





Fiscal Year 2009/10 Capital Improvement Program Ten-Year Water System Plan

November 2008



Water Supply

Water Quality

Flood Protection



Zone 7 Water Agency Mission Statement

Zone 7 Water Agency is committed to providing a reliable supply of high quality water and an effective flood control system to the Livermore-Amador Valley. In fulfilling our present and future commitments to the community, we will develop and manage the water resources in a fiscally responsible, innovative, proactive and environmentally sensitive way.



Fiscal Year 2009/10 Capital Improvement Program

Ten-Year Water System Plan

Prepared by: Zone 7 Water Supply Engineering Section

Adopted by the Zone 7 Board of Directors November 19, 2008

FY 2009-10 CIP November 2008

Table of Contents

| EXECUTIVE SUMMARY | |
|--|-------|
| Introduction | ES-1 |
| Water System Goals | ES-1 |
| Water System CIP Overview | ES-3 |
| Prioritization | ES-4 |
| Major Changes | ES-5 |
| Major Capital Projects | ES-9 |
| Key Issues Impacting the CIP | ES-11 |
| Water System Strategy Breakdown | ES-12 |
| Fund 72 – Renewal/Replacement Strategy Overview | ES-13 |
| Fund 72 – System Wide Improvements Strategy Overview | ES-14 |
| Fund 72 – Funding Analysis | ES-15 |
| Fund 73 – Expansion | ES-17 |
| Fund 73 – Funding Analysis | ES-18 |
| Ten-Year Water System CIP Appropriations Summary | ES-20 |
| SECTION 1 – INTRODUCTION | |
| About Zone 7 | 1-1 |
| Purpose | 1-2 |
| CIP Structure | 1-2 |
| CIP Preperation | 1-4 |
| Prioritization Criteria | 1-6 |
| Sources of Funding | 1-7 |
| SECTION 2 – WATER SYSTEM | |
| Introduction | 2-1 |
| Water System Goals | 2-1 |
| Water System CIP Overview | 2-9 |
| Major Changes | 2-14 |
| Major Capital Projects | 2-18 |
| Fund 73 – Expansion Strategy | 2-20 |
| Fund 72 – Renewal/Replacement Strategy | 2-23 |
| Fund 72 – System Wide Improvements Strategy | 2-25 |
| Fund 72 – Funding Analysis | 2-27 |
| Fund 73 – Funding Analysis | 2-32 |
| Ten-Year Water System CIP Appropriations Summary | 2-39 |
| Water Project Summary Listing | 2-42 |
| Project Summaries | 2-44 |

Table of Contents

FIGURES

| Figure 1 – Zone 7 Service Area | 1-1 |
|--|-----|
| Figure 2 – Zone 7 Service Area with Existing Facilities | 1-8 |
| Figure 3 – Projected Zone 7 Demand & Existing Sustainable Water Supply | 2-2 |
| Figure 4 – Zone 7 Well Capacity for Drought Protection | 2-3 |
| Figure 5 – Surface Water Production Capacity vs. 85% Zone 7 Max Day M&I Demand | 2-4 |
| Figure 6 – Increased Groundwater Usage for TDS & Hardness Removal | 2-6 |

APPENDICES -

A – ZONE 7 BOARD POLICY/PLANNING RESOLUTIONS

- 1. Groundwater Management Plan
- 2. Reliability Policy for Municipal & Industrial Water Supplies
- 3. Water Quality Policy for Potable and Non-Potable Water
- 4. Stream Management Master Plan
- 5. Policy Principles and Joint Resolution of the City Council of the City of Pleasanton, the Board of Directors of the Dublin San Ramon Services District and the Board of Directors of the Zone 7 Water Agency Regarding Water Quality

Acronyms and Terms Glossary

The following abbreviations and acronyms are used in the report:

af or AF acre-feet

afa or AFA acre-feet per year

AMP Asset Management Program
AWTP Altamont Water Treatment Plant

CCI Construction Cost Index
CWS California Water Service
cfs cubic feet per second

