycled water sales have also almost tripled as well. The Agency achieved a connected recycled water demand of 43,058 AFY as of January 2012.

- New Water Supply – 37,000 AFY Increase in Connected Demand
- Recycled Water Revenues – About $6 to $10 million/year (wholesale rate revenue plus MWD rebate). The program will eventually be self-funded through recycled water sales revenue.
- The recycled water supply is not impacted by drought and will mitigate the impacts of regional or statewide water supply limitations.

FIGURE 5-3
IMPORTED, STORM, AND RECYCLED WATER RECHARGE SCHEDULE



ASSUMPTIONS:

Total Recharge is the CBWM Replenishment Obligation projections presented to the GRCC on March 27, 2007.

Recycled Water is a projection based on historical diluent recharge at basins available for recycled water recharge from the 2008 Three-Year Recycled Water Plan, then increased 1,000 AF per year until reaching 33% (based on a 5-year running average) of the CBWM replenishment obligation (Total Recharge).

Storm Water is a projection of the long-term average sums of 12,000 AFY of new storm water capture and 5,600 AFY of pre-basin improvement capture.

Imported Water is the Total Recharge (CBWM estimated Replenishment Obligation) minus the sum of storm water and recycled water recharge.

The Business Plan as originally conceived was a three-year plan with an estimated cost of approximately $188 million. With the changes in the construction environment and economy that occurred starting in late 2007, the projects and goals were able to be achieved at fifty percent of the original estimate, at $93 million.

The Agency's commitment and coordination with the member agencies within the Chino Basin to increase and ensure a reliable supply of recycled water to residents and customers has been continuous since the adoption of the Business Plan. However, it should be noted that since 2010, the rate of connections for direct use customers to the regional recycled water system has slowed down. The most significant inhibitors to system expansions can be attributed to the recession and limited financial resources. There is little doubt that the recycled water use will continue to increase, but with limited financial resources, the pace of expansion will continue to languish. Expansion capital has been significantly reduced during the 2008 economic slowdown and continues to be an inhibitor to system growth. IEUA has a loan program with limited funding to assist with financing customer retrofits. IEUA will seek additional grant funding in order to help stimulate the connections and recycled water usage in order to make the best use of the investments already made in the regional recycled water system.

The Business Plan will be updated annually to adjust to the goals, timelines and projects that will expand the use of recycled water. Currently, this document focuses on the 2007-2012 fiscal years.

Since then, the concept of connected demand goals has been changed to target annual recycled water sales. The annual goals for recycled water sales are summarized in Table 5-2.

TABLE 5-2
ANNUAL GOALS FOR RECYCLED WATER SALES

Year	FY 10/11 Actual	RW Sales Goals (AFY)				
		FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16
Direct Use	16,656	18,000	19,000	20,000	22,000	24,000
Groundwater Recharge	8,028	10,000	14,000	14,000	14,000	14,000
Total RW Use	**24,684**	**28,000**	**33,000**	**34,000**	**36,000**	**38,000**

5.5 Red Team

The Red Team is an interagency group composed mainly of IEUA staff and key people from member agencies. The purpose behind this arranged team is to open avenues of communication to aid with the construction of the recycled water infrastructure as well as potentially identify new recycled water projects.

The Red Team assisted in the preparation of the Business Plan from August 2007 to December 2007, and has met on an as-needed basis through FY 2011/12 to discuss key issues, such as, recycled water rates, the status of recycled water projects, water reuse practices and demand management issues.

5.6 Regional Recycled Water Priorities

In September 2000, the IEUA Board and Regional Technical and Policy Committees adopted a recycled water policy which defines the roles and responsibilities of IEUA and the Regional Contracting Agencies for the construction and ownership of the regional and local facilities. Regional facilities are defined as pipelines, pump stations, and reservoirs which serve recycled water to a recharge site or to more than one Contracting Agency. Regional facilities will be constructed and owned by IEUA. Local facilities that deliver recycled water from the regional facilities to customers within a Contracting Agency's service area will be the responsibility of that respective agency to plan, build, operate and maintain such facilities. Local facilities will primarily be pipelines (local laterals) and may also include pump stations and reservoirs. With the implementation of the Business Plan, new policies have been created to include provisions for: regional funding of local storage facilities which reduce regional storage needs; provision for reimbursement of regional facilities constructed by others (local agency or developer); and financing of local facilities and customer on-site retrofits.

IEUA's regional recycled water system consists of a looped pipeline system which connects all four Regional Water Recycling Plants. The regional facilities have been described in over 50 separate projects of pipelines, pump stations and reservoirs. These projects have been grouped into priorities and categorized into four project areas: Northeast, Northwest, Central and the Southern Project Area. The phasing priority was determined based on the amount of recycled water that each phase could serve and the proximity of each phase to one of the plants or existing recycled water supply systems. Priorities I and II of the program will deliver recycled water to most of the recharge sites since the recharge sites represent significant recycled water users. The Regional Recycled Water Program facilities in the various stages of implementation are shown in Figure 5-4.

5.7 Local Recycled Water Facilities

As described above, local recycled water facilities are those which serve only one contracting agency. Each local agency is responsible for the planning, design, construction and operation of local laterals within its service area. IEUA staff is working closely with the agencies to coordinate their recycled water planning efforts. In order to assist the local agencies with the implementation of their recycled water systems, IEUA is providing technical assistance and, if requested, financing of the local agency's facilities. Funds for this financing are included in the TYCIP and will be funded via State Revolving Fund Loan proceeds. However, the amount of funding will depend on the Agency's needs. A similar financing approach was used for the construction of the Carbon Canyon Recycled Water Project in the 1990s.

5.8 Regional Recycled Water Program Summary

Completed Activities & Projects for FY 2011/12:

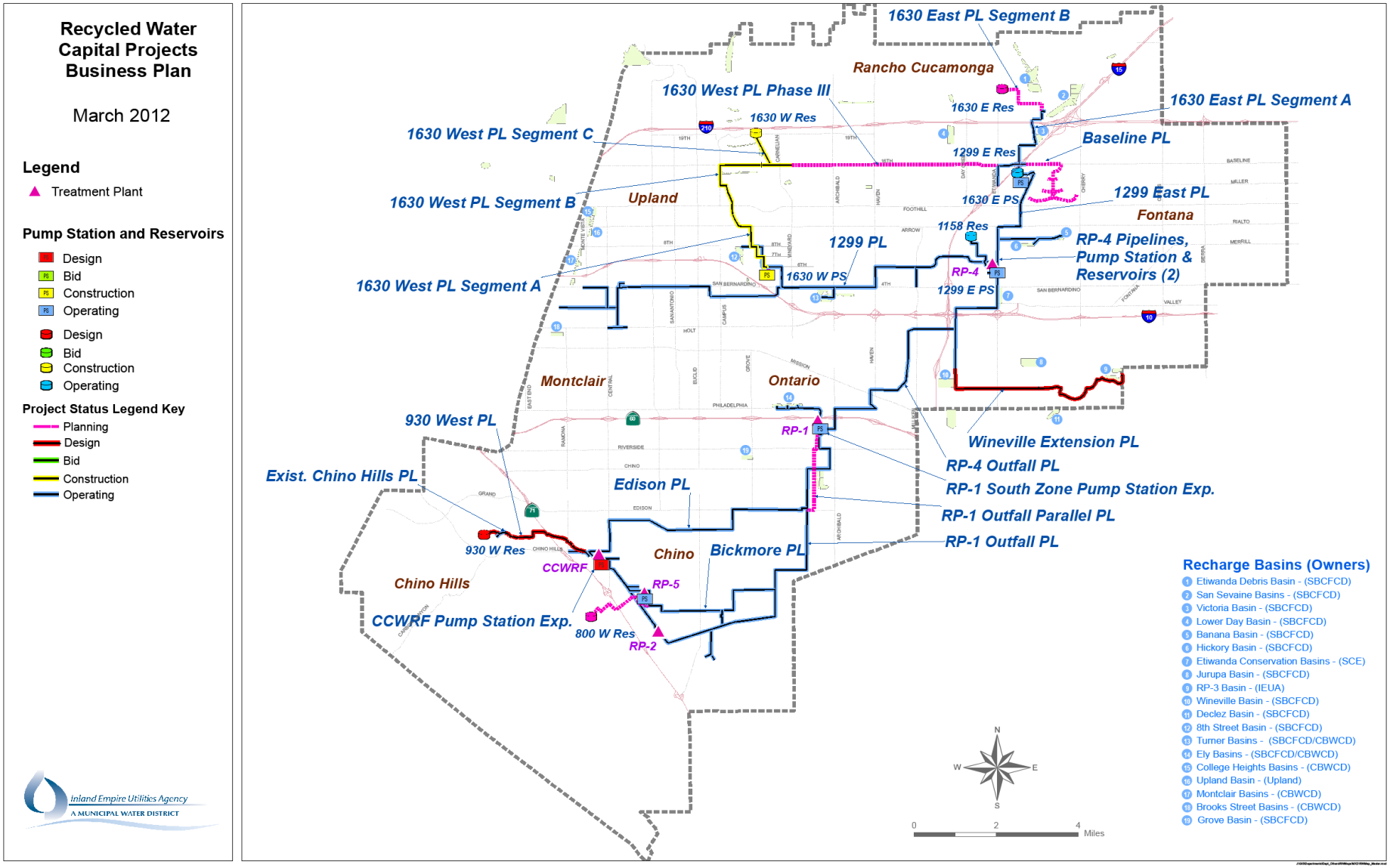
- RP-1 930 PS Expansion — October 2011
- Prado Sleeve Valve Modifications — October 2011
- Northwest Area Recycled Water Projects — Spring 2012

The RP-1 930 Pump Station Expansion project included the design and construction of the fifth pump station at RP-1 to provide reliability and redundancy to supply the southern service area peak recycled water demands.

The Prado Sleeve Valve Modifications project included the design and replacement of the valve to allow operation at lower flows in order to maximize the beneficial use of recycled water during the summer months and minimizing creek discharges.

Northwest Area Regional Recycled Water Facilities – The project included the design and construct Regional Recycled Water Facilities (Pipeline, Pump Station and Reservoir) and local laterals; the project will serve recycled water primarily to customers in the City of Upland and Cucamonga Valley Water District. The Northwest Area projects include:

FIGURE 5-4
IEUA REGIONAL RECYCLED WATER CAPITAL PROJECT PRIORITIES



- The **1630 West Pump Station** project is located at Vineyard Park in the City of Ontario near Sixth Street and Baker Ave. The pump station will utilize three 250 horsepower pumps to boost recycled water from the 1299 pressure zone to the 1630 zone.

- The **1630 West Recycled Water Pipeline- Segment A** consists of the construction of approximately 10,500 linear feet of 24-inch diameter recycled water pipeline that will convey recycled water from the 1630 West Recycled Water Pump Station in the City of Ontario to the Memorial Park in the City of Upland. Segment A is one of three segments of pipe which will serve as the backbone for transporting water from the 1299 to the 1630 pressure zone.

- The **1630 West Recycled Water Pipeline- Segment B** consists of the construction of approximately 13,000 linear feet of 24-inch diameter recycled water pipeline. The 1630 West Recycled Water Pipeline, Segment B, is the second portion of the Regional Pipeline that will serve as a backbone to transport water from the 1299 Pressure Zone to the 1630 Pressure Zone. This pipeline will start at the terminus of the 1630 West Recycled Water Pipeline, Segment A, and terminate in Baseline Road on the border of the Cities of Upland and Rancho Cucamonga.

- The **1630 West Recycled Water Pipeline- Segment C** consists of the construction of approximately 7,700 linear feet of 30-inch diameter and 800 linear feet of 24-inch diameter recycled water pipeline that will convey recycled water from the terminus of the 1630 West Recycled Water Pipeline, Segment B, to the 1630 West Recycled Water Reservoir Site and Red Hill Park in the City of Rancho Cucamonga. The 1630 West Recycled Water Pipeline, Segment C, is the third portion of the Regional Pipeline that will serve as the backbone to transport water from the 1299 Pressure Zone to the 1630 Pressure Zone.

- The **1630 West Recycled Water Reservoir** project consists of the construction of one three (3) million gallon recycled water reservoir at the existing CVWD site located at the northwest corner of the intersection of 19th and Sapphire Streets.

Current/Near Term Projects Status as of February 2012:

Recycled Water Connected Demand	43,058 AFY (January 2012)
Southern Area RW Projects - Design	June 2012
Wineville RW Pipeline Project – Design	August 2012
Turner Basin Turnout Capacity Improvements – Design	May 2012

Southern Area Regional Recycled Water Facilities – The project will design and construct Regional Recycled Water Facilities (Pipeline and Reservoir); the project will primarily serve customers located in the Cities of Chino and Chino Hills. ***Status: Design completion is expected in January 2012.***

The **Wineville Extension Recycled Water Pipeline** includes 4.6 miles of 36 inch pipe which will primarily build the Regional Recycled Water distribution system in the southern part of the City of Fontana and the eastern part of the City of Ontario. The pipeline will allow for the connection of commercial, industrial customers, parks and schools within the cities of Ontario and Fontana and also utilize RP-3 and Declez Basins for Recycled Water recharge. ***Status: 30 percent Design. Design completion is expected in August 2012.***

Turner Basin Turnout Capacity Improvements - This project is the long term, permanent solution to the recharge limitations at the Turner Basins. The turnout will be approximately 200 linear feet of 20 inch steel pipe and supply 10 cubic feet per second of water to the basins. An automated control valve and flow metering will also be provided. In order to equally supply all 4 of the recharge basins at the site a bypass must also be constructed underneath the Deer Creek Channel. ***Status: Design completion is expected in May 2012.***

5.9 Funding

In order to accomplish the goals of the Business Plan, a financial plan has been developed that includes an evaluation of the cost of the Plan, the funding sources that pay the costs of the Plan, and estimates of annual revenues. Implementation of the Business plan has been programmed and scheduled with the use of state and federal grant funds and SRF low-interest loans to minimize use of Regional Capital Fund transfers. The following funding goals have been identified:

- Capital Budget Funding Sources – $93 million total Business Plan cost will be funded from four sources: State and Federal Grants ($24 million), State Revolving Fund loans ($47 million), and 2008 IEUA Bond Funds ($22 million).
- Annual Revenues – Sales in FY 2011/12, recycled water sales will generate $4.7 million annually at 39,000 AFY the revenues from recycled water sales, MWD LPP program, and other IEUA revenue sources will be sufficient to meet debt service costs estimated at $6 million in FY 2011/12 and increasing to $9.7 million annually beginning in FY 2018/19.

5.10 Funding Status

STATE WATER RESOURCES CONTROL BOARD (SWRCB): To date IEUA has received funding contracts from the SWRCB for $18 million in grant funds and $60 million in SRF loans for Recycled Water Capital Projects Phase I through Phase V. Financial Assistance for the southern area projects (Phases VI), in the amount of $20 million, along with a grant for $4 million is anticipated to be granted by Summer 2012.

UNITED STATES BUREAU OF RECLAMATION (USBR): Since 2005, IEUA has received federal appropriations of over $19 million for the recycled water program. The remaining federal authorization of the Title XVI funds of $1 million is expected to be received for the southern area projects.

5.11 Permitting

Several regulatory and environmental permits and approvals are required to implement the Regional Recycled Water Program and deliver recycled water. IEUA has made significant progress and has completed many of the regulatory requirements. The following are the regulatory requirements and the current status of each permit process:

- CEQA – IEUA certified a Programmatic EIR in June 2002 which included IEUA's Wastewater Master Plan, Organics Management Business Plan and the Regional Recycled Water Program. Supplements to the Programmatic EIR are prepared, when necessary, as specific project elements are better defined during each project design;
- CBWM Article X approval for groundwater recharge is required under Watermaster's rules and regulations. IEUA obtained Watermaster's approval for the recharge of up to 33,000 AFY in 2002;
- Basin Plan Amendment – In order to recharge recycled water in the Chino Groundwater Basin, IEUA and Watermaster prepared a Maximum Benefit Concept Proposal to the Santa Ana Regional Water Quality Control Board for the basin plan amendment. The proposal was approved by the RWQCB and incorporated into the basin plan amendment in February 2004. The State Water Resources Control Board approved the basin plan amendment in September 2004. The incorporation of "Maximum Benefit" into a basin plan is unprecedented in the state;
- RWQCB Waste Discharge Requirements and NPDES permit for direct reuse – All of IEUA's Water Recycling Plants have existing permits from the RWQCB for recycled water deliveries for direct reuse customers, i.e. irrigation, industrial, recreational impoundments. On a quarterly basis, IEUA reports new customers connected to the recycled water system and recycled water use for each customer;
- DHS (currently named DPH) Title 22 Engineering Report – In order to assure that recycled water is not "cross-connected" to any potable water system, the California Department of Public Health requires an engineering report which identifies the potable and non-potable plumbing systems for each recycled water customer;
- DPH Title 22 Engineering Report for Groundwater Recharge - Prior to recharge of recycled water, an engineering report is required. The report is reviewed by DPH and a public hearing is required to solicit comments. IEUA prepared and submitted a Title 22 Engineering report for the recharge basins served by the Phase I facilities in 2003 and another in 2006 for the Phase II facilities. Public hearings were held for both phase and

many supportive letters and comments were received; The DHS public hearing held in April 2006 received strong support and no opposition.

- RWQCB Permit for Recycled Water Recharge - The Santa Ana Regional Water Quality Control Board approved the permit for recycled water recharge in April 2005. The RWQCB permit for recycled water recharge for the Phase II basins was issued in summer 2007.

- In 2009, the RWQCB permit was amended to allow diluent water to include groundwater underflow and to allow the recycled water contribution (RWC) average to be based on a 120 month running average (increase from the previously approved 60 month running average). These modifications allow significant operational flexibility specifically during a multiyear drought when storm water and imported water supplies are not available.

Summary of Permitting Status

- CEQA — Certified 2002
- CBWB Article X — Approved 2002
- SARWQCB Basin Plan Amendment — Approved 2004
- SARWQCB Discharge Permit — Issued for all plants
- DHS customer retrofits — Approved for connected customers
- DHS/RWQCB recharge approval
  - Ely Basin 2,300 AFY — Approved 1998
  - Phase I Recharge 7,700 AFY — April 2005
  - Phase II Recharge 17,300 AFY — June 2007
- DHS/RWQCB Permit Amendment (120-month RWC avg. & underflow diluent water source — October 2009)

5.12 Current Ten-Year Capital Improvement Plan

The Recycled Water Capital Improvement (WC) Fund tracks the revenues and capital project expenses associated with the development of the Agency's Recycled Water Program. The Recharge Water (RW) Fund tracks revenues and capital project expenses for the Recharge Program. The ten-year total of projected capital expenses for these two programs is $82 million. Major new projects in each of these funds are summarized below in Table 5-3. The projects are primarily for the construction of the major new facilities included in the Recycled Water Business Plan, including pipelines, pump stations, and reservoirs, retrofits, engineering reports, cross-connection testing and the recycled water SCADA master plan. The construction program is phased so that the most cost-effective projects can be brought on-line first. As identified in the Business Plan, at the completion of the priority recycled water projects in southern and central service areas, the projects will focus on capacity improvements such as the RP-1 outfall parallel pipeline and additional reservoirs as needed to meet the increasing connected demand in the system. The RP-1 outfall parallel pipeline will provide the capacity and reliability for the future growth in the

southern area. Other projects include pipelines and reservoirs for the 800 pressure zone in the southern area and for the 1630 East pressure zone in the northeast area.

TABLE 5-3
RECYCLED WATER (WC) AND RECHARGE WATER (RW) PROGRAMS— MAJOR CAPITAL PROJECTS

Project Number	Project Title	FY 11/12 Projected Actual	FY 12/13	FY 13/14	FY 14/15	FY15/16-FY21/22	Total TYCIP FY12/13-FY21/22
	Northeast Area Projects:						
EN09007	1630 East Pipeline, Segment B and	-	-	-	-	$16.4 M	$16.4 M
EN13001	San Sevaine Improvements	-	$0.3 M	$1.7 M	-	-	$2M
	Southern Area Projects:						
EN07010	930 W. Reservoir & Pipeline	$1.1 M	$10.5 M	$7 M	$0.4 M	$0.4 M	$19.4 M
EN19002	800 Zone Reservoir	-	-	-	-	$3.4 M	$3.4 M
	Central Area Projects:						
EN06025	Wineville Extension Recycle Water Pipeline	$1.9 M	$6.1 M	$10 M	$0.4	-	$18.4 M
EN19003	RP-1 Parallel Outfall	-	-	-	$1.5	$4.5 M	$5.7 M
EN11050	Turner Basin Turnout	$0.1 M	$0.7 M	-	-	-	$0.7 M
WR11017	Turner Basin Improvements	$0.1M	$0.5	$0.2M			$0.7M
WR08020	**Misc. RW Connections and Retrofits**	$0.3M	$1M	$1M	$1M	$7M	$10.3
	Total—Major WC/RW Projects	**$3.5 M**	**$19.1 M**	**$19.9 M**	**$3.3 M**	**$31.7 M**	**$77 M**
	All WC/RW Projects	**$14.4 M**	**$22.3 M**	**$21.1 M**	**$3.6 M**	**$34.6 M**	**$82 M**

The capital project costs identified in the current TYCIP for Recharge Capital Program mainly involve capacity improvements and refurbishment at selected basins (e.g., Turner Basins and San Sevaine Basins) and total approximately $3 million over ten years. Capital projects for Lower Day, Etiwanda Debris Basin and Etiwanda Conservation Basin are currently not specifically included in the TYCIP. Additional future capital improvements to the recharge program (Phase III CBFIP) may be identified following stakeholder evaluation of the recommendations of the IEUA recycled water recharge forecast update of 2012 and of Chino Basin Recharge Master Plan, 2010 Update. The determination of what is needed and when to implement any capital changes will be the subject of a future review and collaborative effort of the Agency and the CBWM. The financial impact of any

significant capital requirements for the groundwater recharge basins will be addressed in revisions and updates to this TYCIP.

In the interim, IEUA staff will evaluate the effectiveness of the constructed Phase II basin improvements towards increasing basin recharge capacity. Within this TYCIP, the Groundwater Recharge Basins are assumed to be sufficient to provide adequate storm water, recycled water and imported water recharge capacity for the foreseeable future. Some modifications for maintenance will be required.