CIP Capital Improvement Program
CUWA California Urban Water Agencies

DAF Dissolved Air Flotation

DSRSD Dublin San Ramon Services District

DV Dougherty Valley

DVWTP Del Valle Water Treatment Plant

DWR California Department of Water Resources

ENR Engineering New Record

FY Fiscal year

ISA Installment Sale Agreement

gpd Gallons per day

gpcd Gallons per capita per day

GWMP Groundwater Management Plan

LAVWMA Livermore Amador Valley Water Management

Authority

LDV Lake Del Valle LOC Line of Credit

MDD Maximum day demand

MCL Maximum Contaminant Level

MEIR Master Environmental Impact Report

MGD or mgd Million gallons per day

MOU Memorandum of Understanding

M&I Municipal & Industrial

MWQI Municipal Water Quality Investigation

Acronyms and Terms Glossary

O&M Operations and Maintenance

PPWTP Patterson Pass Water Treatment Plant

SBA South Bay Aqueduct SDA Special Drainage Area

SMMP Stream Management Master Plan

SMP Salt Management Plan SWP State Water Project

SWRU Stored Water Recovery Unit

UWMP Urban Water Management Plan

WTP Water Treatment Plant

Zone 7 Zone 7 Water Agency





INTRODUCTION

On an annual basis, Zone 7 prepares a Capital Improvement Program (CIP) document, which outlines the plans for capital projects and programs needed to carry out the goals and policy objectives of the agency. This document incorporates the projects, costs, schedules, and priorities for the Water System for the next ten years starting with FY 09/10. The CIP document typically includes a Five-Year Flood Protection System CIP. A Ten-Year Flood Protection CIP based on the Stream Management Master Plan (SMMP) is currently being developed; therefore, the Five-Year Flood Protection System CIP has been removed from this year's document. Staff expects to present an expanded Flood Protection System CIP in a separate document at a later time. This will allow additional time necessary to define and develop a funding plan to support an SMMP-based Ten-Year CIP.

This Executive Summary highlights the goals and policy objectives of Zone 7, provides an overview of the Ten-Year capital plan for the Water System, discusses the significant changes from the FY 2008/09 10-Year CIP document and presents key projects and issues impacting the CIP as well as an overview of the financial condition of the various capital funds.

WATER SYSTEM GOALS

To ensure that the needs of Zone 7 customers are met, Zone 7 has set goals relative to water reliability, quality and groundwater management. These Water System goals, as defined by adopted Board policies, are summarized below and further detailed in Section II. While every policy is subject to review and adjustment, the current policies can be found in Appendix A.

Reliability

- Meet 100% of treated water customer's needs.
- Provide sufficient surface water production capacity and infrastructure to meet at least 75% of the maximum daily municipal and industrial (M&I) demands.
- Provide surface water treatment design capacity to meet 85% of the Zone 7 maximum day demand. (Planning Criteria)
- Operate water supplies so that the groundwater basin does not drop below historic lows. (Operational Criteria)

Groundwater Management Plan

- Protect and enhance the quality of groundwater.
- Offset current and future salt loading, while facilitating reasonable regional recycled water use.
- Maintain or improve groundwater mineral quality.
- Provide more comparable delivered water quality to Retailers.
- Utilize Water Operations Plans to achieve these goals.

Water Quality

- Zone 7 shall meet all State and Federal primary and secondary Maximum Contaminant Levels¹ (MCLs) for potable water.
- Within technical and fiscal constraints, Zone 7 shall mitigate "earthy-musty" taste and odor events and reduce hardness levels.
- Zone 7 shall endeavor to deliver comparable quality water to non-treated customers.
- To achieve the above goals, Zone 7 shall endeavor to improve quality of source waters (i.e., the Delta and groundwater basin).
- Policy Principles and Joint Resolution for Zone 7 Water Quality Program establishes policy principles to guide Zone 7, the City of Pleasanton and Dublin San Ramon Services District in developing programs and operational guidelines to improve water quality.

¹ Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the Public Health Goals (PHGs), or Maximum Contaminant Level Goals (MCLGs), as is economically and technically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

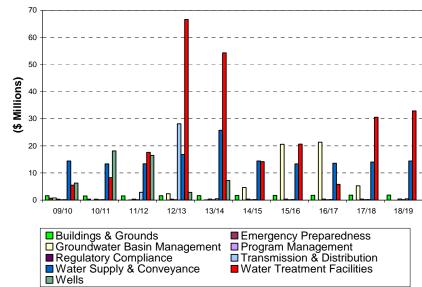
WATER SYSTEM CIP OVERVIEW

A primary function of the CIP is to provide Zone 7's Executive Staff and Board of Directors with a clear and orderly process for planning and budgeting for capital needs and to make informed decisions with regard to project priorities and scheduling.