6.0 WATER RESOURCES MANAGEMENT

6.1 Introduction

There has been a profound shift in California water supply planning in response to regulatory restrictions on pumping imported water from the Bay-Delta coupled with prolonged periods of water shortage. California's 2007-2010 water crises resulted in Governor Schwarzenegger's 2008 declaration of a water emergency, which led to Senate Bill X7-7 enforcing a 20% reduction in water use, state-wide by 2020. In 2009, the Metropolitan Water District of Southern California (MWD) prepared and implemented a Water Supply Allocation Plan (WSAP), while IEUA, in collaboration with its member agencies, prepared and implemented a Drought Plan in response to MWD's WSAP.

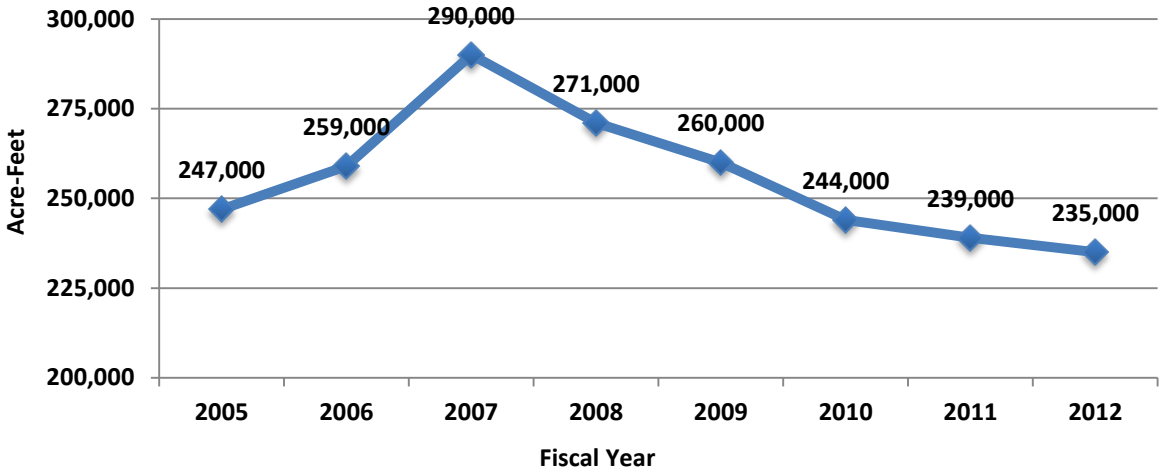
Fortunately, the IEUA service area was well prepared to handle the 2007-2010 California water crises due to a well-executed Integrated Water Management Plan. However, IEUA and its member agencies recognize the need to continue to integrate the Chino Basin's overall water supply management strategy. IEUA is dedicated to continuing to work with local stakeholders to enhance and expand existing programs that improve imported and local water supply availability and reliability, including:

- Imported Water Program
- Recycled Water Program
- Groundwater Recharge Program
- Desalter Program
- Groundwater Conjunctive Use Programs
- Stormwater Management Programs
- Water Use Efficiency Programs

6.2 Current Water Use Trends

In FY 2011/12, Southern California experienced another very dry year. This followed a very cool and wet FY 2010/11 that had brought the region out of a three-year drought. Consistent with the four previous years' downward water use trend, for a fifth year in a row, water use in the Inland Empire Utilities Agency (IEUA) service area declined. IEUA's service area overall water use has decreased approximately 55,000 acre-feet (19%) since FY 2006/07. In addition, this reduction in water use can be largely attributed to IEUA and its member agencies' public education, water use efficiency programs, ordinance enforcement and the economic downturn.

FIGURE 6-1
IEUA SERVICE AREA OVERALL WATER USE TREND



The continuing downward trend in overall water use is an excellent indicator of how well the IEUA member agencies have responded to the current water supply challenges. IEUA and its member agencies' have made aggressive efforts to diversify and maximize local resources and water conservation. These efforts have better prepared the service area to cope with the current and future water supply constraints.

- IEUA member agencies continued to implement MWD's water conservation ordinance requirement;
- IEUA member agencies continued to implement mandatory water use restrictions and activated their water supply shortage contingency plans (Water Reduction Stages), consistent with the IEUA Regional Urban Water Management Plan;
- IEUA member agencies successfully complied with MWD's Water Supply Allocation Plan by reducing demands by more than 32,000 AF below that of what was required during the 2007-2010 drought;
- IEUA member agencies successfully complied with MWD's Conjunctive Use Program by reducing imported water deliveries by approximately 88,000 AF and pumping approximately 88,000 AF from their Chino Basin groundwater storage account during the 2007-2010 drought;
- The Recycled Water Program expanded its connected demand from 13,000 AFY (FY 2006/07) to just under 50,000 AFY (FY 2011/12). IEUA continued to maximize recycled water deliveries with sales of approximately 28,000 AF in FY 2011/12 (this includes direct reuse and recharge); and
- The Chino Desalters also continued to maximize production, as they produced just over 25,000 acre-feet, of which IEUA member agencies used approximately 14,300 acre-feet.

To ensure adequate water supplies in the future, IEUA and its member agencies have recently completed several water supply management plans that outline all current and future efforts to diversify and maximize imported resources, local resources and water conservation.

- In coordination with IEUA's member agencies, and other local agencies, IEUA completed its 2010 Regional Urban Water Management Plan, summarizing the projected water demands and supplies through the year 2035.
- In coordination with Chino Basin Watermaster, IEUA and its member agencies began discussing the implementation plan for the Chino Basin Recharge Master Plan, which was completed in FY 2009/10. This Plan outlines required recharge facilities and replenishment water needed to meet the projected water demands;
- IEUA and its member agencies will implement the water use efficiency programs lined out in the Long Term Regional Water Use Efficiency Plan, completed in FY 2009/10. This document provides the guidance needed for the development of new cost-effective water use efficiency programs;
- IEUA and its member agencies will continue working implementing the Recycled Water Three Year Business Plan, which will give IEUA the ability to deliver 50,000 AFY of recycled water; and
- IEUA and its member agencies will continue working towards completing the Phase III expansion of the Chino Desalters, which will increase capacity from 24,600 AFY to 40,000 AFY.

6.3 Historical Water Use for IEUA's Service Area

The quantity of water used within the IEUA Service Area for the past ten years has ranged from a low of 235,000 acre feet in FY 2011/12 to a high of 290,000 acre feet in FY 2006/07. The relative contribution of ground, surface, imported, recycled, and desalter water is shown in Table 6-1 and Figure 6-2.

Groundwater is the predominant source of water used in the service area, approximately 60 to 70 percent of the total water supplies for the IEUA service area. Imported water was the next largest category, ranging from 20 to 30 percent of the water used in the service area. Surface water from the San Gabriel Mountains comprise a fairly small, yet critical, portion of the water used in the service area ranging from 5 to 12 percent of the annual supplies depending on wet and dry winters. Recycled and desalter water combined for about 1 to 13 percent of the water use in the service area.

The majority of the water demand within the Agency's service area in recent history has been for urban (residential, commercial, industrial and institutional) uses. The remaining water has been used for agricultural purposes. In FY 2011/12, about 90% of the water demand was for urban use and 10% for agriculture. Comparing total water demand (urban and agricultural uses) in FY

2001/02 to FY 2011/12 within IEUA's service area, water use actually decreased by approximately 15,000 acre feet (from approximately 250,000 acre-feet to 235,000 acre feet).

TABLE 6-1
TOTAL WATER PRODUCTION BY SOURCE WITHIN IEUA SERVICE AREA (AFY)

Water Source	Fiscal Year Ending June 30					
	2002	2003	2004	2005	2006	2007
Chino Basin Groundwater	85,806	92,501	89,103	84,551	77,195	90,032
Other Basin Groundwater	39,964	43,024	42,377	36,198	48,780	53,830
Surface Water	8,903	9,554	9,058	18,060	18,756	21,184
Imported Water	68,560	61,027	80,170	67,694	68,456	69,453
Recycled Water	4,442	4,498	5,408	5,396	8,847	13,029
Desalter	4,519	6,499	4,696	3,904	6,449	12,904
Agricultural Groundwater Use	38,196	35,168	38,192	31,505	30,253	29,653
Total	**250,390**	**252,271**	**269,004**	**247,308**	**258,736**	**290,085**

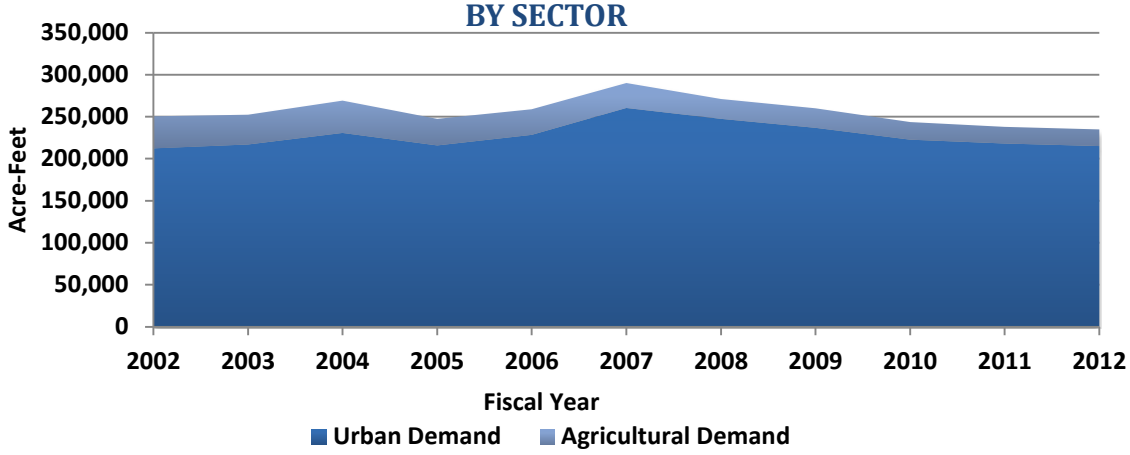
Water Source	Fiscal Year Ending June 30				
	2008	2009	2010	2011	2012[a]
Chino Basin Groundwater	87,908	66,351	68,277	70,352	70,000
Other Basin Groundwater	43,401	46,418	41,724	31,371	37,000
Surface Water	18,411	16,767	25,653	43,874	25,000
Imported Water	68,951	78,872	54,934	42,839	50,000
Recycled Water	13,493	13,360	17,298	16,656	18,000
Desalter	15,301	14,810	14,737	14,282	15,000
Agricultural Groundwater Use	23,539	23,277	21,043	20,000	20,000
Total	**271,004**	**259,855**	**243,666**	**239,374**	**235,000**

[a] Estimates were used for 2012 water use.

Sources: Chino Basin Watermaster assessment table, WFA water deliveries, and retail agency records.

However, urban demand fluctuated by approximately 50,000 acre-feet, throughout the ten year period. In FY 2001/02 urban demand was 212,000 acre-feet, and in FY 2011/12 urban demand was 215,000 acre-feet. However, in FY 2006/07, urban demand peaked at approximately 260,000 acre-feet. The agriculture demand steadily declined from about 38,000 acre-feet per year in FY 2001/02 to approximately 20,000 acre-feet per year in FY 2011/12, consistent with the conversion of these lands to urban development and converting agricultural demands to recycled water use.

FIGURE 6-2
2002-2012 TOTAL WATER USE WITHIN IEUA SERVICE AREA BY SECTOR



Looking back on California's history of water demands and supplies can provide powerful insight into what IEUA and its member agencies can expect and prepare for in the future. For example, the early 1990's were characterized by an intense drought (1988-1992) that sharply increased demand and then, as a result of the region's conservation efforts, decreased the area's water usage for several years after. Similarly, during the recent 2007-2010 California water crises (FY 2006/07 being a record-breaking dry year for California with the Agency's service area receiving less than 5 inches of rain – far below the 15-inch average rainfall for the region) the region saw a short sharp increase in demand followed by a longer lasting decrease in demand. IEUA's water management strategy (described in section 6.4 and 6.6) enables the region to handle future increases in demand, but strives towards and prepares the region for a sustainable decrease in demand.

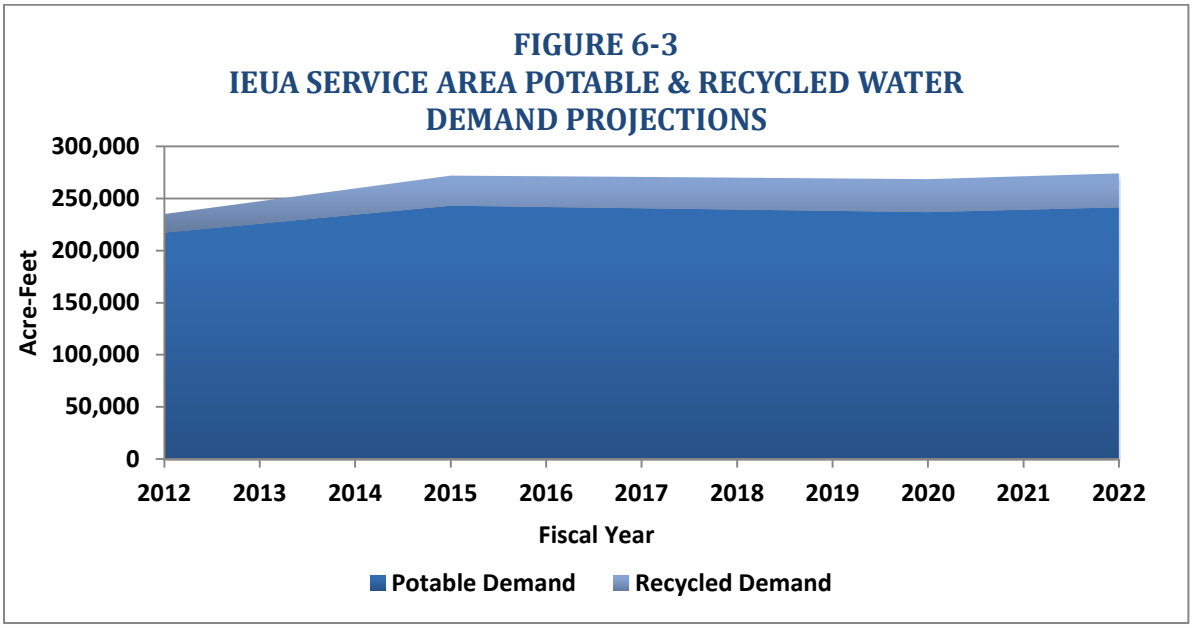
6.4 Future Water Demands for IEUA's Service Area

Total future water demand (which includes agricultural production) within IEUA's service area over the next ten years is expected to increase by approximately 39,000 acre-feet (from 235,000 acre-feet to about 274,000 acre feet per year)[1]. This represents a potential 17% increase in the area's projected water demands. With the conversion of agricultural land to urban uses over the next ten years, the percentage of water used in the area to meet urban demand will increase while the share of water used for agricultural purposes will decline. By FY 2021/22, urban water use is

[1] The water demand forecasts used in preparation of IEUA's 2010 UWMP are based upon information provided by the respective member agencies.

expected to be 97.5% of the water demand (about 267,000 acre-feet), while agriculture will use less than 2.5% (about 7,000 acre-feet).

FIGURE 6-3
IEUA SERVICE AREA POTABLE & RECYCLED WATER DEMAND PROJECTIONS



By FY 2021/22, the IEUA member agencies that are projected to have the largest water demand within IEUA's service area are the Cucamonga Valley Water District (at 53,599 acre-feet per year, a 14% increase above 2012 water usage), the City of Ontario (at 51,744 acre-feet per year, a 38% increase above 2012 water usage), and Fontana Water Company (at 44,347 acre-feet per year, a 5% increase above 2012 water usage) as shown in Table 6-2.

FIGURE 6-4
IEUA SERVICE AREA DEMAND PROJECTIONS BY AGENCY

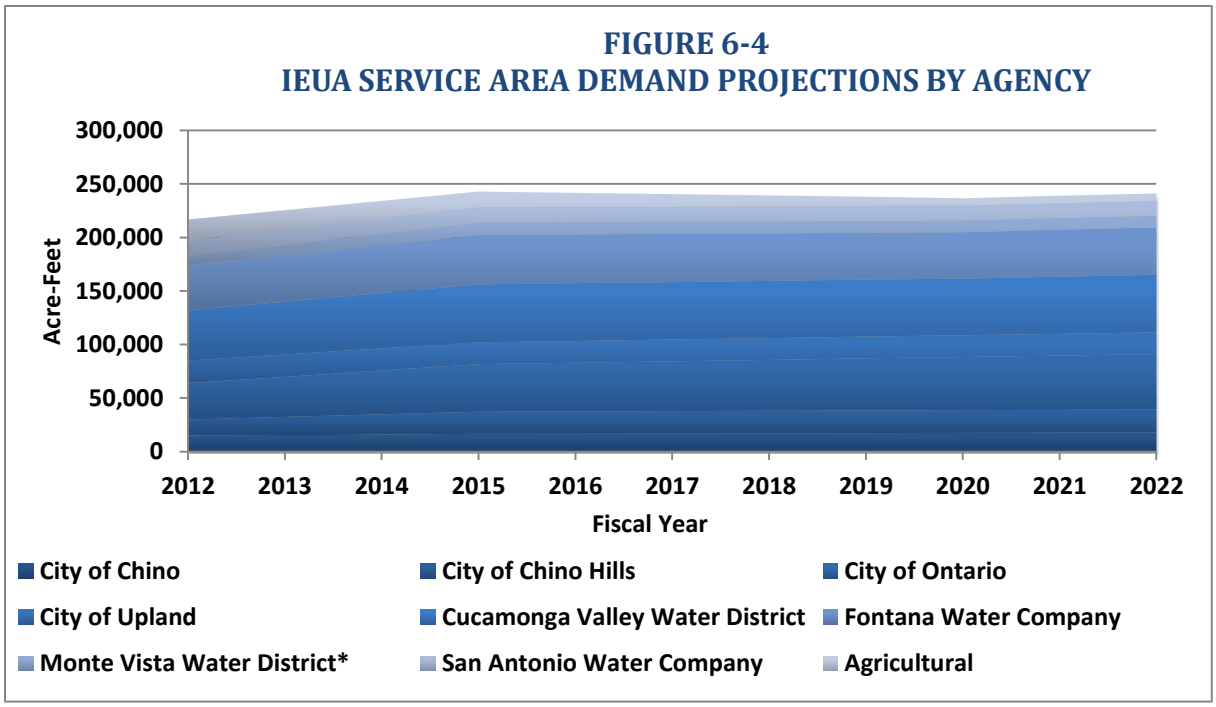


TABLE 6-2
WATER DEMAND PROJECTIONS BY IEUA MEMBER AGENCIES [1]

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
City of Chino	15,000	15,534	16,068	16,602	16,762	16,922	17,081	17,241	17,401	17,696	17,990
City of Chino Hills	15,000	16,933	18,867	20,800	20,920	21,040	21,160	21,280	21,400	21,400	21,400
City of Ontario	34,000	37,471	40,942	44,413	45,460	46,507	47,553	48,600	49,647	50,695	51,744
City of Upland	21,000	20,777	20,553	20,330	20,330	20,330	20,330	20,330	20,330	20,330	20,330
Cucamonga Valley Water District	47,000	49,381	51,763	54,144	53,900	53,655	53,411	53,166	52,922	53,260	53,599
Fontana Water Company	42,000	43,339	44,678	46,017	45,486	44,955	44,425	43,894	43,363	43,855	44,347
Monte Vista Water District	9,000	9,900	10,800	11,700	11,508	11,316	11,124	10,932	10,740	10,800	10,860
San Antonio Water Company	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000
Agricultural	20,000	18,333	16,667	15,000	13,400	11,800	10,200	8,600	7,000	7,000	7,000
Potable Demand	**217,000**	**225,669**	**234,337**	**243,006**	**241,765**	**240,525**	**239,284**	**238,044**	**236,803**	**239,036**	**241,269**
Recycled Water (Direct Reuse)	18,000	21,622	25,243	28,865	29,424	29,984	30,543	31,103	31,662	32,201	32,741
Total Demand	**235,000**	**247,290**	**259,581**	**271,871**	**271,190**	**270,509**	**269,827**	**269,146**	**268,465**	**271,238**	**274,010**

[1]*Demand projections taken from local agency's UWMPs*

6.5 Future Water Supplies for IEUA's Service Area

Over the last ten-years, significant investments in local supply facilities has helped reduce dependence on imported water and to achieve the other program goals. These include capital expenditures of about $110 million dollars for recycled water projects, $50 million dollars for improvements of recharge basins, $150 million for Desalters I and II, and $ 27.5 million for the MWD recharge and extraction of stored imported water for the Dry Year Yield Program. Together, almost $350 million has been spent to enhance local water supplies.

Through the implementation of these integrated water management strategies and investments, today and through the foreseeable future available water supplies will exceed anticipated demands. Urban water supplies within the service area are projected to increase 70,000 acre-feet (from 281,000 acre-feet in FY 2011/12 to 353,000 acre-feet by FY 2021/22). The increase in supplies will come from a number of areas: groundwater production is expected to increase by approximately 38,000 AFY (made up of the Chino Basin, including desalters, land other local groundwater basins); imported water is expected to increase by approximately 22,000 AFY; recycled water is expected to increase by approximately 10,000 AFY; and local surface water does not change in these projections.

(NOTE: Agricultural uses were not included in the discussion of future urban water supplies.)

FIGURE 6-5
IEUA SERVICE AREA SUPPLY PROJECTION BY SOURCE

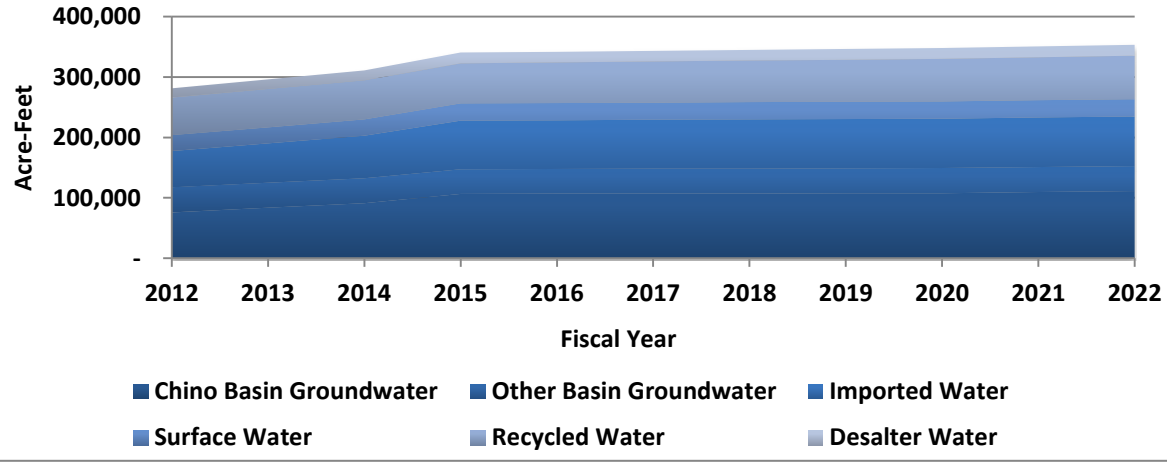


TABLE 6-3
PROJECTED URBAN WATER SUPPLY IN IEUA SERVICE AREA BY SOURCE (AFY)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Chino Basin Groundwater	75,956	83,635	91,315	106,673	106,901	107,129	107,356	107,584	107,812	109,485	111,158
Other Basin Groundwater	41,514	41,303	41,093	40,672	40,872	41,072	41,272	41,472	41,672	41,672	41,672
Desalter Water	15,336	15,935	16,535	17,733	17,733	17,733	17,733	17,733	17,733	17,733	17,733
Surface Water	26,220	26,788	27,355	28,490	28,490	28,490	28,490	28,490	28,490	28,490	28,490
Imported Water	60,058	65,183	70,307	80,556	80,773	80,990	81,207	81,424	81,641	81,858	82,075
Recycled Water	62,355	63,326	64,298	66,241	67,071	67,901	68,731	69,561	70,391	71,193	71,995
Total Supplies	**281,439**	**296,171**	**310,902**	**340,365**	**341,840**	**343,314**	**344,789**	**346,264**	**347,739**	**350,431**	**353,123**

[1]Demand projections taken from local agency's UWMPs

6.6 Water Use Efficiency/Conservation

Water Conservation programs are a significant part of IEUA's Water Resources Program and, in light of that, IEUA recognized early on that water conservation would play a fundamental role in sustaining and meeting future water supply needs.

In September 1991, IEUA became one of the first water agencies to sign the California Urban Water Conservation Council's (CUWCC) Memorandum of Understanding Regarding Urban Water Conservation (MOU), accepting and supporting to implement a prescribed set of urban water conservation Best Management Practices (BMPs). As one of the original signatories to the MOU in 1991, IEUA's highest conservation priority has been to ensure that good-faith efforts are made on behalf of the member agencies in implementing Best Management Practices, locally.

Over the last nineteen years, IEUA has been and will continue to be committed to developing and implementing many core regional conservation programs that have been designed on the foundation of BMPs, and these programs continue to serve as a key component in the overall regional water resource management portfolio for the region.

Moving forward, IEUA will continue to implement active and code-based BMP related activities utilizing strategies identified in IEUA's Regional Long Term Water Use Efficiency Plan. IEUA and its member agencies have agreed to implement parallel programs that have complementary approaches. The strategies identified seek to leverage assets through regional funding opportunities, inter-agency partnerships, and grants in order to provide a greater return on the region's investment in conservation and maintain financially sustainable conservation programs.

IEUA, as an urban wholesale water supplier, is not required to develop a baseline or set reduction targets to achieve a 20% reduction in gallons per capita day by 2020 as written under SBX 7-7. However, as the statute does require urban retail water suppliers to comply, IEUA takes the position of preparing a regional approach establishing a baseline and setting targets based on regional demands and in support of its eight retail member agencies that must comply. All member agencies within IEUA's service area have agreed to the formation of a regional alliance, and will continue to cooperatively participate in developing programs and meeting water conservation goals.

IEUA and its member agencies devised a strategy to meet all compliance requirements in the most cost-effective manner feasible. Below is a chart showing the compliance requirements and associated strategies for each:

Compliance Requirements

Regulatory Agency or State Organization	*Requirements*	*Approach*
20x2020	Reduce per capita water use by 10% by 2015 AND Reduce per capita water use by 20% by 2020	By implementing Active Water Use Programs, Policy Initiatives, and increasing Recycled Water Supply, IEUA and its agencies are projected to be on track to meet per capita water reduction goals for both target years.
CUWCC	Reduce per capita water use by 18% by 2018*	IEUA and its agencies will utilize CUWCC's new GPCD option, which offers a per capita methodology to track compliance. This will align with the requirements of 20x2020 as well.
AB 1420	Fulfill BMP commitments	Lines up with actions taken to meet CUWCC BMP compliance.

Compliance Requirements

Although the current goals for each of the regulatory agencies and state organizations vary, all are moving to a Gallons-per-Capita-per-Day (GPCD) savings goal that is in line with the 20x2020 per Capita Water Use Reduction Goals.

IEUA expects to exceed the 20x2020 goal for both the 2015 target and the 2020 target. This will be accomplished through regional and local actions utilizing:

1. **Water Use Efficiency (WUE) Active Programs** – offering customers a portfolio of programs including cost-effective indoor and outdoor water efficiency measures
2. **WUE Passive Policy Initiatives –** including building codes and landscape ordinances
3. **Recycled Water Use** – reducing demand for potable water by increasing recycled water supply.

The chart below shows the anticipated GPCD reduction from the WUE activities and recycled water supply:

Impact of WUE Activities and Recycled Water Use

	YEAR	
	GPCD Reduction by 2015	**GPCD Reduction by 2020**
Projected GPCD reduction from WUE Activities Only	5	13
Projected GPCD reduction from Recycled Water Use Only	38	45
TOTAL Projected GPCD Reduction	**43**	**58**
10 Year Baseline GPCD	**251**	
IEUA GPCD Target	226	201
IEUA Projected GPCD Achievement	208	193

The water use reduction goal of 5,157 acre-feet for 2015 and 15,020 acre-feet for 2020 is the GPCD WUE compliance goal presented in acre-feet. As shown, the WUE active and passive initiatives to be implemented under this plan are estimated to achieve much greater savings than the GPCD requirements.

With major challenges ahead, IEUA recognizes that a sound, fact-based plan is needed as a tool to guide water use efficiency program implementation over the upcoming years. IEUA, working in tandem with the eight agencies, created a Regional Water Use Efficiency Partnership Workgroup and initiated an eight-step process that resulted in the creation of a regional *Water Use Efficiency Business Plan* (Plan).

The Plan includes the following information:

- The current water supply situation and usage patterns;
- Specific market opportunities;
- A strategy for reaching water savings goals;
- Recommended programs with budgets, water savings, costs, marketing and operational details;
- A program implementation plan and schedule; and,
- A system for tracking and reporting performance over time.

In order to achieve the WUE active programs' goals, listed above, IEUA will implement active water use efficiency programs that will achieve water savings. These programs will deliver water savings through the 2015 and 2020 target years and beyond due to the long life for many of the measures being implemented.

The strategy developed for goal achievement has the following elements:

- Target markets with highest water savings opportunity;
- Provide program innovation to transform the landscape WUE market;
- Secure outside funding for programs;
- Provide sustained education and outreach to customers; and
- Advocate for State and regionally appropriate rules, regulations and ordinances for the efficient use of water

6.7 IEUA Integrated Water Management Plan

Historically, the key philosophy of the IEUA integrated water management plan was to maximize local water sources and minimize the need for imported water, especially during dry years and other emergency shortages from MWD. The integrated plan strived to achieve multiple objectives of increased water supply, enhanced water quality, improved quality of life, and energy savings.

Today, with water usage at an all-time low (relative to population) water agencies and districts are being forced to raise water rates at an extremely fast pace to make up for reduced sales. Large water use fluctuations at the regional MWD level has caused MWD untreated Tier I rates to increase by 69% and Replenishment rates to increase by 86%, since 2007. Despite these drastic rate increases, IEUA may see a shift away from its integrated water management plan and once again become more dependent on imported water (via MWD).

The key reason for this shift back to imported water is the increase and potential elimination of MWD's replenishment water rate. Traditionally, the Chino Basin has always overproduced the underlying groundwater basin with the understanding that it would have replenishment water available, from MWD, to replenish the overproduction. However, with the replenishment rate increases it is no longer economical for Chino Basin pumpers to overproduce the basin and then purchase replenishment water. It is now more economical to buy Tier I water from MWD, thus becoming more dependent on imported supplies rather than local supplies.

IEUA has and will continue to develop other local and imported water resources as needed, to ensure reliability.

7.0 NON-RECLAIMABLE WASTEWATER SYSTEM

At the request of the Board of Directors, IEUA developed an asset management program to identify, inventory, and assess the condition of major assets and to plan for necessary capital improvement projects. This chapter discusses ongoing and future projects for the Non-Reclaimable Wastewater System (NRWS) in accordance with the asset management program.

IEUA's 2002 Salinity Management Action Plan, which calls for maximizing the use of the NRWS and developing a program to reduce the salt impacts from water softeners to IEUA water recycling facilities, is reflected in these capital projects

7.1 Background

IEUA owns and operates the NRWS pipelines and pump station which export high-salinity industrial wastewater generated within the IEUA service area to the Pacific Ocean. The wastewater discharged to the NRWS consists mainly of industrial and groundwater treatment brines. IEUA also discharges belt press filtrate resulting from the dewatering of the biosolids generated within the IEUA's water recycling treatment facilities and some domestic waste from non-sewered areas. The NRWS is physically separated from the Regional Wastewater System and provides a means for segregating poor quality, saline wastewater and exporting it out of the IEUA service area.

By maximizing the use of the NRWS, the quality of the recycled water is improved for local use and helps ensure that IEUA can comply with the final effluent total dissolved solids (TDS) and total nitrogen limits listed in the National Pollutant Discharge Elimination System (NPDES) permits.

For FY 2010/11, the NRWS exported approximately 39,354 tons of salt to the ocean, as summarized below and illustrated in Figure 7-1 and Table 7-1.

The NRWS collection system includes 60 miles of pipeline and is comprised of a north and a south system. The north system, which serves approximately 46 industries, conveys wastewater to adjacent interceptor sewer lines owned and operated by the County Sanitation Districts of Los Angeles County (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 21 industries, conveys wastewater to the Inland Empire Brine Line (Brine Line), owned by the Santa Ana Watershed Project Authority (SAWPA), and from there it is carried to the Orange County Sanitation Districts (OCSD) facility in Fountain Valley for treatment and ocean discharge.

FIGURE 7-1: SALT EXPORT FROM CHINO BASIN

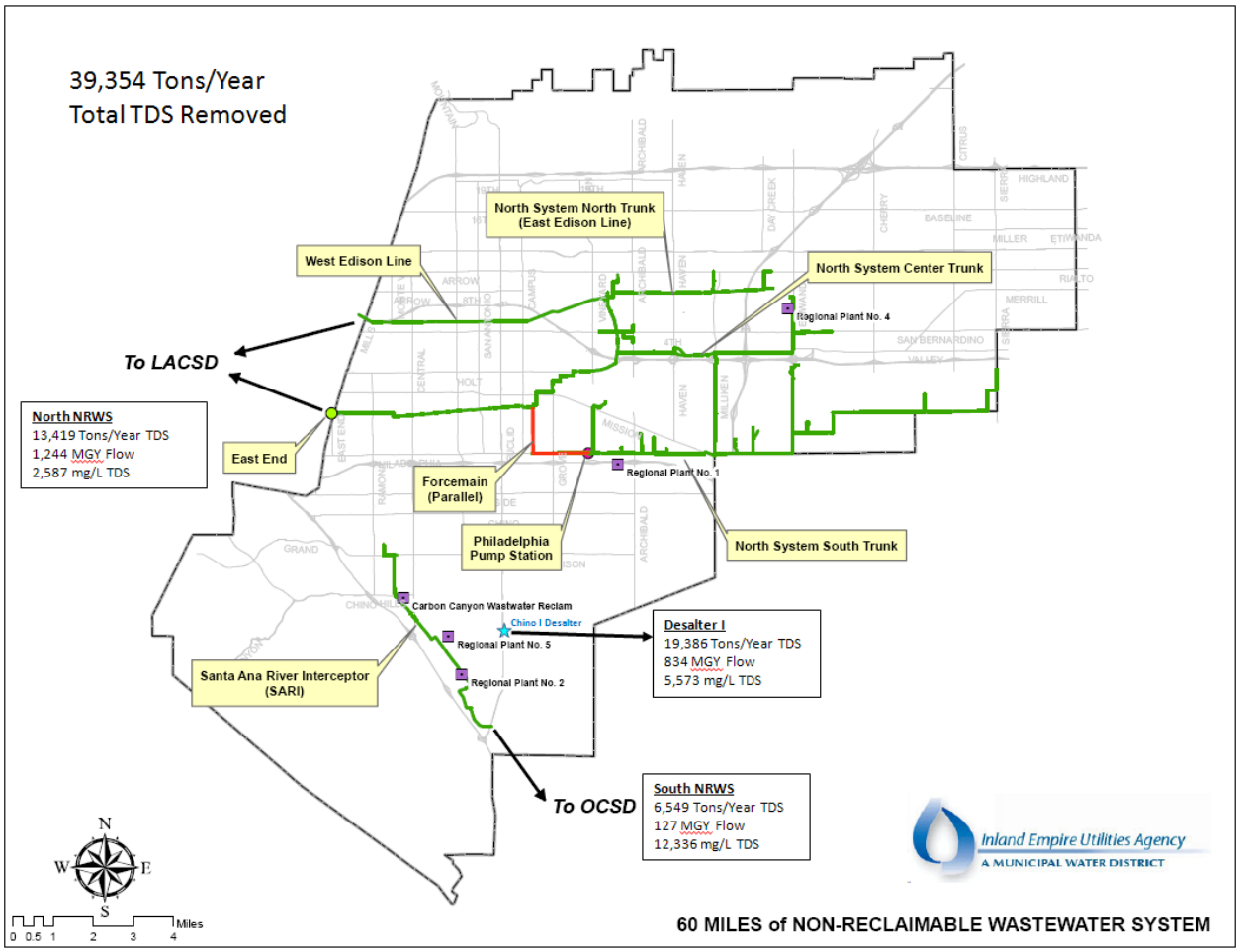


TABLE 7-1
TONS OF SALT REMOVED

FY 2010/11	Million Gallons/Year	TDS (mg/L)	Tons/Year
North NRW System	1,244	2,587	13,419
South NRW System	127	12,336	6,549
Desalter 1, (14 MGD)	834	5,573	19,386
Total	**2,205**	**4,280** (Flow-Weighted)	**39,354**

Export of saline and industrial wastewater from the local area in this manner protects the quality of the IEUA's recycled water and is a key element of the CBWM's Optimum Basin Management Plan (OBMP). Diverting saline wastewater to the NRWS instead of collecting it in the regional wastewater system has reduced the TDS levels in the recycled water by approximately 300 mg/l. It is estimated that diverting most of the existing industrial users discharging to the regional sewer with TDS concentrations above 550 mg/l to the NRWS could lower the TDS level of the recycled water by another 8 to 11 mg/l. In addition, reducing salts from residential water softeners could further reduce the TDS level. Most important, brine from the groundwater desalter facilities should also be diverted to the NRWS in order to avoid raising the TDS level of the recycled water.

7.2 NRWS and Salinity Management Action Plan

IEUA developed a Salinity Management Action Plan in 2002 in cooperation with the Regional Technical and Policy Committees. This was done to protect and enhance the ability of the region to use recycled water for groundwater recharge, outdoor irrigation and industrial process water. Use of recycled water is critical to the reliability of future water supplies for the region. Some of the strategies that were identified to reduce the salinity of recycled water supplies included:

- Maximizing the use of the NRWS
- Developing a program to reduce the salt impacts from water softeners
- Reducing salinity contributions from IEUA water recycling facilities
- Construction of regional groundwater desalters.

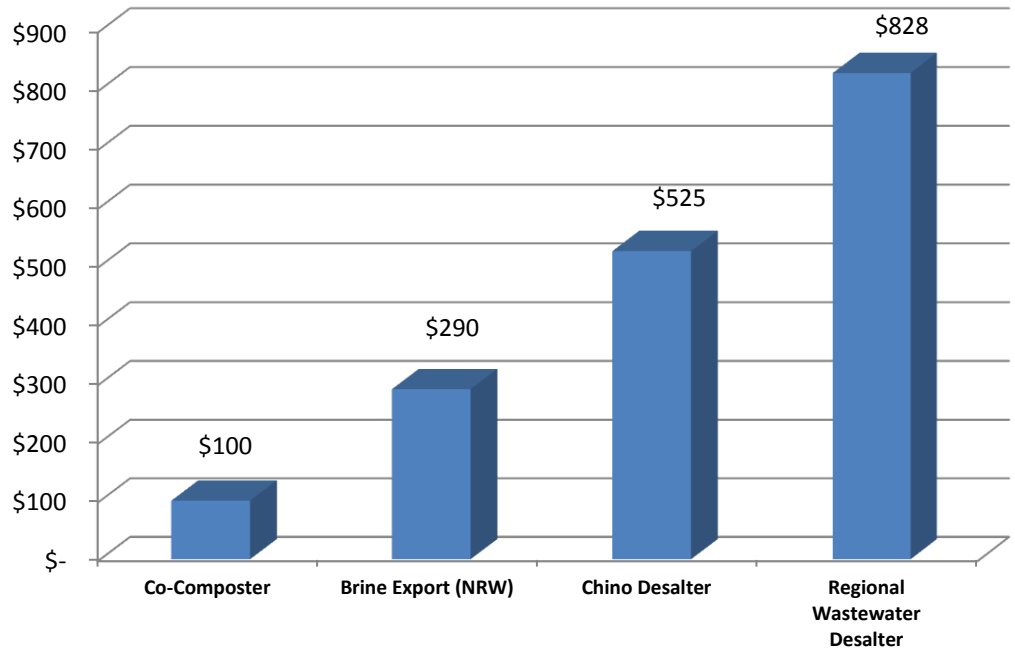
These actions were incorporated into the Basin Plan Amendment adopted by the Santa Ana Regional Water Quality Control Board in 2004, which included the salt and nutrient management plan for the Chino Basin. Regional implementation of these actions over the past decade has resulted in the annual export of over 40,000 tons per year of salt from the region.

A study by Parsons Engineering Science (2000) evaluated the long-term issues and future funding needs for operating and maintaining the NRWS in the most cost-effective manner. Parsons suggested that the most cost-effective strategies for maximizing the use of the NRW system were: (1) diverting more high-salinity wastewater flow from the Regional system to the NRWS, thereby reducing the need for expansion of the Regional system; and (2) melding the NRW user rates and charges with the Regional system, "Regionalization". The study confirmed that utilization of the NRWS minimizes IEUA's treatment costs for salt, as illustrated in Figure 7-2.

In 2003, IEUA in partnership with the Regional Technical and Policy Committees, the CBWM and the Santa Ana Regional Water Quality Control Board, developed a strategy to reduce TDS at the IEUA regional water recycling plants and to encourage salt export through optimum utilization of the NRWS consistent with the OBMP.

Implementation of the current Salinity Action Plan is expected to achieve substantial avoided costs and valuable benefits for the region. The Plan consists of the following:

Figure 7-2:
Relative Costs of Salt Removal From Chino Basin
(Dollars per Ton of Salt Removed)



- Water Softener Removal Rebate Program — IEUA developed a pilot *Automatic Water Softener Removal Rebate Program* that was launched in September 2008. Implemented in partnership with the Metropolitan Water District of Southern California, National Water Research Institute, and the Southern California Salinity Coalition, the program developed fact sheets, newspaper and cable TV ads, and even a video that could be shown on local cable stations explaining the impact of the salt from the use of residential self-regenerating water softeners on the regional recycled water supply. As of February 2012, over 474 residents have participated in the pilot rebate program keeping an estimated 100 tons per year of salt out of the Regional system. As a result of this program, approximately 9 acre-feet of water has been saved each year. The second phase of the program kicked off in December 2009, with contracting agencies inserting the rebate offer into residential water bill mailings. A focused campaign promoting the rebate program will continue throughout the year with the goal of removing as many self-regenerating water softeners as possible.

  The objective of this project is to achieve significant reductions in salinity contributed to the wastewater systems from automatic water softeners. It is estimated that by removing all self-regenerating water softeners, recycled water TDS will be reduced by about 15 to 25 mg/L. This program provides an opportunity to educate the public on why salinity is such an important water quality issue and also places emphasis on the growing importance of recycled water as one of the core water supplies for the IEUA's service area.

- Water Softener Legislation (AB 1366) – In 2009, IEUA successfully sponsored legislation, AB 1366, that now provides local agencies with expanded authority to regulate residential self-regenerating water softeners, especially in areas of the state with water bodies adversely impacted by salinity and high use groundwater basins that are hydro-geologically vulnerable to salinity pollution, such as the Chino Basin.

  Subsequent to the passing of AB 1366, in March 2010, the Santa Ana Regional Water Quality Control Board (Regional Board) amended IEUA's Regional Water Recycling Permit making the necessary finding that controlling the discharge of salt from residential self-regenerating water softeners into the collection systems will contribute to the achievement of the water quality objectives approved in the Basin Plan Amendment.

  In summer 2010, the IEUA Regional Technical Committee approved the formation of a Regional Water Softener Task Force, comprised of representatives from each of the contracting agencies, to draft a model ordinance for IEUA and for the contracting agencies to regulate self-regenerating water softeners. The Task Force reviewed studies assessing and estimating the impact of water softener use within the IEUA's service area, the alternatives to the use of self-regenerating water softeners, and developed the draft model ordinances.

  In February 2011 the IEUA Regional Technical and Policy Committees unanimously approved the adoption by IEUA and the member agencies of ordinances to prohibit the future installation of residential self-regenerating water softeners. It was recommended that IEUA adopt their regional ordinance first, followed by adoption of the member agencies ordinances.

  On June 15, 2011, IEUA held its public hearing on the proposed ordinance amendment which would restrict the future installation, replacement, or enlargement of any self-regenerating water softening appliance that discharges into the IEUA Regional Sewer System. Seventeen people spoke in favor of the ordinance, and there was no written or verbal opposition. In addition to the public testimony, IEUA received over 100 letters of support from residents in the IEUA service area and over 25 letters of support from local businesses, regulators, environmental groups, and other water agencies. The Ordinance 87 amendment was adopted on July 20, 2011, at the IEUA Board of Directors meeting. Thus far both the Cities of Montclair and Upland have adopted their ordinances prohibiting the future installation of residential self-regenerating water softeners. The other member agencies are in the process of revising their ordinances.

  The water softener public education campaign and IEUA-administered rebate program for the voluntary removal of previously installed self-regenerating water softeners will be continued to reduce salt discharges from these existing systems. The water softener public education campaign will be continued to explain why the prohibition on salt discharging water softeners is so important to protecting the availability and quality of the region's recycled water supplies.

- Implementation of the Maximum Benefit Basin Plan—Ensure compliance with the Maximum Benefit requirements and with the Memorandum of Understanding with the Orange County Water District and Regional Board. Critical near-term action items undertaken include: (1) developing monitoring work plan with Watermaster; (2) evaluating regional wastewater pretreatment ordinance technical TDS increment; and (3) preparing annual reports on salt balance (Watermaster responsibility);

- Buyback Agreement with CSDLAC—IEUA relinquished 3 MGD of owned capacity in the NRW to LACSD in April 2004, which has lowered annual payments to CSDLAC by approximately 23% or approximately $350,000 annually. The savings will be passed on to NRWS customers through more favorable rates and charges. Also encourages the use of the NRWS by new and existing industries to discharge their saline effluent and increase the salt export;

- NRW "Pass Through" Rates—IEUA staff developed a pass through rates and budget impact analysis for existing industrial customers. This action will encourage existing regional industries with effluent TDS concentrations above 500 mg/L to divert their discharge to the NRWS and to use recycled water. "Pass Through" rates provide economic incentives for existing regional industries with effluent TDS concentrations above 500 mg/L. This is a key component of the Chino Basin OBMP strategy;

- Chino Desalter "Brine Line" Capacity Alternatives—In April 2004, IEUA made an agreement with the Chino Desalter Authority (CDA) to sell IEUA owned Brine Line capacity to the CDA to discharge the brine waste from the Chino I Desalter Expansion and the future Chino II Desalter to the Brine Line.

- Leasing of Temporary Brine Line Capacity to Lewis Operating Company—IEUA entered into an agreement with Lewis Operating Company (LOC) to lease a portion of the Brine Line capacity for their Chino Preserve Expansion. IEUA has made this lease available to LOC until the City of Chino completes the design and construction of the new Preserve Lift Station. Once these permanent sewer facilities are completed, the California Institution for Women (CIW) will divert their discharge from the Brine Line to the new Lift Station, which will flow to RP-5 (Status: In Progress);

7.3 Economic Benefits of the NRWS and Salinity Management Action Plan

IEUA expects to achieve substantial avoided costs as well as benefits for the service area by implementation of the NRWS Action Plan. The IEUA will avoid the cost of treating non-reclaimable industrial wastewater at IEUA's water recycling plants, which would require additional secondary and tertiary treatment capacity to handle the flow plus desalination facilities to remove TDS. A resulting economic benefit to IEUA is the ability to use 35,000 acre-feet per year of recycled water for groundwater recharge instead of more expensive imported water. IEUA expects to avoid an

estimated $430 million in future costs over the next ten years as a result of the full implementation of the NRW Action Plan. These avoided costs are summarized in Table 7-2.

TABLE 7-2
COSTS AVOIDED BY THE NRW ACTION PLAN

Action Avoided	Estimated Future Costs Avoided ($ Millions)
Construction & Operation of Desalination Facilities at Regional Plants	$250
Construction of Secondary and Tertiary Treatment Facilities at Regional Plants for 15 MGD (at a rate of $8 per gallon per day including solids handling)	$120
Purchase Imported Water for Recharge to Replace 35,000 AFY Recycled Water	$6 per year
Total Net Economic Benefits Over Ten Years	$430

There will also be additional revenues from the sale of unused capacity, either: (1) as part of the CSDLAC buyback agreement; (2) for the Chino Desalters; (3) for local ion exchange groundwater treatment projects; or (4) for local development in non-sewered areas. These cost savings are expected to offset the cost of "regionalizing" the NRWS.

7.4 Current Ten-Year Plan

The Ten-Year Plan cost for the NRWS is $23.9 million. Several actions are being taken to increase the economic value of the NRWS and to improve or retain the integrity of the NRWS. The major CIP projects for the NRWS are described below and listed in Table 7-3.

IEUA is obligated to make annual payments to CSDLAC to cover its proportional share of the capital repair, relocation, reconstruction and rehabilitation (4R) costs for the CSDLAC sewer system. The relinquishment of 3 MGD of unused NRWS capacity to CSDLAC reduced the ten-year budget to $6.0 million for 4R capital replacement costs, a savings of $3.3 million.

As a part of the Ten-Year CIP, one of the goals of IEUA is to identify and assess the condition, rehabilitation and replacement costs for the NRWS. IEUA retained the services of an engineering consulting firm and performed an exhaustive condition assessment of the NRWS pipelines and infrastructure including manholes using Closed Circuit Television (CCTV) and Global Positioning System (GPS) technology.

TABLE 7-3 NRW SYSTEM CAPITAL IMPROVEMENT PROGRAM—MAJOR PROJECTS							
Project Number	**Project Title**	**FY 2011/12 Projected Actual**	**FY 2012/13**	**FY 2013/14**	**FY 2014/15**	**FY 2015/16-FY 2020/21**	**Total TYCIP FY 2011/12-FY 2020/21**
EC12009	CSDLAC Capital Replacement Costs	$1.5 M	$ 1.4 M	$1.5 M	$1.4 M	$10.5 M	$14.8 M
EN07011	NRW System Upgrades	$1.0 M	$1.1 M	$1.1 M	$1.0 M	$3.5 M	$6.7 M
EN13008 EN13011	Misc. NRWS Construction & Emergency Projects	$0.2 M	$0.2 M	$0.2 M	$0.2 M	$1.4 M	$2.0 M
	Total —Major NC Projects	**$2.7 M**	**$2.7 M**	**$2.8 M**	**$2.6 M**	**$15.4 M**	**$23. 5 M**
	All NC Projects	**$3.1 M**	**$3.1 M**	**$2.8 M**	**$2.6 M**	**$15.4 M**	**$23.9 M**

IEUA continued implementation of the NRWS Condition Assessment recommendations for capital improvements. The relatively good condition of the NRWS allowed the improvements to be competed sooner, reducing the annual capital expenditure. An aggressive cleaning and on-going system maintenance program is in progress with the goal to clean every segment of the NRWS over the next several years. This cleaning effort will be supplemented with CCTV inspection of the pipe after cleaning. If any additional repairs are identified from the CCTV inspection, a capital project will be initiated to refurbish the pipeline as needed. The on-going system maintenance program will help meet the requirements of the State mandated Wastewater Discharge Requirements for the Sanitary Sewer Management Program (SSMP).

8.0 FINANCING

8.1 Introduction

Since mid-2009, the US has seen unbalanced but improving economic conditions, following one of the worst economic downturns in history, with the story being the upturn in real gross domestic product (GDP) growth in each quarter. According to 2011-12 Mid-Year Economic Forecast and Industry Outlook prepared by The Keyser Center of Economic Research, three core sectors with significant contribution to the current recovery have been; (1) increased consumer spending, (2) a bounce back in exports, and (3) increased business equipment spending. So far, housing has been the weakest performer. Sustained improvements in the anemic recovery will be hampered by risk exposures of continued deterioration of the European sovereign debt/economic crisis, rising energy prices, excessive inventories of foreclosed properties, emerging markets slowed by slower developed economies, and other relevant factors. Minimization of these inherent risks will enable the economy to hasten sustained job creation. To date, less than 2 million of the 8.4 million jobs lost during 2008 and 2009 downturn have been recovered. The nation's unemployment rate remains at 8.3%, compared to an average rate of 4.9% over the last 10 years preceding the 2008 economic downturn.

Similar to the national trend, the California economy has also started to recover. In 2011 the economic performance of the State was mixed, with most industry sectors growing while some continued in the doldrums. According to 2012-13 Economic Forecast and Industry Outlook report prepared by The Keyser Center For Economic Research, the sectors of the economy exhibiting sustained improvements and positive forces include high technology, tourism, entertainment, healthcare, private education and retail. Negative forces remain in housing and related activity. The State's unemployment rate remains at 11.2%, compared to an average rate of 6.0% over the last 10 years preceding the 2008 economic downturn.

The Inland Empire (IE), one of the regions hardest hit by national recession and home to the Agency's service area, has also entered a recovery mode; notable from the 2,800 jobs added in 2011. However, the recovery is extremely weak at best as it is plagued by unemployment that exceeds 12%, persistent foreclosures and underwater mortgages that exceed deflated property values, falling home prices, and weak sales and personal income tax revenues. These major economic indicators continue to be the key drivers for the Agency's Ten-Year Capital Improvement Plan (TYCIP) planning. Dr. John Husing, Chief Economist of the Inland Empire Economic Partnership, highlighted the dimensions of the region's mortgage weaknesses in his January 2012 Quarterly Economic Report for the IE wherein he identified 44% (370,960) of homes carrying mortgages were underwater in the third quarter of 2011. This is a key driver in the region's

continuing high rate of mortgage default and foreclosures which further exerts downward pressure on home values and property tax revenue collected by local government. However, the 44% is an improvement from the 54% reported in the fourth quarter of 2009. The 10% decline indicates a slowdown on foreclosures and points to a gradual recovery in the IE housing market by the end of 2015, according the Dr. Husing.

Before the onset of 2008 economic downturn, the Agency's service area was one of the fastest growing metropolitan areas in the nation and ranked in the top ten growth regions in most national surveys. The Agency's Long Range Plan of Finance (LRPF) adopted in 2007 was based on the assumption of continued growth through 2025 and included expansion projects in the amount of $1.2 billion over the 30-year capital program for its wastewater infrastructure.

Beginning in FY 2007/08 and continuing through FY 2008/09, the Agency and the Board have deferred over $200 million of non-critical capital projects; most of which were slated to begin between FY 2007/08 and FY2009/10 in line with forecasted population growth and new connection projections. Capital projects deferred were primarily expansion and improvement projects for the wastewater system that were based on the assumption that the area's population would continue to grow at a consistent pace until reaching built out around 2025 - 2030.

In light of the ongoing bleak economic conditions and slowdown in new development, the Agency's capital program continues to focus on the refurbishment, replacement and upgrade of existing facilities rather than expansion. One exception is the Recycled Water Business Plan (RWBP), which was adopted by the IEUA Board in December 2007 to govern expansion of the Agency's Recycled Water Distribution system. The purpose of the RWBP was to increase the use of recycled water within the Agency's service area and reduce dependence on more costly imported potable water. The aggressive implementation timeline is driven by the limited supply of potable water, particularly in years with little rainfall, and the need to develop and secure local water supplies to "drought proof" the region and meet the needs of current and future customers.

In general, the Agency's capital financing is derived from 3 primary sources (Figure 8-1):

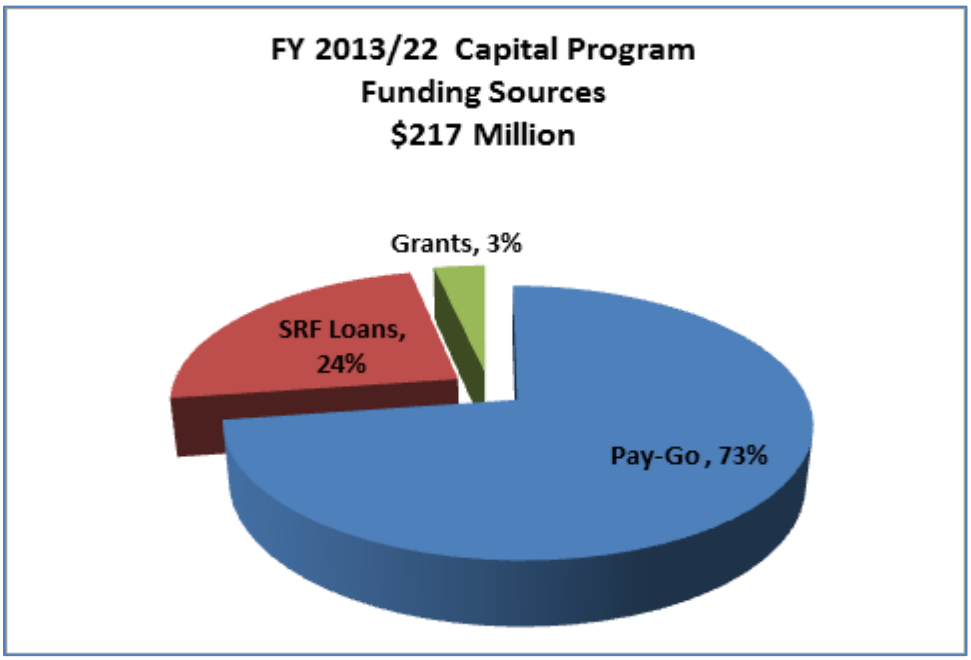
1. Pay-go cash which for purposes of the model is defined as net system revenues[1]
2. State revolving fund fixed low interest loans (SRF)
3. Federal and State grant revenues

8.2 Agency Capital Funding Sources

Presented below is a brief description of the Agency's primary revenue sources for capital expenditures.

[1] Primarily user charges, connection fees and property taxes not needed for debt service.

FIGURE 8-1
TEN YEAR CAPITAL FUNDING SOURCES



8.2.1 EDU Connection Fees

For all new development within its service area, the Agency levies a fee to connect to its regional sewer system. These fees, referred to as "new EDU (equivalent dwelling unit) connection fees", are collected by each of the Agency's contracting cities/agencies. In accordance with the Chino Basin Regional Sewage Service Contract (Regional Contract), these funds are held in trust in a Capital Capacity Reimbursement Account (CCRA) by each of the contracting cities/agencies until requested, or "called", by the Agency. Capital calls, or draws from the CCRA funds, are based on capital needs as identified and projected by the Agency. New EDU connection fees are restricted to capital acquisition, construction, enhancement, equipment, and process modifications.

The Agency's objective is to have new EDU connection fees primarily support capital improvements associated with new development. For example, connection fees support new treatment capacity for the Regional Wastewater Program, but are not to be used to support ongoing operations or capital replacement of existing facilities which should be supported by service rates.

The financial crisis of 2008 that led the nation into one of the worst economic recessions negatively impacted state and local governments. Even though most economists agree that the nation officially emerged from this historical downturn nearly a year ago, the recovery for the Inland Empire (IE) region is projected to lag the national and State recovery by three to four years. These economic challenges have resulted in a significant decline in some the Agency's key revenue streams; one being new EDU connection fees. Although projections from the member agencies have historically been considerably more optimistic, the Agency took a conservative approach to forecast the number of new connections for FY 2012/13 and ensuing years, (see Table 8-1). Historical data supports the Agency's more conservative approach.

TABLE 8-1
AGENCY'S PROJECTED NEW CONNECTION AND FEES

		Member Agencies		Agency		Difference	
FY	Rate	EDUs	$ (millions)	EDUs	$ (millions)	EDUs	$ (millions)
2012/13	$4,909	2,329	$11	1,100	$5	-1,229	($6)
2013/14	$5,007	3,400	$17	1,200	$6	-2,200	($11)
2014/15	$5,107	5,237	$27	1,300	$7	-3,937	($20)
2015/16	$5,209	3,601	$19	1,400	$7	-2,201	($11)
2016/17	$5,261	3,455	$18	1,600	$8	-1,855	($10)
2017/18	$5,314	3,599	$19	1,600	$9	-1,999	($11)
2018/19	$5,367	3,166	$17	1,400	$8	-1,766	($9)
2019/20	$5,421	2,725	$15	1,200	$7	-1,525	($8)
2020/21	$5,475	2,529	$14	1,200	$7	-1,329	($7)
2021/22	$5,530	2,529	$14	1,200	$7	-1,329	($7)
FY 2013 - FY 2022		32,570	$171	13,200	$69	-19,370	($101)

*Each Equivalent Dwelling Unit (EDU) is equal to 270 gallons per day of raw sewage flow as specified in the Regional Sewerage Service Contract – Exhibit J.

On February 1, 2012 the Agency's Board of Director's adopted the following increases in new connection fees for FY 2012/13 through FY 2014/15:

- Effective July 1, 2012, an increase from $4,766 per EDU to $4,909 per EDU for FY 2012/13
- Effective July 1, 2013, an increase from $4,909 per EDU to $5,007 per EDU for FY 2013/14
- Effective July 1, 2014, an increase from $5,007 per EDU to $5,107 per EDU for FY 2014/15

Connection fee revenues are estimated to increase from $5.4 million projected in FY 2012/13 to $6.6 million in FY 2021/22, a total of $69.5 million over the ten year period. This forecast assumes 13,200 new residential units to be connected to the system between FY 2012/13 to FY 2021/22, at an average annual of 1,320. The projected annual connection rate adjustments reported in Table 8-1 are conservatively aligned with the historical Construction Cost Index (CCI), at an average growth of 2 percent.

Figure 8-2 the historical trend of connection fees revenues relative to projected trend through FY 2016/17.

8.2.2 Capital Improvement Fees

The revenues for the Non-Reclaimable Wastewater System (NRWS) Program to support capital replacement costs consist of a monthly Capacity Improvement Fee of $90 per capacity unit owned. These fees also support debt service costs related to the NRW system capital improvement financed with 2008A Revenue Bonds.

8.2.3 General Ad Valorem Property Taxes

The Agency receives an allocated share of the San Bernardino County secured property tax levy pursuant to the California Revenue and Taxation Code. Payments from the County are regulated by the "Teeter Plan" which allows taxing agencies to collect 100% of assessed taxes each year in lieu of

receiving only those taxes actually collected by the County during the current year, and receiving penalties and interest when delinquent taxes are collected in future years.

The last two decades exhibited significant but gradual increases in property tax revenues that peaked in year FY 2008/09 and then began a steady decline following the 2008 economic downturn that resulting in significant drop in assessed property values throughout the IE, (see Figure 8-2).

FIGURE 8-2
CONNECTION FEE REVENUES HISTORICAL AND FUTURE TREND

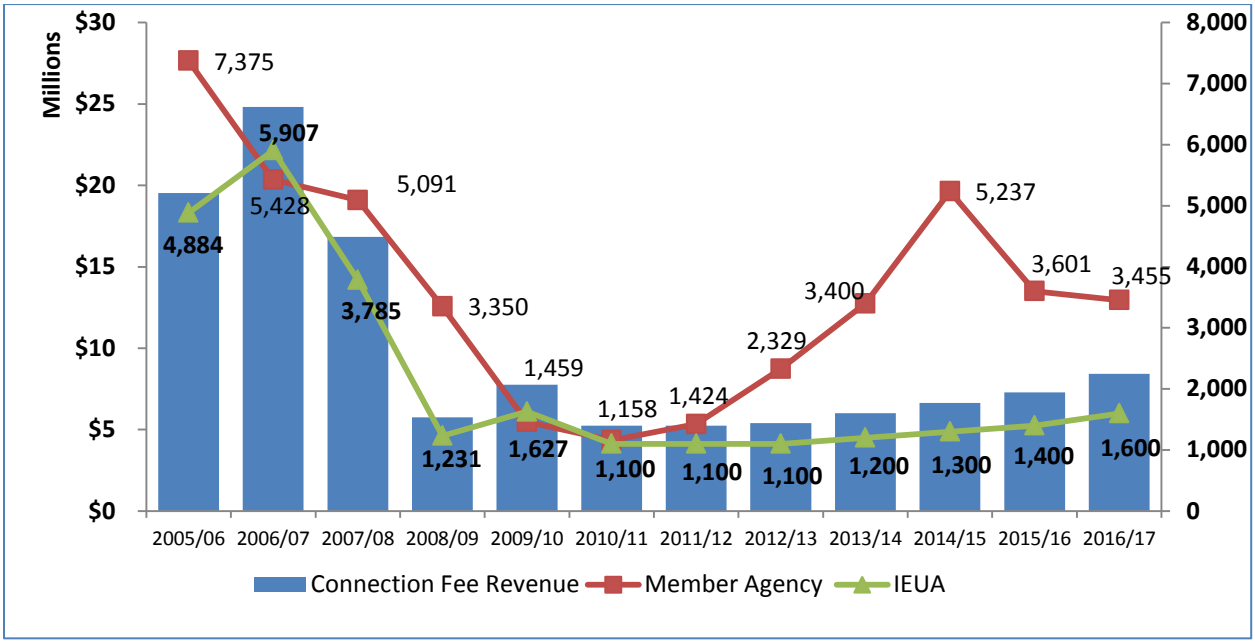
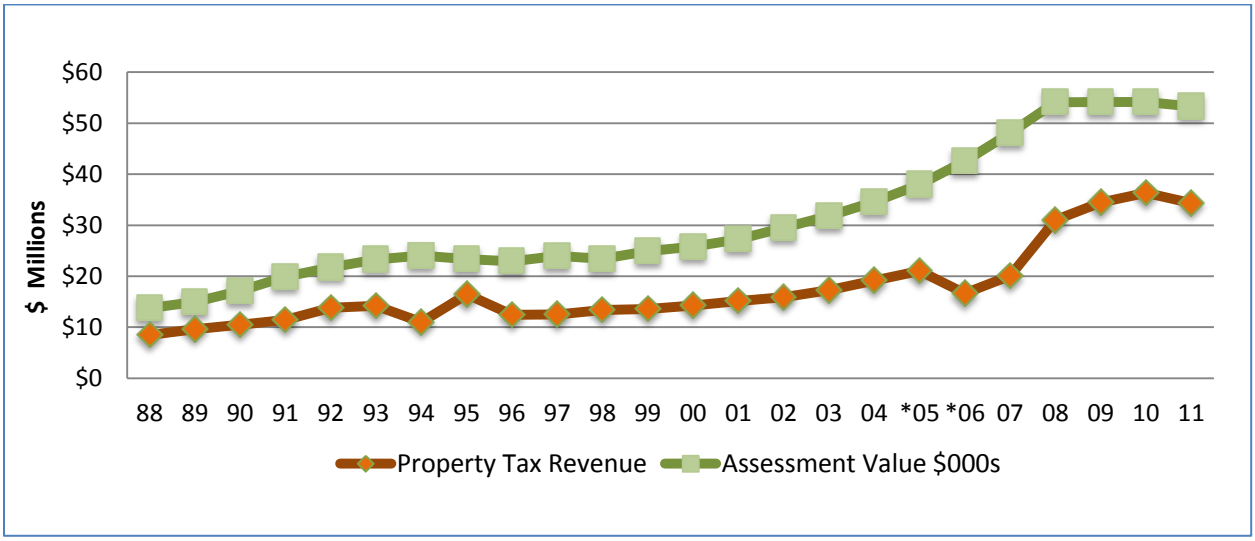


FIGURE 8-3
HISTORICAL PROPERTY ASSESSMENTS AND REVENUES



1) *Property tax shift by State of California for the Education Revenue Augmentation Fund (ERAF) in FY 1993*
2) *Prop 1A, property tax shift in FY 2005 & 2006 ($7M per fiscal year)*

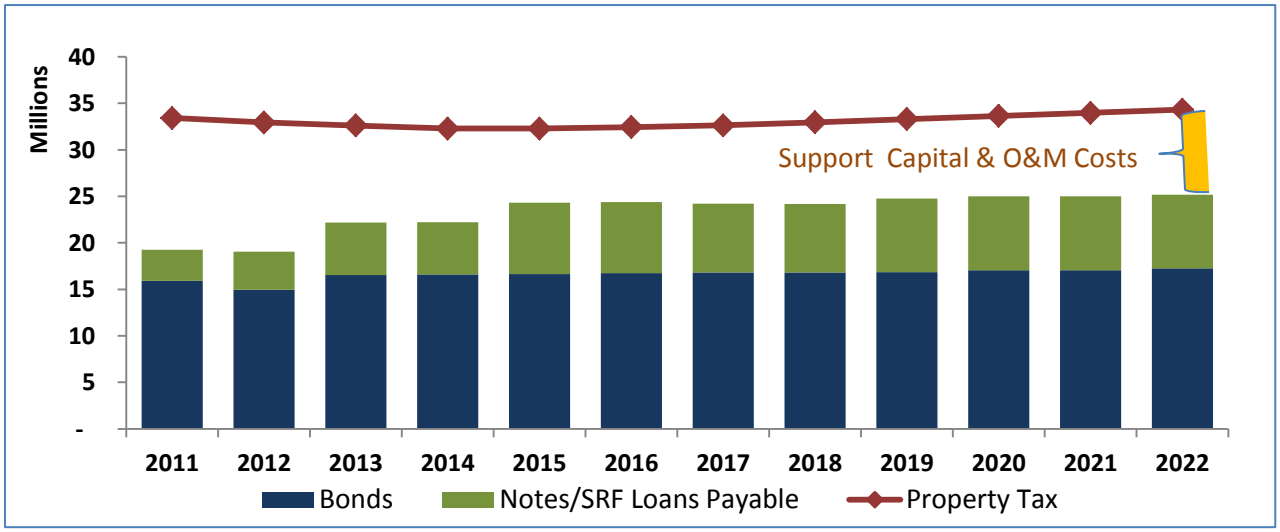
Property tax revenues are projected to be 1% lower at $32.6 million in FY 2012/13 relative to revenues of FY 2011/12. This is consistent with the 1% decline in property assessment values projected by San Bernardino's County Administrative Officer Greg Devereaux, as reported in The Press Enterprise in February 2012. An additional 1% decline is also projected in FY 2013/14. Property tax revenues contribute approximately 26% of the Agency's total revenues. While property taxes are an important revenue source, they are also very uncertain due to the ongoing state budget crisis and the high rate of regional foreclosures and underwater mortgages.

The Agency's policy on the utilization of property taxes has been to; 1) support annual debt service payments, 2) fund the acquisition of the capital assets, and 3) to subsidize operational costs not supported by user charges and fees, primarily in the Wastewater Program. Consistent with the Agency's policy, beginning in FY 2009/10, 8% of property tax revenues was temporarily allocated from the Regional Operations & Maintenance (RO) Fund to the Recycled Water (WC) Fund to support debt service. This allocation was reduced to 5% in FY2011/12 and through FY 2013/14. In FY 2014/15, the 5% allocation will be returned to the RO Fund.

The ultimate goal of the Agency, as stated in the Agency's FY 2012 LRPF, is to have programs that are self-supported by user charges and fees; thereby minimizing reliance on property tax revenue to support operating costs and maximizing support of debt service costs, capital construction and replacement costs for the various Agency programs. The Agency's total property tax receipt is currently distributed to the programs based on these percentages:

- 65% - Regional Capital Improvement (RC) Fund to support the debt service costs, acquisition, construction and improvement of wastewater facilities.
- 22% - Regional Operations & Maintenance (RO) Fund to support capital replacement of wastewater facilities, debt service, and operating costs.
- 5% - Recycled Water (WC) Program to support debt service costs.
- 8% - Administrative Services (GG) Fund to support acquisition of Agency wide assets such as fleet vehicles, computers and hardware.

FIGURE 8-4
PROPERTY TAXES PRIORITIES



Elimination of RDA Taxes - ABx1 26

A California Supreme Court decision on ABx1 26 on December 29, 2011, affirmed the State Legislature's and Governor Brown's authority to effectively eliminated Redevelopment Agencies (RDAs) in California. The decision shifts nearly $6 billion of annual redevelopment taxes from RDA agencies and provides the State leverage to use more than $1 billion annually to balance the future budgets, primarily designated for education and public safety. The estimated $5 billion in remaining redevelopment funds will first be used to support outstanding debt obligations (referred to as enforceable obligations), then existing pass-through agreements with taxing agencies (such as IEUA), and any remaining amount, net of administrative fees, will be distributed to the successor agencies.

As a result of the ABx1 26, IEUA expects to maintain its share of RDA incremental taxes going forward. The only change being a direct payment from the San Bernardino County Auditor Controller Property Tax Trust Fund, instead of each successor agency. RDA tax revenues account for approximately $8 million or 24.5% of the Agency's total property tax revenues and are utilized in the same manner as general ad valorem property taxes.

8.2.4 Grant and Loan Proceeds

Over the years, grants have been a significant source of funding for the Agency capital investment program. As a Special District, the Agency is eligible for various Federal, State and Local grant programs. The Agency has received grants from many entities, but the major sources have been the California State Water Resources Control Board (SWRCB), the California Department of Water Resources (DWR) and the United States Department of Interior's, Bureau of Reclamation (USBR). Table 8-2 below is a historical summary of grant awards received by the Agency over a ten year period.

TABLE 8-2
SUMMARY OF GRANTS AWARDS (FY 2001/02 TO FY 2010/11) $MILLIONS

Type of Award	Total	Active	Closed
IEUA Grants	$135.8	$52.6	$83.2

The Agency was awarded $61 million American Recovery and Reinvestment Act 2009 (ARRA) grants by Environmental Protection Agency (EPA)/SWRCB and USBR. The last two capital projects funded by ARRA were completed in FY 2011/12; the RP-1 Dewatering Facilities Improvement Project ($27 million SRF Loan), and the Northwest Area Recycled Water Project ($7.9 million USBR Grant). In FY 2011/12, the Agency was also awarded a $4 million grant by the SWRCB for the Southern Recycled Water Project.

The Groundwater Recharge and Water Resources Programs have also benefited from grant funding. The Agency received $2.5 million ARRA grant funding for the Greater Prado Cleanup and Restoration Project, the Chino Creek Integrated Plan and Cleanup Project, and the Magnolia Channel Project. These projects are expected to be completed in FY 2012/13. In addition, the Agency received funding from Federal Emergency Management Agency (FEMA) for repairs related to the 2010 Winter Storm Disaster.

Additionally $3.3 million grant funding was received from various state and federal agencies for the Chino Creek Wetlands Earth Day Program, the Water Discovery Field Trip and Bus Transportation Program, the Multi-Family ULF Toilet Direct Install Program, the Landscape Audit and Training Program and the Water Reuse Research and Study Program.

Due to the ongoing fiscal crisis in both the State and Federal budgets, more and more local governments are competing for the limited grant funds. The Agency will continue to vigorously pursue grant opportunities. In FY 2011/12 the Agency submitted over 10 grant applications to various state and federal grant opportunities.

8.2.5 State Revolving Fund (SRF) Loan Program

Another important source of funding for the Agency's capital programs is the State Revolving Fund (SRF) Loan Program from the EPA and SWRCB. The Agency has received a total of $80 million SRF loan funding agreements from the SWRCB for its Regional Recycled Water Distribution System (System).

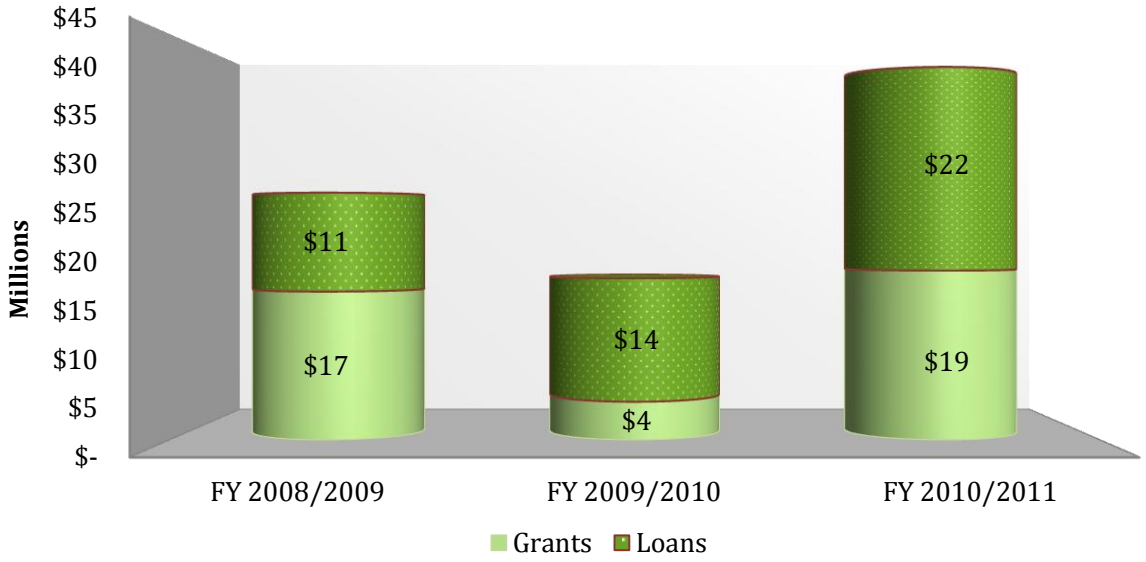
During FY11/12, the northeast area of the System funded by $18 million SRF loan was completed. A $20.6 million SRF loan agreement was awarded to the Agency for the southern area of the System. The southern area System is expected to be completed in FY14/15. The Agency is currently working with the SWRCB on the central area System SRF loan funding, which is estimated for $21 million. In addition, a $14.8 million SRF Loan agreement for the New Operation Laboratory was approved in FY11/12.

TABLE 8-3
SUMMARY OF SRF LOAN AWARDS (FY 2001/02 TO FY 2010/11) $MILLIONS

Type of Award	Total	Active	Closed
IEUA SRF Loans	$121.7	$80.8	$40.9

Between FY 2008/09 and FY 2010/11, the Agency received $87 million in grant and loan cash receipts, (Figure 8-5).

FIGURE 8-5
SUMMARY OF GRANTS AND SRF LOANS RECEIPTS



8.3 Financing Strategy

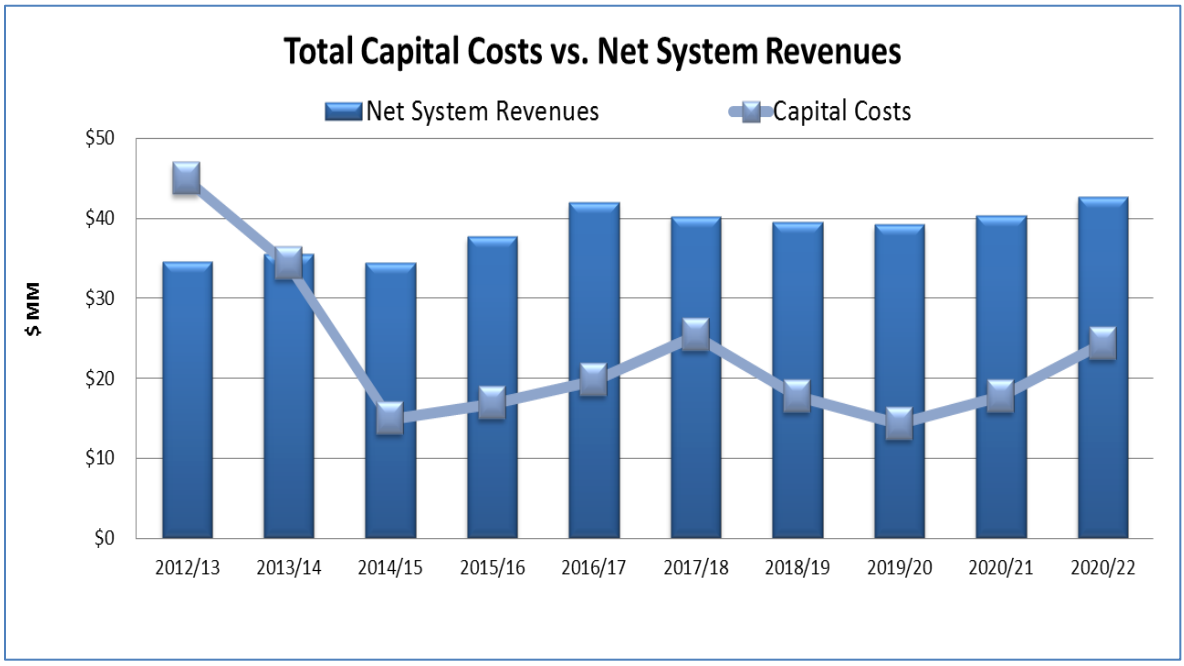
This section discusses the Agency's approach to meeting capital needs while managing its policy goals to minimize borrowing costs and maintain target fund balances. The agency will continue to monitor the capital program and pursue vigorously grants and low interest state loans to fund essential projects. To achieve its goal, the Agency seeks to pay for capital projects first with system revenues (pay-go basis) whenever possible and pursue various forms of debt financing when net revenues are insufficient or inefficient.

Aside from the SRF loans financing for the Recycled Water Program, and the replacement of the Operations Laboratory in the Regional Wastewater Program, the current TYCIP does not require the issuance of long term bonds during the 10 year period. The $217 million total ten year capital program distributes the project costs to allow for a pay-go financing approach while preserving adequate fund balances. Approximately 10% of capital costs in FYs 2011/12 through 2013/14 are funded by remaining unexpended 2008A bond proceeds.

Nearly 35%, or $80 million, of the total $217 million TYCIP is scheduled over the next two fiscal years, (FYs 2012/13 and 2013/14). Capital investment outpaces net system revenues only in the first 2 years of the 10-year term by approximately $20 million as illustrated in Figure 8-6.

The shortfall in system revenues in the first two fiscal years is funded by a combination of 2008A bond proceeds, SRF Loan proceeds, and grants. Grant revenues projected at $8 million for the ten-year term will help offset capital costs and reduce the borrowing requirements. Over the ensuing eight (8) years of the ten year term, net system revenues are projected to exceed capital costs by $156 million.

FIGURE 8-6



Debt Coverage Ratio Requirement

Bond covenants require IEUA to maintain a minimum total debt ratio (DCR)of 1.25X or higher on total outstanding debt and 1.6X or higher on total parity debt. Parity debt includes all of the currently outstanding bonds, (2005A, 2008A, 2008B, and the 2010A Refunding the 1994 Bonds) and any subsequent loans, including the Southern Area and Central/Wineville Area Recycled Water projects, and Operations Laboratory. The DCR is a critical financial measure that impacts the Agency's overall credit rating, ability to refinance existing debt and accessibility to lower borrowing costs in the future. Sustainability of the debt coverage ratio to the covenanted requirement under current bond covenants is not only critical but is a key objective in sustaining the Agency's financial condition.

To highlight the significance of an improved DCR, IEUA Board approved in February 2012 a three year rate increase that is targeted at improving the DCR from 1.43X in FY 2012/13 to 1.70X by FY2014/15. Although the targeted 1.70X total DCR is still below the 1.90X median as defined by Fitch Ratings for similar AA rated water and wastewater agencies, the gradual improvement of the Agency's DCR over the next three years is a strong indicator of the Board of Directors commitment to ensuring the Agency's financial health and long term sustainability.

TABLE 8-4
TARGETED AND TEN YEAR DEBT COVERAGE RATE SCHEDULE

	FY 2012/13	FY 2013/14	FY 2014/15
Debt Coverage Ratio	**1.43x**	**1.48x**	**1.70x**

The Agency applies a pecking order financing strategy to ensure the lowest cost of borrowing while maximizing flexibility. This tiered financing strategy includes system revenues, fund balance draws and SRF loans. Therefore applying the lowest cost funds first and the most expensive funding sources last.

Projections indicate that in order to fund aggregate capital expenses of $217 million over 10 years, the Agency will require borrowing of approximately $52 million in SRF loans. This result reflects the Agency's goal to fund capital investment on a pay-as-you go basis, or utilize the lowest cost of financing, and minimize the use of bonds.

A summary table of the Agency's projected borrowing is presented below.

TABLE 8-5
BORROWING REQUIREMENTS

Fiscal Year	Bonds	SRF Loans ($ Millions)	Aggregate Borrowing
2012	-	15	15
2013	-	14	29
2014	-	0	29
2015	-	4	33
2016	-	12	45
2017	-	6	51
2018	-	1	52
2019	-	0	0
2020	-	0	0
2021	-	0	0
Total	$0	52	52

Based on the proposed capital expenditures, no future long term bond issues are anticipated. If the Agency is successful in securing federal and state economic stimulus grants, the amount and the nature of the funding will impact the overall financing strategy.

It is important to note that the capital expenditure estimates beyond 2015 carry some uncertainty and that new, unforeseen capital costs may arise in the out-years that have not been contemplated in this current TYCIP program. As the TYCIP is reviewed and updated each fiscal year, any necessary adjustments will be made during next year's evaluation process.

8.4 AB-1600 Nexus Test

Each year, IEUA assists its Contracting Agencies to demonstrate compliance with AB1600 (the "Mitigation Fee Act"), which requires that Capital Capacity Reimbursement Payments (CCRP), most commonly referred to as development fees, must be reasonably related to the service provided. This is accomplished by summarizing the projected capital needs for the estimated collected funds

and the duration that the funds will be held. Table 8-6 summarizes IEUA's projected need for CCRP to support the Regional Wastewater Capital Improvement (RC) fund capital investments over the next 10 years.

TABLE 8-6

Projected Status of Reimbursement Payment Receipts (in $1000s)				
	Annual Contracting	IEUA Expenditure		Balance of Funds
	Agency Receipts	of Funds	Balance of Funds	Collected for 5
Fiscal Year	(Reimbursement Fees)	(Capital Calls)	Collected	or More Years
2002/03	23,999	0	23,999	0
2003/04	29,726	0	53,725	0
2004/05	26,868	51,200	29,393	0
2005/06	20,800	58,270	0	0
2006/07	22,615	20,100	2,515	0
2007/08	16,626	14,676	4,465	0
2008/09	5,752	11,000	0	0
2009/10	7,753	0	7,753	0
2010/11	5,398	7,000	6,151	0
2011/12	5,243	7,000	4,394	0
2012/13	5,400	15,000	0	0
2013/14	6,008	7,000	0	0
2014/15	6,639	7,000	0	0
2015/16	7,263	7,000	263	0
2016/17	8,418	8,000	681	0
2017/18	8,502	9,000	183	0
2018/19	7,514	7,000	697	0
2019/20	6,505	7,000	202	0
2020/21	6,570	7,000	0	0
2021/22	6,636	6,000	636	0

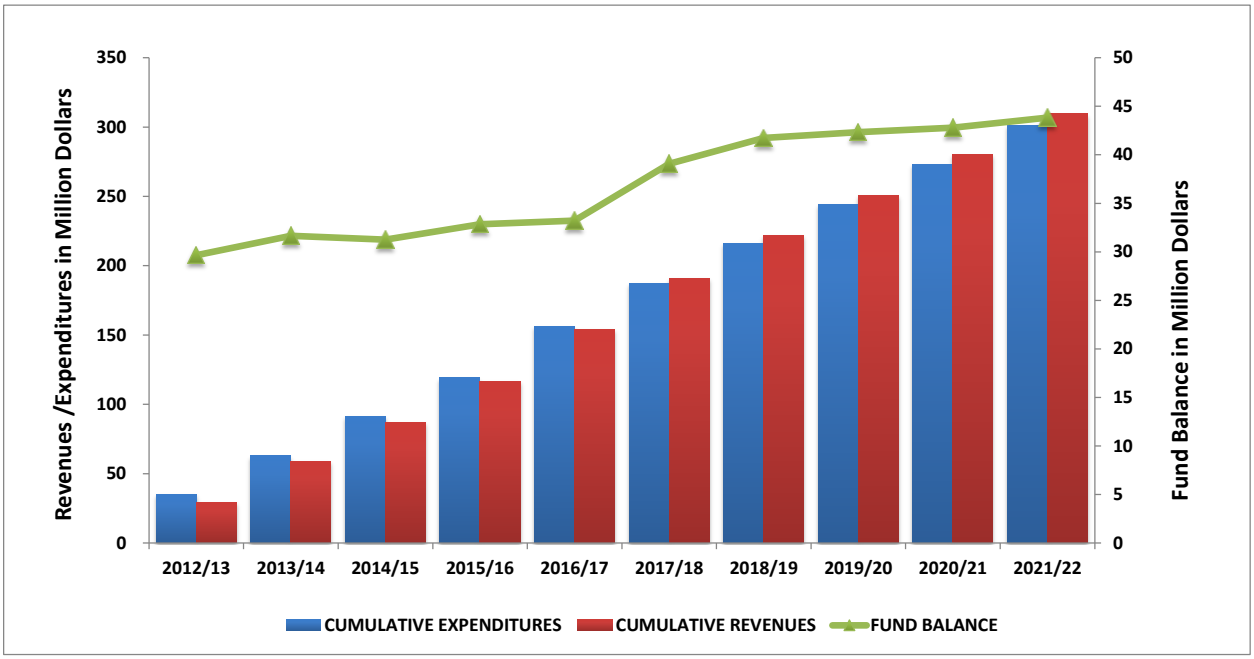
As indicated in Table 8-6, in the column labeled, "Balance of Funds Collected for 5 or More Years", reimbursement payment receipts are not projected to stay on deposit for more than five years during the ten-year period. Funds in the CCRP accounts are expected to be expended to support capital investments costs throughout the ten year period, and to provide adequate coverage for cash flow shortages arising from receipt of state loan or grant reimbursements. Therefore, the CCRP balance is projected to meet the statutory requirements of AB-1600.

8.5 Conclusions

The financing strategy of Agency's Ten-Year Capital Improvement (TYCIP) Plan is to utilize funding from the following sources: user charges (Pay-Go) – 73% or $158.6 million; low interest State Revolving Fund (SRF) loans – 24% or $52 million; and Federal and State grants – 3% or $7.4 million.

Figure 8-6 shows how the Regional Capital Improvement (RC) Fund revenues and expenditures compare throughout the ten years, and the effect on the cumulative fund balance. The projected fund balance of $30 million at the end of FY 2012/13 improves to an estimated $45 million at the FY 2021/22 as revenues are cumulatively projected to exceed expenses. The projected ending fund balance in FY 2021/22 is comprised of approximately $19 million for debt service reserves, as mandated by bond covenants, and $23 million designated to support capital construction and improvement investments.

FIGURE 8-7
REGIONAL CAPITAL IMPROVEMENT (RC) FUND CUMULATIVE REVENUES/ FINANCING SOURCES AND EXPENDITURES

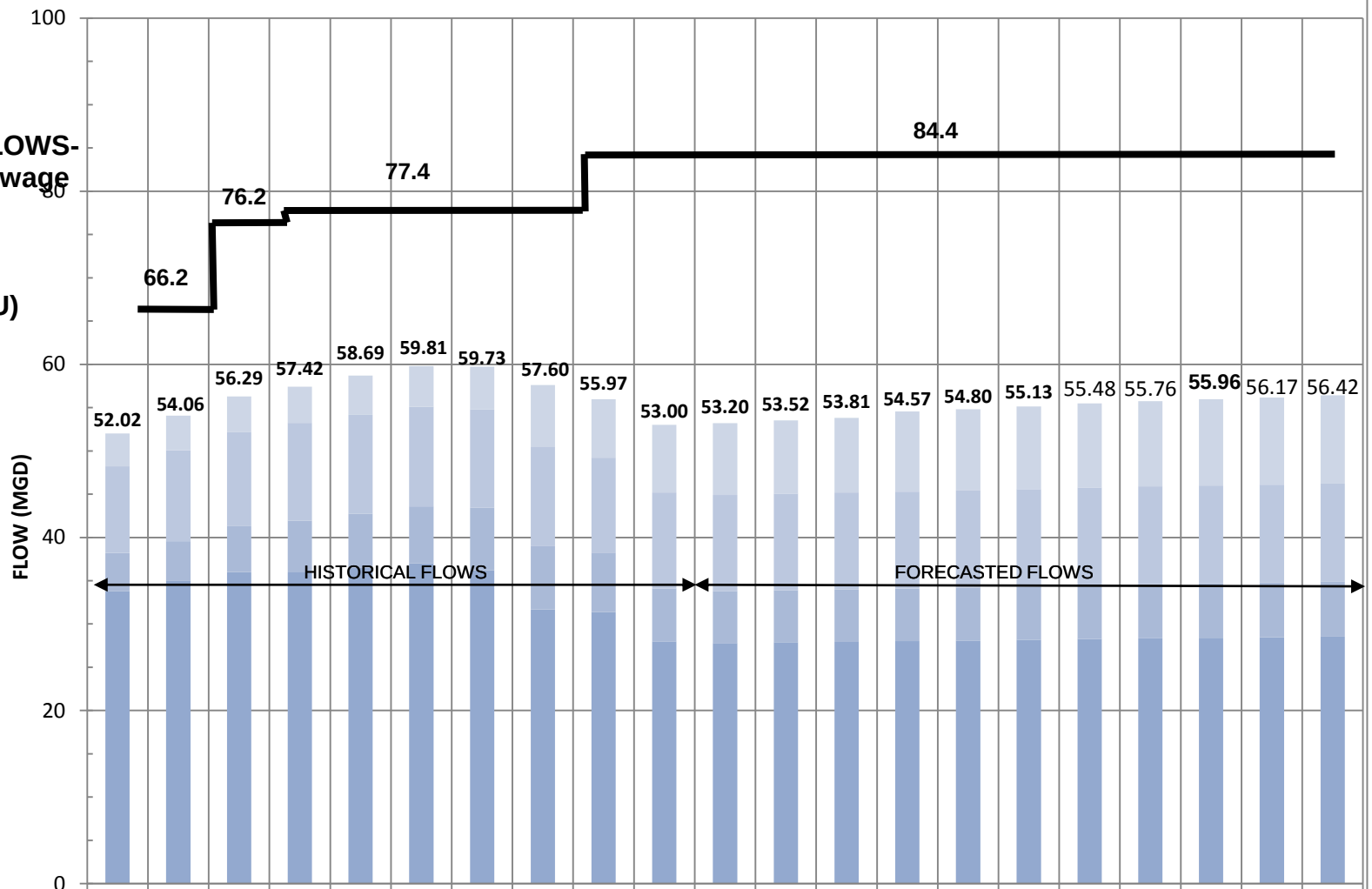


The TYCIP is developed on the basis of a highly conservative outlook of a regional economy that is plagued by above-normal unemployment, high foreclosures and the negative impact of underwater mortgages. The TYCIP outlook will likely change if and when the trend of recent economic growth reported by nationally is realized within the regional economy. According to the Bureau of Labor Statistics, each of the previous several months have seen payrolls rising by more than 200 thousand jobs. The private sector in the past two years has created more than 3.9 million jobs and over the previous year, the number of working Americans has increased from 139.6 million in February 2011 to 142.1 million a year later, resulting in a decrease in the national unemployment rate from above 9% to 8.3% as of February 2012. The Government sector is also beginning to stabilize as fewer jobs are being slashed. Economic growth is definitely looking better for the future as supported by sustained improvements in the hindsight.

The core pillar of the TYCIP is based on a key assumption of no significant growth in system flows; therefore there is no need to expand the existing facilities during the ten year period (FY 2012/13 – FY 2021/22). A reversal of the present stagnant growth to acceleration will render the current TYCIP inadequate and place demand on expansion of existing facilities.

Exhibit IA
TOTAL PLANT FLOWS-
Baseline Raw Sewage Flows

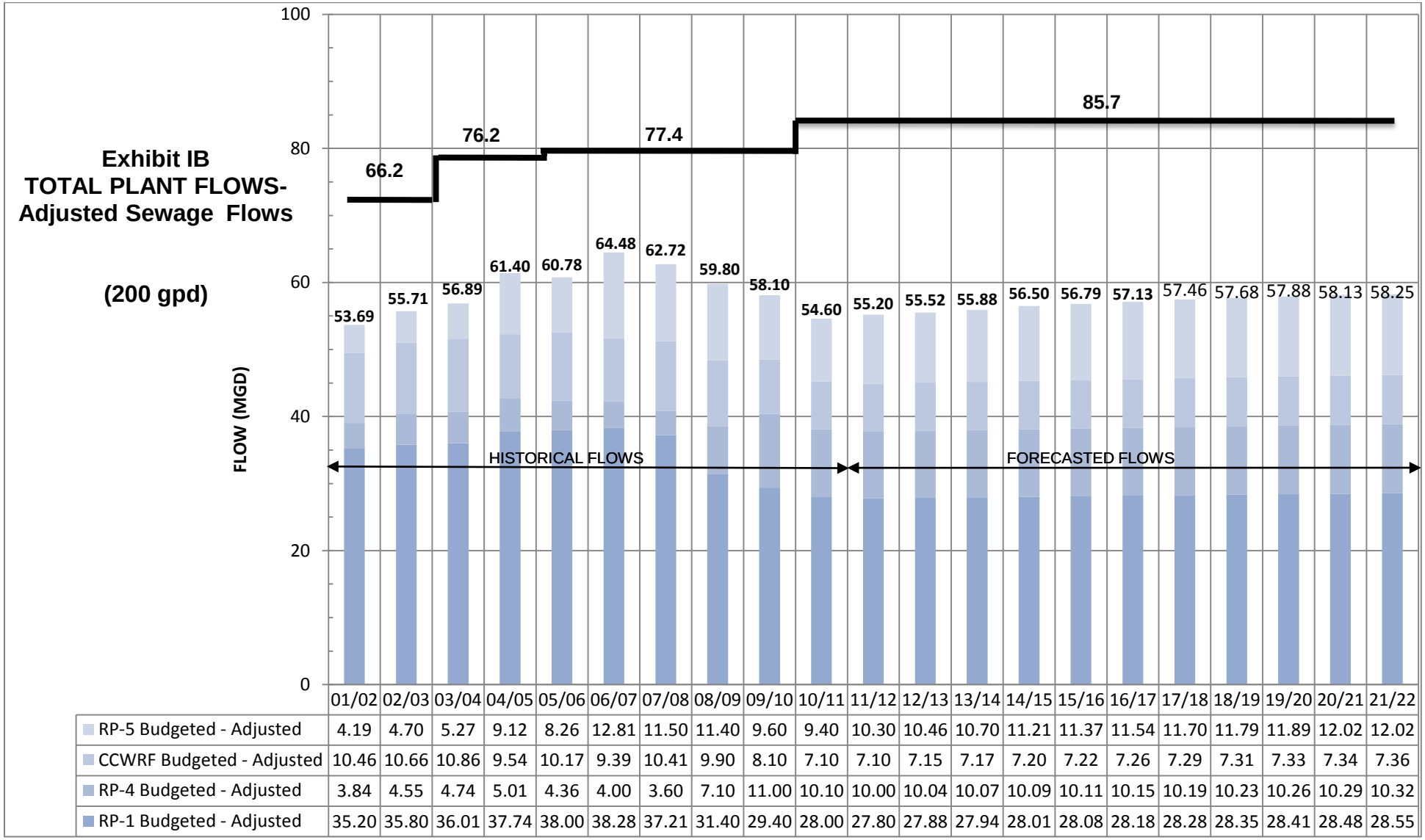
(200 gpd/EDU)



	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
RP-5 Budgeted Growth	3.80	3.99	4.07	4.18	4.51	4.71	4.91	7.17	6.75	7.80	8.30	8.46	8.63	9.28	9.38	9.54	9.72	9.87	9.96	10.06	10.19
CCWRF Budgeted Growth	10.02	10.50	10.92	11.29	11.41	11.50	11.41	11.43	10.96	11.10	11.10	11.15	11.17	11.20	11.22	11.26	11.29	11.31	11.33	11.34	11.36
RP-4 Budgeted Growth	4.40	4.60	5.30	6.00	6.30	6.60	7.20	7.30	6.84	6.10	6.00	6.04	6.07	6.09	6.11	6.15	6.19	6.23	6.26	6.29	6.32
RP-1 Budgeted Growth	33.80	34.97	36.00	35.95	36.46	37.00	36.21	31.70	31.41	28.00	27.80	27.88	27.94	28.01	28.08	28.18	28.28	28.35	28.41	28.48	28.55

Exhibit IB
TOTAL PLANT FLOWS-
Adjusted Sewage Flows

(200 gpd)



	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
RP-5 Budgeted - Adjusted	4.19	4.70	5.27	9.12	8.26	12.81	11.50	11.40	9.60	9.40	10.30	10.46	10.70	11.21	11.37	11.54	11.70	11.79	11.89	12.02	12.02
CCWRF Budgeted - Adjusted	10.46	10.66	10.86	9.54	10.17	9.39	10.41	9.90	8.10	7.10	7.10	7.15	7.17	7.20	7.22	7.26	7.29	7.31	7.33	7.34	7.36
RP-4 Budgeted - Adjusted	3.84	4.55	4.74	5.01	4.36	4.00	3.60	7.10	11.00	10.10	10.00	10.04	10.07	10.09	10.11	10.15	10.19	10.23	10.26	10.29	10.32
RP-1 Budgeted - Adjusted	35.20	35.80	36.01	37.74	38.00	38.28	37.21	31.40	29.40	28.00	27.80	27.88	27.94	28.01	28.08	28.18	28.28	28.35	28.41	28.48	28.55

Exhibit II: RP-4 FLOW FORECAST

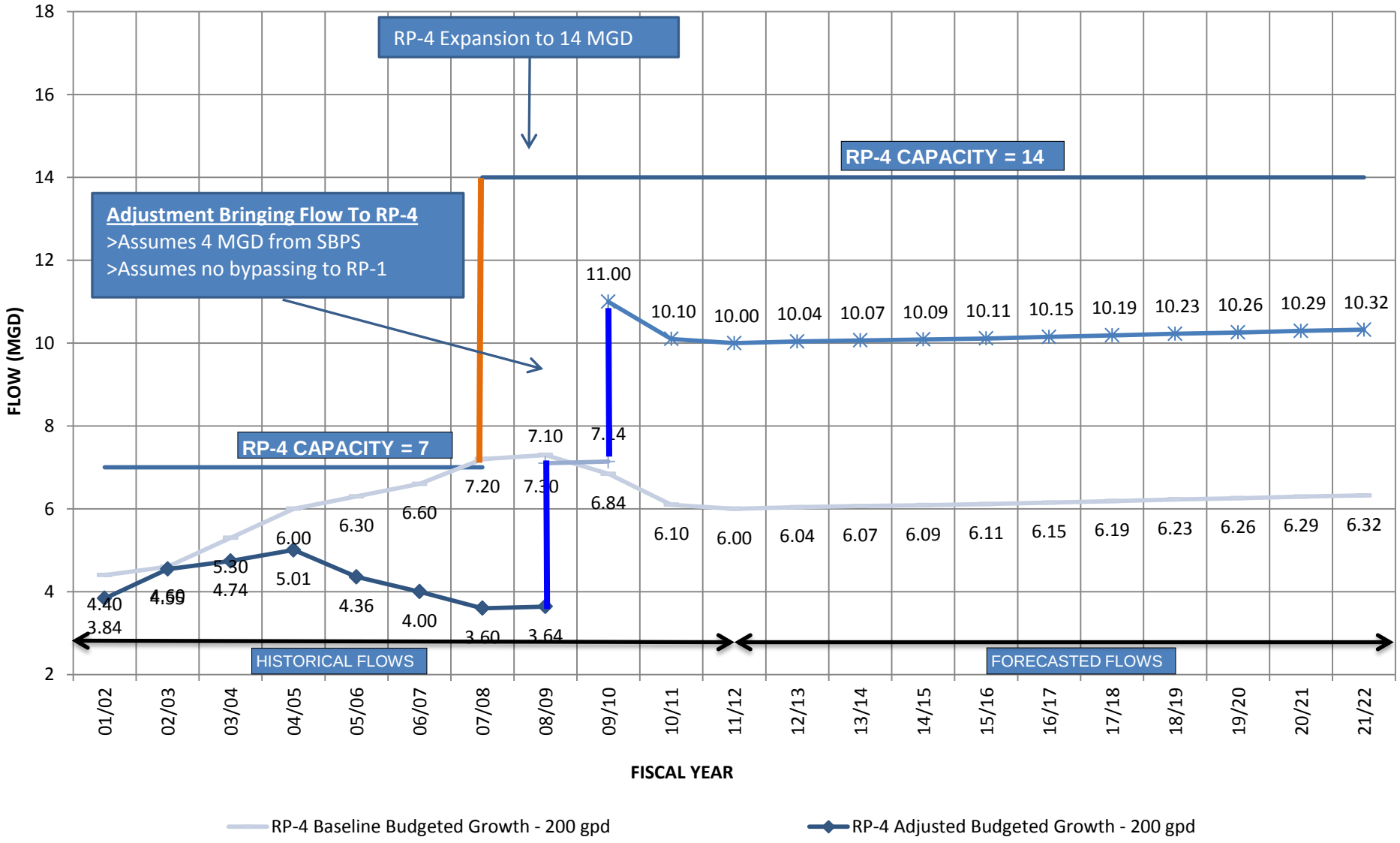


Exhibit III: RP-1 FLOW FORECAST

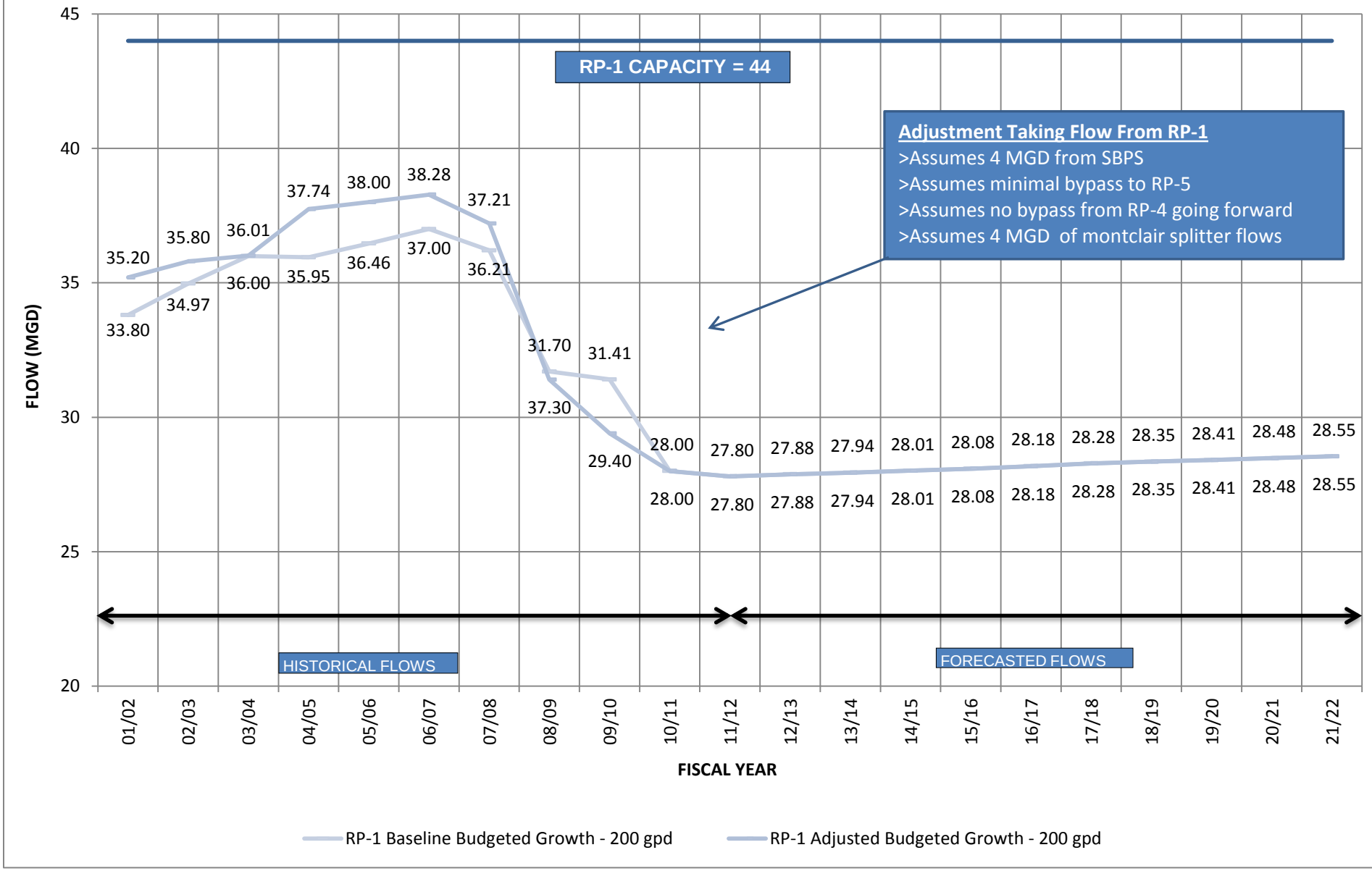


Exhibit IV: CCWRF FLOW FORECAST

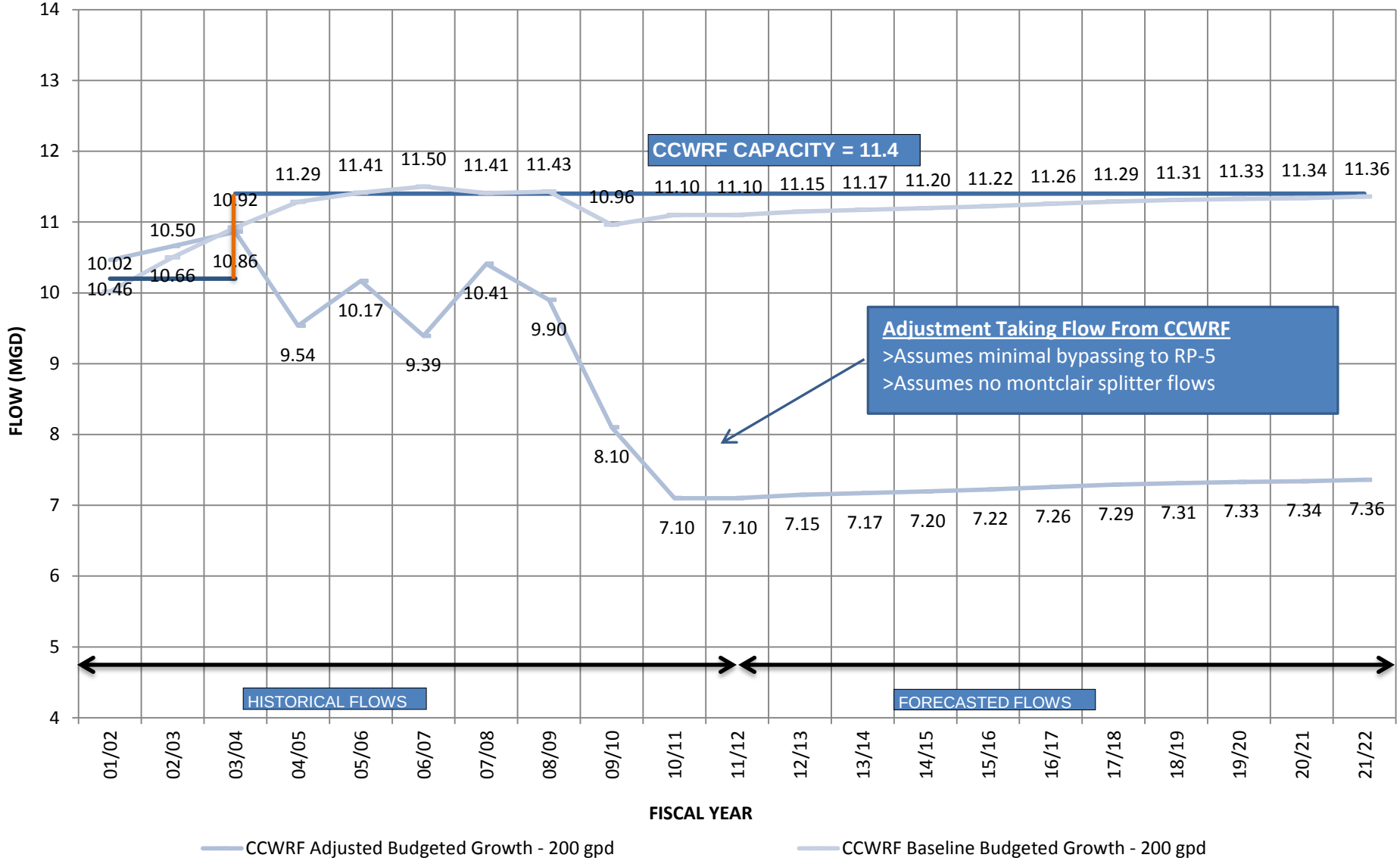
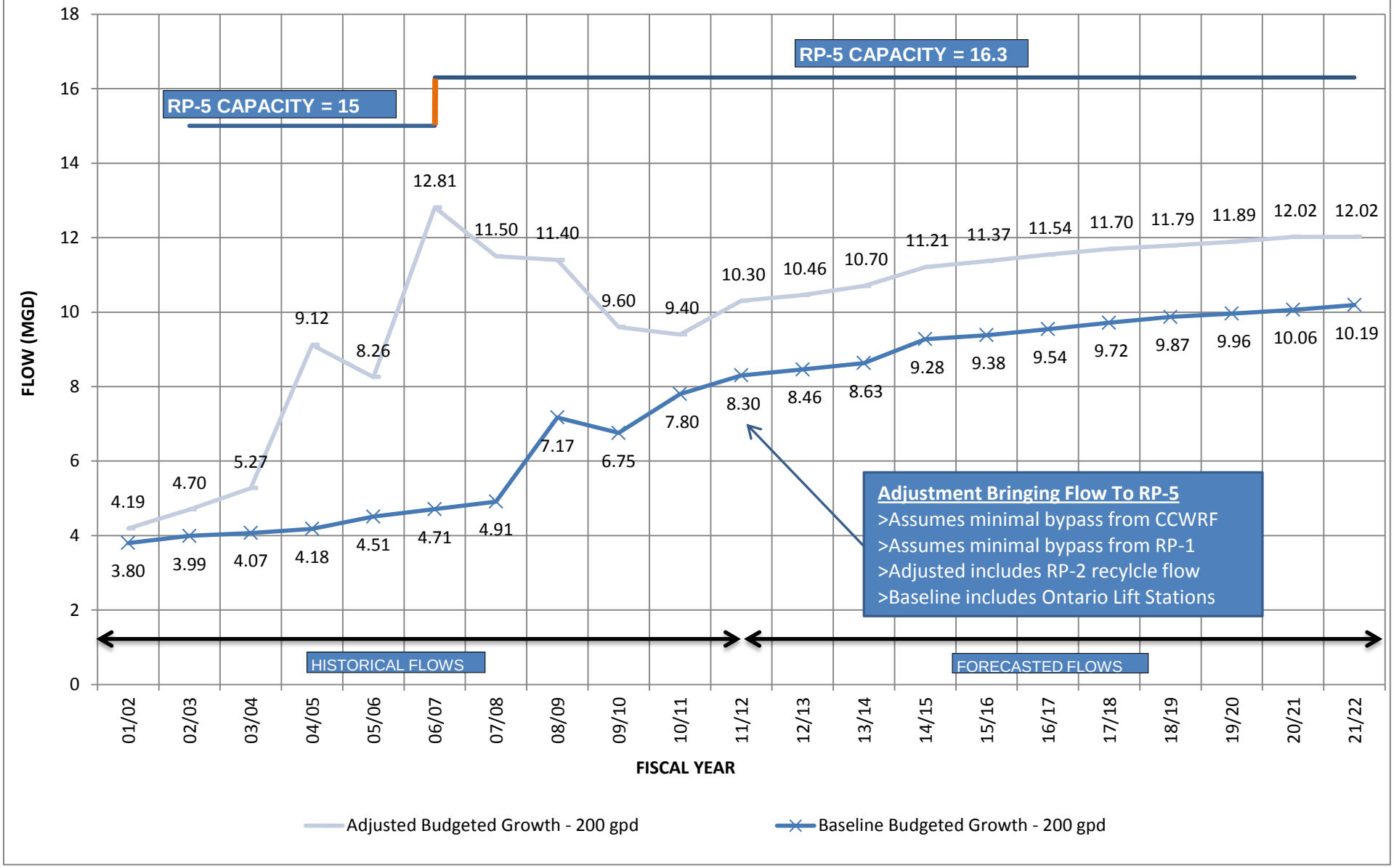


Exhibit V: RP-5 FLOW FORECAST



APPENDIX A--Incremental EDU Growth Data

INCREMENTAL EDU GROWTH BY AGENCY/FACILITY (EDUs / YR)										
AGENCY	**YEAR**	**RP-1**	**RP-4**	**RP-1/RP-4**	**CCWRF**	**RP-1/5**	**RP-2/RP-5**	**RP-5**	**INCREMENTAL GROWTH**	**CUMULATIVE TOTAL**
CVWD	**6/30/02 Baseline**	**12,683**	**15,745**	**19,262**					**N/A**	**47,690**
	6/30/03 Baseline	**13,411**	**16,640**	**20,534**					**2,895**	**50,585**
	6/30/04 Baseline	**14,682**	**17,922**	**22,316**					**4,335**	**54,920**
	6/30/05 Baseline	**14,811**	**18,101**	**22,509**					**501**	**55,421**
	6/30/06 Baseline	**15,211**	**18,551**	**23,033**					**1,374**	**56,795**
	6/30/07 Baseline	**16,081**	**19,251**	**23,524**					**2,061**	**58,856**
	6/30/08 Baseline	**16,198**	**19,442**	**23,586**					**370**	**59,226**
	6/30/09 Baseline	**16,289**	**19,522**	**23,719**					**304**	**59,530**
	6/30/10 Baseline	**16,340**	**20,043**	**23,719**					**572**	**60,102**
	6/30/11 Baseline	**16,585**	**20,131**	**23,719**					**333**	**60,435**
	11/12	58	63						121	**60,223**
	12/13	58	94						152	**60,375**
	13/14	58	113						171	**60,546**
	14/15	58	63						121	**60,667**
	15/16	58	113						171	**60,838**
	16/17	58	63						121	**60,959**
	17/18	58	63						121	**61,080**
	18/19	58	63						121	**61,201**
	19/20	158	63						221	**61,422**
	20/21	58	63						121	**61,543**
	TEN-YR TOTALS	***680***	***761***	***0***	***0***	***0***	***0***	***0***	***1,441***	

INCREMENTAL EDU GROWTH BY AGENCY/FACILITY (EDUs / YR)										
AGENCY	**YEAR**	**RP-1**	**RP-4**	**RP-1/RP-4**	**CCWRF**	**RP-1/5**	**RP-2/RP-5**	**RP-5**	**INCREMENTAL GROWTH**	**CUMULATIVE TOTAL**
FONTANA	**6/30/02 Baseline**	**9,768**	**8,918**	**23,783**					**N/A**	**42,469**
	6/30/03 Baseline	**10,535**	**10,082**	**23,863**					**2,011**	**44,480**
	6/30/04 Baseline	**12,306**	**13,725**	**21,298**					**2,849**	**47,329**
	6/30/05 Baseline	**12,590**	**14,043**	**21,791**					**1,095**	**48,424**
	6/30/06 Baseline	**12,685**	**15,293**	**21,854**					**1,408**	**49,832**
	6/30/07 Baseline	**13,060**	**15,729**	**22,129**					**1,086**	**50,918**
	6/30/08 Baseline	**13,115**	**16,154**	**22,282**					**633**	**51,551**
	6/30/09 Baseline	**13,157**	**16,448**	**22,380**					**434**	**51,985**
	6/30/10 Baseline	**13,233**	**16,746**	**22,560**					**554**	**52,539**
	6/30/11 Baseline	**13,271**	**17,023**	**22,560**					**315**	**52,854**
	11/12	135	170	0					305	**52,844**
	12/13	147	185	0					332	**53,176**
	13/14	172	216	0					388	**53,564**
	14/15	196	247	0					443	**54,007**
	15/16	221	278	0					499	**54,506**
	16/17	245	309	0					554	**55,060**
	17/18	270	340	0					610	**55,670**
	18/19	295	371	0					666	**56,336**
	19/20	295	371	0					666	**57,002**
	20/21	295	371	0					666	**57,668**
	TEN-YR TOTALS	***2,271***	***2,858***	***0***	***0***	***0***	***0***	***0***	***5,129***	

INCREMENTAL EDU GROWTH BY AGENCY/FACILITY (EDUs / YR)										
AGENCY	**YEAR**	**RP-1**	**RP-4**	**RP-1/RP-4**	**CCWRF**	**RP-1/5**	**RP-2/RP-5**	**RP-5**	**INCREMENTAL GROWTH**	**CUMULATIVE TOTAL**
MONTCLAIR	**6/30/02 Baseline**	**732**			**10,703**				**N/A**	**11,435**
	6/30/03 Baseline	**728**			**10,649**				**-57**	**11,378**
	6/30/04 Baseline	**720**			**10,536**				**-122**	**11,256**
	6/30/05 Baseline	**731**			**10,511**				**-14**	**11,242**
	6/30/06 Baseline	**921**			**10,546**				**225**	**11,467**
	6/30/07 Baseline	**923**			**10,654**				**110**	**11,577**
	6/30/08 Baseline	**949**			**10,716**				**88**	**11,665**
	6/30/09 Baseline	**949**			**10,824**				**108**	**11,773**
	6/30/10 Baseline	**959**			**10,916**				**102**	**11,875**
	6/30/11 Baseline	**959**			**10,974**				**58**	**11,933**
	11/12	2			130				132	**12,007**
	12/13	20			306				326	**12,333**
	13/14	13			155				168	**12,501**
	14/15	7			35				42	**12,543**
	15/16	7			35				42	**12,585**
	16/17	7			35				42	**12,627**
	17/18	7			35				42	**12,669**
	18/19	7			35				42	**12,711**
	19/20	7			35				42	**12,753**
	20/21	7			35				42	**12,795**
	TEN-YR TOTAL	***84***	***0***	***0***	***836***	***0***	***0***	***0***	***920***	

INCREMENTAL EDU GROWTH BY AGENCY/FACILITY (EDUs / YR)										
AGENCY	**YEAR**	**RP-1**	**RP-4**	**RP-1/RP-4**	**CCWRF**	**RP-1/5**	**RP-2/RP-5**	**RP-5**	**INCREMENTAL GROWTH**	**CUMULATIVE TOTAL**
ONTARIO	**6/30/02 Baseline**	**57,660**				**N/A**		**0**	**N/A**	**57,660**
	6/30/03 Baseline	**58,415**				**N/A**		**0**	**755**	**58,415**
	6/30/04 Baseline	**45,437**				**12,978**		**0**	**0**	**58,415**
	6/30/05 Baseline	**46,037**				**13,182**		**0**	**804**	**59,219**
	6/30/06 Baseline	**46,237**				**13,344**		**0**	**362**	**59,581**
	6/30/07 Baseline	**46,587**				**13,344**		**173**	**523**	**60,104**
	6/30/08 Baseline	**47,304**				**13,344**		**388**	**932**	**61,036**
	6/30/09 Baseline	**47,375**				**13,344**		**456**	**139**	**61,175**
	6/30/10 Baseline	**47,589**				**13,344**		**530**	**288**	**61,463**
	6/30/11 Baseline	**47,625**				**13,344**		**589**	**95**	**61,558**
	11/12	380						317	697	**62,160**
	12/13	300						717	1,017	**63,177**
	13/14	350						1500	1,850	**65,027**
	14/15	400						2950	3,350	**68,377**
	15/16	400						1300	1,700	**70,077**
	16/17	300						1300	1,600	**71,677**
	17/18	250						1200	1,450	**73,127**
	18/19	250						1200	1,450	**74,577**
	19/20	250						900	1,150	**75,727**
	20/21	250						900	1,150	**76,877**
	TEN-YR TOTAL	***3,130***	***0***	***0***	***0***	***0***	***0***	***12,284***	***15,414***	

INCREMENTAL EDU GROWTH BY AGENCY/FACILITY (EDUs / YR)										
AGENCY	**YEAR**	**RP-1**	**RP-4**	**RP-1/RP-4**	**CCWRF**	**RP-1/5**	**RP-2/RP-5**	**RP-5**	**INCREMENTAL GROWTH**	**CUMULATIVE TOTAL**
UPLAND	**6/30/02 Baseline**	**19,487**			**6,018**				**N/A**	**25,505**
	6/30/03 Baseline	**19,683**			**6,030**				**208**	**25,713**
	6/30/04 Baseline	**19,898**			**6,042**				**227**	**25,940**
	6/30/05 Baseline	**20,298**			**6,439**				**797**	**26,737**
	6/30/06 Baseline	**20,430**			**6,571**				**264**	**27,001**
	6/30/07 Baseline	**20,489**			**6,602**				**90**	**27,091**
	6/30/08 Baseline	**21,049**			**6,659**				**617**	**27,708**
	6/30/09 Baseline	**21,070**			**6,664**				**26**	**27,734**
	6/30/10 Baseline	**21,109**			**6,675**				**50**	**27,784**
	6/30/11 Baseline	**21,129**			**6,799**				**144**	**27,928**
	11/12	0			5				5	**27,789**
	12/13	41			11				52	**27,841**
	13/14	132			71				203	**28,044**
	14/15	376			113				489	**28,533**
	15/16	457			168				625	**29,158**
	16/17	410			267				677	**29,835**
	17/18	479			155				634	**30,469**
	18/19	125			164				289	**30,758**
	19/20	135			90				225	**30,983**
	20/21	175			35				210	**31,193**
	TEN-YR TOTAL	***2,330***	***0***	***0***	***1,079***	***0***	***0***	***0***	***3,409***	

INCREMENTAL EDU GROWTH BY AGENCY/FACILITY (EDUs / YR)										
AGENCY	**YEAR**	**RP-1**	**RP-4**	**RP-1/RP-4**	**CCWRF**	**RP-1/5**	**RP-2/RP-5**	**RP-5**	**INCREMENTAL GROWTH**	**CUMULATIVE TOTAL**
CHINO	**6/30/02 Baseline**	**622**			**14,096**		**0**	**2,304**	**N/A**	**17,022**
	6/30/03 Baseline	**622**			**11,415**		**0**	**2,167**	**-2,818**	**14,204**
	6/30/04 Baseline	**622**			**11,370**		**19**	**2,189**	**-4**	**14,200**
	6/30/05 Baseline	**622**			**12,459**		**1,111**	**2,315**	**2,307**	**16,507**
	6/30/06 Baseline	**622**			**12,734**		**1,689**	**2,411**	**949**	**17,456**
	6/30/07 Baseline	**622**			**12,922**		**1,708**	**3,711**	**1,507**	**18,963**
	6/30/08 Baseline	**622**			**13,025**		**1,713**	**4,111**	**508**	**19,471**
	6/30/09 Baseline	**622**			**13,098**		**1,713**	**4,212**	**174**	**19,645**
	6/30/10 Baseline	**622**			**13,137**		**1,713**	**4,321**	**148**	**19,793**
	6/30/11 Baseline	**622**			**13,169**		**1,713**	**4,412**	**123**	**19,916**
	11/12	0			2		0	185	187	**19,980**
	12/13	0			2		0	215	217	**20,197**
	13/14	0			2		0	215	217	**20,414**
	14/15	0			2		0	375	377	**20,791**
	15/16	0			2		0	215	217	**21,008**
	16/17	0			2		0	215	217	**21,225**
	17/18	0			2		0	215	217	**21,442**
	18/19	0			2		0	215	217	**21,659**
	19/20	0			2		0	215	217	**21,876**
	20/21	0			2		0	215	217	**22,093**
	TEN-YR TOTAL	***0***	***0***	***0***	***20***	***0***	***0***	***2,280***	***2,300***	

INCREMENTAL EDU GROWTH BY AGENCY/FACILITY (EDUs / YR)										
AGENCY	**YEAR**	**RP-1**	**RP-4**	**RP-1/RP-4**	**CCWRF**	**RP-1/5**	**RP-2/RP-5**	**RP-5**	**INCREMENTAL GROWTH**	**CUMULATIVE TOTAL**
CHINO HILLS	**6/30/02 Baseline**				**10,942**		**1,622**	**10,408**	**N/A**	**22,972**
	6/30/03 Baseline				**11,024**		**1,622**	**10,867**	**541**	**23,513**
	6/30/04 Baseline				**11,183**		**1,622**	**11,312**	**603**	**24,116**
	6/30/05 Baseline				**11,275**		**1,622**	**11,494**	**274**	**24,391**
	6/30/06 Baseline				**11,384**		**1,622**	**11,684**	**299**	**24,690**
	6/30/07 Baseline				**11,424**		**1,622**	**12,174**	**530**	**25,220**
	6/30/08 Baseline				**11,606**		**1,622**	**12,574**	**582**	**25,802**
	6/30/09 Baseline				**11,608**		**1,622**	**12,704**	**132**	**25,934**
	6/30/10 Baseline				**11,608**		**1,622**	**12,757**	**53**	**25,987**
	6/30/11 Baseline				**11,612**		**1,622**	**12,799**	**46**	**26,033**
	11/12				27			80	107	**26,094**
	12/13				22			370	392	**26,486**
	13/14				78			484	562	**27,048**
	14/15				171			403	574	**27,622**
	15/16				214			133	347	**27,969**
	16/17				75			168	243	**28,212**
	17/18				135			390	525	**28,737**
	18/19				55			327	382	**29,119**
	19/20				79			126	205	**29,324**
	20/21				52			72	124	**29,448**
	TEN-YR TOTAL	***0***	***0***	***0***	***908***	***0***	***0***	***2,553***	***3,461***	

INCREMENTAL EDU GROWTH BY AGENCY/FACILITY (EDUs / YR)										
AGENCY	**YEAR**	**RP-1**	**RP-4**	**RP-1/RP-4**	**CCWRF**	**RP-1/5**	**RP-2/RP-5**	**RP-5**	**INCREMENTAL GROWTH**	**CUMULATIVE TOTAL**
GRAND TOTALS	**6/30/02 Baseline**	**100,952**	**24,663**	**43,045**	**41,759**	**0**	**1,622**	**12,712**	**N/A**	**224,753**
	6/30/03 Baseline	**103,394**	**26,722**	**44,397**	**39,118**	**0**	**1,622**	**13,034**	**3,535**	**228,288**
	6/30/04 Baseline	**93,665**	**31,647**	**43,614**	**39,131**	**12,978**	**1,641**	**13,501**	**7,889**	**236,176**
	6/30/05 Baseline	**95,089**	**32,144**	**44,300**	**40,684**	**13,182**	**2,733**	**13,809**	**5,765**	**241,941**
	6/30/06 Baseline	**96,106**	**33,844**	**44,887**	**41,235**	**13,344**	**3,311**	**14,095**	**4,881**	**246,822**
	6/30/07 Baseline	**97,762**	**34,980**	**45,653**	**41,602**	**13,344**	**3,330**	**16,058**	**5,907**	**252,729**
	6/30/08 Baseline	**99,237**	**35,596**	**45,868**	**42,006**	**13,344**	**3,335**	**17,073**	**3,730**	**256,459**
	6/30/09 Baseline	**99,462**	**35,970**	**46,099**	**42,194**	**13,344**	**3,335**	**17,372**	**1,317**	**257,776**
	6/30/10 Baseline	**99,852**	**36,789**	**46,279**	**42,336**	**13,344**	**3,335**	**17,608**	**1,767**	**259,543**
	6/30/11 Baseline	**100,191**	**37,154**	**46,279**	**42,554**	**13,344**	**3,335**	**17,800**	**1,114**	**260,657**
	11/12	575	233	0	164	0	0	582	1,554	**262,211**
	12/13	566	279	0	341	0	0	1,302	2,488	**264,699**
	13/14	725	329	0	306	0	0	2,199	3,559	**268,258**
	14/15	1,037	310	0	321	0	0	3,728	5,396	**273,654**
	15/16	1,143	391	0	419	0	0	1,648	3,601	**277,255**
	16/17	1,020	372	0	379	0	0	1,683	3,454	**280,709**
	17/18	1,064	403	0	327	0	0	1,805	3,599	**284,308**
	18/19	735	434	0	256	0	0	1,742	3,167	**287,475**
	19/20	845	434	0	206	0	0	1,241	2,726	**290,201**
	20/21	785	434	0	124	0	0	1,187	2,530	**292,731**
TOTAL	***TEN-YR TOTAL***	**8,495**	**3,619**	**0**	**2,843**	**0**	**0**	**17,117**	**32,074**	

APPENDIX B

PROPOSED CAPITAL PROJECTS SUMMARY

ADMINISTRATIVE SERVICES FUND - GG -10200

Project Number	Project Description	Project Type	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total TYCIP 2013-2022
CP09002	CCTV Equipment Replacement	RP											
CP09003	Headquarters Campus Fencing	CC											
EC13005	TBA Combination Truck (JetterVactor) Pur	EQ	465,000										465,000
EN09019	IS Service Room Modifications and Air Co	CC											
EN10002	Construction Mgmt Tracking Projects Sys	EQ	23,371										23,371
EN11010	Headquarters Central Plant Improvements	RP	601,878										601,878
EP11010	Agency Wide Roof Repair	RP											
FP10200	Financial Planning Forecast GG Fund	RP			330,000	630,500	599,000	680,000	680,000	680,000	750,000	750,000	5,099,500
IS07007	Video Conference System	EQ											
IS08002	Replace 70 Workstations	RP											
IS08117	New ECOP Application	EQ											
IS09009	Operations Data Management System	EQ											
IS10002	Future Information Technology Initiative	EQ											
IS10016	Replacement PCs/Laptops	EQ					70,000	70,000	70,000	70,000			280,000
IS10025	SAP Public Sector Budget Prep Applicatio	EQ			200,000								200,000
IS11010	Business Network Tape Drive Replace	RP		40,000									40,000
IS12005	HQA Server UPS Replacement in Server Rm	RP											
IS12006	Purchase and Rplace 5 SAP Servers	RP											
IS12008	Sharepoint Software Purchase & Develop	RP	30,000										30,000
IS12009	Two New AutoCAD Computers	EQ											
IS12010	HCM System (Formerly Payroll Rplcmnt)	EQ	895,500	289,500									1,185,000
IS12011	Replace PCs/ Laptops	EQ											
IS13006	eProcure-to-Pay	EQ	350,000										350,000
IS13010	TBA Laser Printer Replacement - Forecast	RP		13,500	13,500	13,500	13,500						54,000
IS13011	TBA Laser Printer Replacement	RP	13,500										13,500
IS13030	TBAServer Replacement - Biz Net Forecast	RP		46,000	82,000								128,000
IS13031	TBA Server Replacement - Biz Net	RP	25,000										25,000
IS13040	TBAWorkstation Replacement Biz Forecast	RP		75,000	72,500	70,000	67,500						285,000
IS13041	TBA Workstation Replacement - Biz	RP	55,000										55,000
IS13090	Network Switch Replacement Biz Forecast	RP		52,000	52,000	36,000							140,000
IS13091	TBA Network Switch Replacement - Biz Net	RP	90,000										90,000
IS13101	TBA BizNet Core Network Router	EQ	8,300										8,300
IS13103	TBA Long Range Financial Planning App	EQ	90,000										90,000
IS13104	SAN for Data Storage - Business Network	EQ	30,000										30,000
IS13105	TBA HQ - Smart Board Display	EQ	15,000										15,000
IS13108	TBA Anza Replacement Projector	RP	5,500										5,500
IS14101	TBA Event/Sadie Room Replace Projectors	RP		11,200									11,200
IS14102	TBA Board Room A/V Equip Replacement	RP		110,000									110,000
MM13001	TBA - New Offices in Warehouse Building	CC	65,000										65,000
PA12001	New Vehicle for Pre-Treatment	EQ											
SR12002	CCTV Equipment Replacement	RP	20,000										20,000
SR12003	Headquarters Campus Fencing	CC											
10200	**TOTAL**		**2,783,049**	**637,200**	**750,000**	**750,000**	**750,000**	**750,000**	**750,000**	**750,000**	**750,000**	**750,000**	**9,420,249**

RECHARGE WATER FUND - RW - 10300

Project Number	Project Description	Project Type	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total TYCIP 2013-2022
EN12025	Hickory Basin - Arizona Crossing	CC	73,000										73,000
IS13005	Server Replacement	EQ	50,075										50,075
RW13001	Lysimeter Replacement	RP	75,000										75,000
RW13002	Ford F-250 4 Wheel Drive and Srvc Bed	EQ	75,000										75,000
TS07004	Recharge Enhancement Project	CC											
WR13022	Prado Basin Habitat Well Monitoring	CC	200,000										200,000
10300	**TOTAL**		**473,075**										**473,075**

NON-RECLAIMABLE (NRW) FUND - NC - 10500

Project Number	Project Description	Project Type	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total TYCIP 2013-2022
EC07013	East End Meter Calibration	RP											
EC08018	Lateral Connection for IERCF to the Brin	CC											
EC10011	Vactor 0300 Tank Door Replacement	EQ											
EC11001	CCTV Software/Hardware Upgrade	EQ											
EC11009	CSDLAC Capital Repl Costs-FY1011	CC											
EC12009	CSDLAC Capital Replacement 4Rs	CC											
EC12012	Flo-Dar Flow Monitoring and Data	EQ											
EC12013	Western Mule Bumper Mounted Hoist	EQ											
EC12018	EE Hydraulic Calibration	CC											
EC13001	Do Not Use - Moved to EC13005	EQ											
EC13002	TBA - Hand Held CCTV Camera	EQ	9,200										9,200
EC13009	CSDLAC Capital Replacement 4Rs	CC	1,429,818										1,429,818
EC14009	CSDLAC Capital Replacement 4Rs	CC		1,475,712	1,422,984	1,471,673	1,421,823	1,473,478	1,526,682	1,526,682	1,526,682	1,526,682	13,372,398
EC15009	CSDLAC Capital Replacement 4Rs	CC											
EC16009	CSDLAC Capital Replacement 4Rs	CC											
EC17009	CSDLAC Capital Replacement 4Rs	CC											
EN07011	NRW System Upgrades	RP	1,132,500	1,115,000	1,000,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	6,747,500
EN07117	RP2-SARI Dump Site Relocation	CC											
EN10003	NRW Connections & Emergency PL Repair	RP											
EN11016	CM Misc NRWS Construction & Emerg Proj	CC											
EN11034	NRW Collection System Repairs Phase 3	CC	189,253	50,000									239,253
EN11035	Philadelphia Pump Station Upgrades	CC	151,693										151,693
EN12008	NRWS Conn & Emergency Projects FY11/12	CC											
EN12011	CM Misc NRWS Construction & Emerg Proj F	CC											
EN12024	Philly Lift Station-Erosion Control	CC											
EN13008	TBA NRWS Conn & Emergency Proj FY12/13	CC	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	1,000,000
EN13011	TBA CM Misc NRWS Const & Emerg Proj F	CC	65,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	965,000
GM11003	CEO/GM NRWS Cap Replacement C	CC											
GM12003	CEO/GM NRWS Cap Replacement C	CC											
GM13003	CEO/GM NRWS Cap Replacement C	CC											
10500	**TOTAL**		**3,077,464**	**2,840,712**	**2,622,984**	**2,171,673**	**2,121,823**	**2,173,478**	**2,226,682**	**2,226,682**	**2,226,682**	**2,226,682**	**23,914,862**

RECYCLED WATER FUND - WC - 10600

Project Number	Project Description	Project Type	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total TYCIP 2013-2022
EN05057	RP5/RP2 Recyc Water Pipelines	CC											
EN06023	RW Lns Reb Cty Chino	CC											
EN06025	Wineville Ext Recy Wtr Piplne	CC	6,100,000	10,054,985	350,000								16,504,985
EN07010	930 W. Reservoir & Pipeline	CC	10,584,919	7,650,000	400,000	400,000	400,000						19,434,919
EN08014	CIM Recycled Water Connection	RP											
EN08018	1630 W. Recycled Water Pipeline Segment	CC	50,000										50,000
EN09002	Church Street Lateral	CC											
EN09003	1630 W. Recycled Water Pipeline Segment	CC	80,000	20,000									100,000
EN09007	1630 E Pipeline Seg B & 1630 E Resrvoir	CC								1,000,000	4,400,000	11,000,000	16,400,000
EN09012	Victoria & San Sevaine - Wells & Lysimet	CC											
EN10001	RP-5 Recycled Water Pump Station Expansi	CC											
EN10007	Misc WC Construction Projects & Emergenc	CC											
EN11015	CM Misc WC Construction & Emerg Proj	CC											
EN11030	Northwest Communication Towers	CC	20,000										20,000
EN11033	Temporary Turner Basin Turnout	CC											
EN11046	RP-1 930 PS Fifth Pump	CC	150,000										150,000
EN11048	1630 W. Pump Station Communication Tower	CC	20,000										20,000
EN11049	1630 W. Reservoir Communication Tower	CC	10,000										10,000
EN11050	Turner Basin Turnout Capacity Improvemen	CC	690,000										690,000
EN12007	Misc Recycled Water Projects FY11/12	CC											
EN12010	CM Misc RW Construction & Emerg Proj FY1	CC											
EN12014	East Avenue 1630 E RWP Relocation	CC	463,937	150,000									613,937
EN12016	North CIM Lateral	CC	20,000										20,000
EN12019	GWR and RW SCADA System Upgrades	EQ	1,610,000										1,610,000
EN13001	TBA San Sevaine Basin Improvements	CC	300,000	1,700,000									2,000,000
EN13007	TBA Misc Recycled Water Projects FY12/13	CC	230,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	2,030,000
EN13010	TBA CM Misc RW Constr & Emerg Proj FY1	CC	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	2,000,000
EN19002	800 Zone Reservoir	CC				1,500,000	1,500,000	400,000					3,400,000
EN19003	RP-1 Outfall Parallel Line FY13/14	CC		1,500,000	3,000,000	1,200,000							5,700,000
PU09908	Public Retrofit IEUA	CC											
WR04002	W Edison Regional Pipeline	CC											
WR04441	RP-4 1158 & 1270 PZ Pmp Stns	CC											
WR04442	Etiwanda Ave 42" Pipline 22Kft	CC											
WR04445	West Edison SAC RW Pipeline-A	CC											
WR04446	San Antonio Channel Pipelin-B	CC											
WR04447	RP4 Area 1158 Pipeline	CC											
WR04448	RP4 Area 1158 Reservoir	CC											
WR08020	Recycled Water Misc Connections and Retr	CC	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	10,000,000
WR08023	1630 W. Recycled Water Pipeline Segment	CC	50,000										50,000
WR08027	1299 E Pipeline	CC											
WR08028	1299 E Res Conv & 1630 E Pump Station	CC											
WR08029	1630 E Pump Station	CC											
WR08030	Baseline Regional Pipeline	CC											
WR08031	1630 E Pipeline Segment A	CC											
WR08032	1630 W. Recycled Water Pump Station	CC	160,000										160,000
WR11016	RW Maintenance Response Vehicle	EQ											
WR11017	Turner Basin Recharge Improvements	CC	450,520	212,093									662,613
WR11018	Northwest Recycled Water SCADA Upgrades	CC	10,000										10,000
WR11019	Prado Dechlor Station Drainage Repair	CC											
WR11020	RP-1 Outfall Modifications	CC	5,000										5,000
10600	**TOTAL**		**22,204,376**	**22,687,078**	**5,150,000**	**4,500,000**	**3,300,000**	**1,800,000**	**1,400,000**	**2,400,000**	**5,800,000**	**12,400,000**	**81,641,454**

REGIONAL OPERATIONS AND MAINTENANCE FUND - RO - 10800

Project Number	Project Description	Project Type	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total TYCIP 2013-2022
EC13003	TBA Water Truck Tank Relining	CC	10,000										10,000
EN08013	Plant Equipment Improvements	RP	200,000										200,000
EN08023	RP-1 Asset Replacement	CC	1,900,000										1,900,000
EN08024	RP-1 Digester No. 3 Roof Repair	CC											
EN09021	RP-4 Headworks Retrofit	CC											
EN09022	SCADA Service Room Modifications and Air	CC											
EN10010	CCWRF Condition Assessment	CC											
EN10012	RP-1 Fuel Cell	RP											
EN11032	CCWRF 12 kV Switchgear Repair	CC											
EN11045	CCWRF Secondary Clarifiers Rehab Phase 1	RP	308,348										308,348
EN12003	All Facilities Asset Replacement	RP											
EN12018	CCWRF Secondary Clarifier No.1 Rehab.	RP	890,000										890,000
EN13015	Assest Improvement and Replacement	RP	1,900,000	4,000,000	4,000,000	4,000,000	4,000,000	4,000,000	4,000,000	4,000,000	4,000,000	4,000,000	37,900,000
EP11008	Purchase Motor Circuit Analysis Tool	EQ											
EP11009	RP1 Aeration Basin Clean Air Panel Repl	RP											
EP11014	RP1/RP5 Bio-Filter Media Replacement	RP											
EP11015	Major Facilities Repairs/Replacements	RP											
EP11020	Digester Cleaning	CC											
EP12002	Major Facilities Repairs/ Replacements	RP											
EP13001	TBA RP2 Digester Cleaning	CC	320,000	320,000	320,000	320,000	320,000	320,000	320,000	320,000	320,000	320,000	3,200,000
EP13002	TBA Major Facilities Repair/ Replacement	RP	800,000	700,000	700,000	700,000	700,000	700,000	700,000	700,000	700,000	700,000	7,100,000
IS10021	Replace Records Management Scanner	EQ	13,700										13,700
IS11016	Replacement PC's Laptops	EQ											
IS13015	Do Not Use	CC											
IS13016	Do Not Use	CC											
IS13017	Do Not Use	CC											
IS13018	Do Not Use	CC											
IS13019	Do Not Use	CC											
IS13020	This project number cannot be used	CC											
IS13050	TBA Network Switch Repl -Fore Plant Net	CC		75,000	75,000	50,000							200,000
IS13051	TBA Network Switch Replace-Plant Net	CC	85,000										85,000
IS13060	TBA UPS Replacement Forecast - PAC	CC		33,500	33,500	33,500							100,500
IS13061	TBA UPS Replacement PAC	CC	35,000										35,000
IS13070	TBA Server Replace-Plant Auto FORECAST	CC		46,000	25,200	45,500	45,500						162,200
IS13071	TBA Server Hardware Repl-Plant Auto Net	CC	40,000										40,000
IS13080	TBA Workstation Replace Fore-PAC Net	CC		16,000	15,500	15,000	14,500						61,000
IS13081	TBA Workstation Replace-PAC Network	CC	45,000										45,000
IS13106	TBA SAN for Data Storage-PAC Network	CC	30,000										30,000
IS13107	TBA RACO Replace Project (CCWRF,RP2,RP5	CC	10,000										10,000
TS08001	Technical Service Vehicles	EQ											
10800	**TOTAL**		**6,587,048**	**5,190,500**	**5,169,200**	**5,164,000**	**5,080,000**	**5,020,000**	**5,020,000**	**5,020,000**	**5,020,000**	**5,020,000**	**52,290,748**

REGIONAL CAPITAL IMPROVEMENT FUND - RC - 10900

Project Number	Project Description	Project Type	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total TYCIP 2013-2022
EA08003	RP1/RP4 12KV Meter Testing	RP											
EB08007	RP5/CCWTP 12KV Meter Testing	RP											
EN02036	RP1 Aeration Basin Drain Pmps	CC											
EN03029	RP-5 Renewable Energy Efficiency	CC											
EN04011	RP4 Liquid Expansion to 14 mgd	CC											
EN04018	Engineering-As-Builting	CC	157,250										157,250
EN04036	RP1 3-Phase Digestion Imprvmnt	CC											
EN05007	RP1 Aeration Basin Modificatio	RP											
EN05014	RP1 Pri.Sludge Thickening	CC											
EN05027	RP2 System Modifications	CC											
EN05035	Upland Intrcptr Rlf Swr Ph II	CC											
EN05050	RP2 Digester Gas Sys Modifications	CC	31,713										31,713
EN05054	Misc RC Construction Projects & Emergenc	CC											
EN05061	CCW Trty Flt&Chlrn Tnk Expan	CC											
EN06013	Collection System Chino Ave1	RP											
EN06014	RP2 Dewtr Cake Storage System	CC											
EN06015	RP1 Dewatering Facility Expansion	CC	150,000										150,000
EN06020	RP5 System Fac Upgrade & Imprv	CC	150,000										150,000
EN07003	RP-1 Condition Assessment	CC											
EN07006	RP1 Facilities Improvements	CC	183,590										183,590
EN07008	RP2 Gravity Thickener	CC											
EN07013	RP1 Bypass Improvements	RP											
EN08002	RP-1,RP-2,CarbCny O&M Manual	RP	500,000	495,998	415,516								1,411,514
EN08004	RP-1 Upgrades	CC											
EN08006	RP-2 & RP-5 IPS Overflow	CC											
EN08009	New Operations Laboratory	CC	50,000	50,000	50,000	1,000,000	10,000,000	4,000,000					15,150,000
EN08019	Gas Cleaning Systems for RP-1, RP-2, & R	EQ											
EN08022	RP-1 Solar Power Plant Area 4	CC											
EN09023	RP-5 SHF/REEP Independent Review	CC	16,658										16,658
EN10011	RP-4 Wind Turbine Power Plant	CC											
EN11003	RP-1 Storm Water Contain Improvement Pha	CC											
EN11004	RP-2 Screening Project	CC											
EN11006	RP-1 Food Waste Program	CC											
EN11014	CM Misc RC Construction & Emerg Proj	CC											
EN11017	Capital Upgrades to RP1, RP2, CCWRF, RP4	CC	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	20,000,000
EN11024	Misc WW Construction & Emerg Proj FY1011	CC											
EN11027	Headquarters Repairs and Drainage Improv	CC	88,817										88,817
EN11028	EN11028 RP4 Storage Pond Improvements	CC	25,000										25,000
EN11029	Facilities SCADA Master Plan	CC											
EN11031	RP-5 Flow Equalization and Effluent Moni	CC	160,000										160,000
EN11036	HVAC & Server Room Fire Suppression Impr	CC	824,141										824,141
EN11038	RP-1 Digester Gas Condensate Sump Improv	CC											

EN11039	TP-1 Disinfection Pump Improvements	RP	300,000	85,000									385,000
EN11040	RP-1 Outdoor Lighting Improvements	RP	203,140										203,140
EN11041	CCWRF Trty Fltr Media Replacemnt & Rehab	CC	13,047										13,047
EN11042	RP-1 Flare & RP1/RP2 Boiler Replacements	RP	1,736,037										1,736,037
EN11044	Casing Ext for Reg and NRW Crossing UPRR	CC											
EN11051	Central Plant for the New Operations Lab	CC	369,096										369,096
EN11055	HQ Building Parking Lot Repairs	CC											
EN11056	Headquarters Building Crack Repairs	CC											
EN11057	HQ Perimeter Drainage Improvements	CC	1,828										1,828
EN11058	RP-2 Dewatering Drainage Repair	CC											
EN11059	RP-4 Odor Control Backup Blower	CC											
EN11300	Regional Sewer Special Projects FY1011	CC											
EN12006	Misc WW Construction & Emerg Proj FY11/1	CC											
EN12009	CM Misc RC Construction & Emerg Proj FY1	CC											
EN12012	El Prado Road Improvements	CC											
EN12017	RP-4 Grading and Drainage Improvements,	CC	110,000										110,000
EN12020	Chino Creek Invert Repair	RP	240,000										240,000
EN12021	RP-5 Pond/Drainage Improvements	CC	183,000										183,000
EN12022	RP-1 Aeration Ducting	RP											
EN12023	RP-5 Power Center 1 & 3 Stairs	CC											
EN12026	Montclair Lift Station Upgrades	CC	185,000										185,000
EN12300	Regional Sewer Special Projects FY11/12	CC											
EN13006	TBA Misc WW Constr & Emerg Proj FY12/13	CC	287,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	2,537,000
EN13009	TBA CM Misc RC Const & Emerg Proj FY1	CC	287,500	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	2,537,500
EN13300	TBA Regional Sewer SpL Proj FY12/13	CC	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	1,000,000
EN99999	Conversion Correciton for EN05050.02	CC											
EP07003	REGIONAL FACILITIES REPORT/REPLC	RP											
EP11003	Uninterruptable Power Supply (UPS) Redun	EQ											
EP11012	Agency Wide Plant Fac Roof Repair	RP											
EP11013	Agency Wide Operations Asphalt Repair	RP											
EP11016	Sub-metering All Facilities	CC											
EP11017	SBLS Critical Spare Equip Purchase	EQ											
EP11019	Purchase CCWRF Primary Effluent Pump	EQ											
EP12001	Rockwell Automation PLC Upgrades RP1,RP4	EQ											
IS09018	DCS WAN Acceleration	EQ											
IS10009	Wireless communications for Montclair an	EQ											
IS10011	Future DCS Initiatives	EQ		50,000	150,000								200,000
IS11014	Replace Telephone System Server Hardware	RP											
IS12001	Upgrade DCS Foxboro I/A to Infusion (Won	EQ		100,000	100,000								200,000
IS12002	Upgrade DCS AIM Historian to InSQL	EQ		100,000									100,000
IS12004	Replace 3 servers on Auto&Cntrl Network	EQ											
LB12001	GCMS Semi Volatiles Wastewater	EQ	150,000										150,000
LB13001	GCMS Volatiles Wastewater	EQ	250,000										250,000
LB14001	GC Pesticides Wastewater	EQ		100,000									100,000
PA06010	RP1 Digester PD Pumps	RP											
PA06012	RP1 Primary Clarifiers	RP											
PA13001	TBA Plant Recycled Water Valves Replace	CC	300,000										300,000
PL03006	RP-1 Odor Control - Phase I RDSV	CC	100,000										100,000
SR12001	Agency Wide Security Equipment Upgrade	EQ	120,000	100,000	36,100								256,100
10900	**TOTAL**		**9,272,817**	**3,680,998**	**3,351,616**	**3,600,000**	**12,600,000**	**6,600,000**	**2,600,000**	**2,600,000**	**2,600,000**	**2,600,000**	**49,505,431**



AGENCY INFORMATION

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Inland Empire Utilities Agency

A MUNICIPAL WATER DISTRICT