In order to meet the mission, goals and policy objectives established by the Zone 7 Board, various capital projects and programs are needed to ensure a reliable and high quality water supply. The Zone 7 Water System CIP proposes the projects and programs needed to carry out the goals and mission of Zone 7. These projects anticipate the need to renew, replace and improve existing infrastructure (Fund 72, Water Rates) and to construct new facilities needed to accommodate future growth (Fund 73, Connection Fees).

Seventy-one Water System projects have been identified totaling \$587M and falling within the following nine program areas:

- Buildings & Grounds
- Emergency Preparedness
- Groundwater Basin Management
- Program Management
- Regulatory Compliance
- Transmission and Distribution
- Water Supply and Conveyance
- Water Treatment Facilities
- Wells



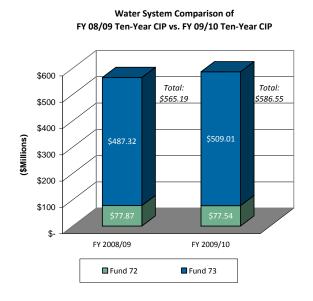
(\$ Millions)

| Program (FY) | 09/10 | 10/11 | 11/12 | 12/13 | 13/14 | 14/15 | 15/16 | 16/17 | 17/18 | 18/19 | Total |
|------------------------------|-------|-------|-------|--------|-------|-------|-------|-------|-------|-------|--------|
| Buildings & Grounds | 1.59 | 1.54 | 1.58 | 1.61 | 1.65 | 1.69 | 1.72 | 1.76 | 1.80 | 1.84 | 16.79 |
| Emergency Preparedness | 0.72 | 0.32 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.04 |
| Groundwater Basin Management | 0.78 | 0.00 | 0.05 | 2.34 | 0.08 | 4.61 | 20.61 | 21.35 | 5.26 | 0.00 | 55.08 |
| Program Management | 0.34 | 0.34 | 0.34 | 0.34 | 0.39 | 0.39 | 0.39 | 0.39 | 0.39 | 0.43 | 3.74 |
| Regulatory Compliance | 0.11 | 0.11 | 0.12 | 0.12 | 0.13 | 0.13 | 0.14 | 0.14 | 0.15 | 0.15 | 1.30 |
| Transmission & Distribution | 0.15 | 0.16 | 2.89 | 28.16 | 0.49 | 0.20 | 0.20 | 0.20 | 0.20 | 0.46 | 33.09 |
| Water Supply & Conveyance | 14.42 | 13.34 | 13.40 | 16.82 | 25.76 | 14.42 | 13.36 | 13.60 | 14.04 | 14.41 | 153.54 |
| Water Treatment Facilities | 5.52 | 8.27 | 17.58 | 66.62 | 54.31 | 14.18 | 20.63 | 5.80 | 30.56 | 32.87 | 256.34 |
| Wells | 6.28 | 18.11 | 16.48 | 2.83 | 7.21 | 1.81 | 2.43 | 8.41 | 2.04 | 0.04 | 65.64 |
| Total | 29.91 | 42.19 | 52.44 | 118.84 | 90.01 | 37.41 | 59.48 | 51.64 | 54.44 | 50.20 | 586.55 |

PRIORITIZATION

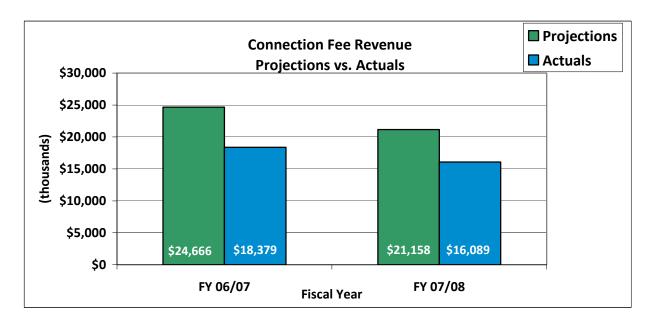
The Ten-Year Water System CIP is dynamic in nature and is reviewed and revised annually. Project priorities and available funding are constantly monitored throughout the fiscal year to ensure there is adequate funding for the highest priority projects. In the development of this document, funding analysis was conducted to determine if there would be any limitations in funding the proposed capital projects and programs. Zone 7 does anticipate funding challenges in both Funds 72 and 73, and has utilized this opportunity to closely examine available funding, staff resources and Water System needs to determine which projects should be completed and when. As part of the capital planning process, a "CIP Prioritization Group" (includes the Assistant General Managers of both Operations and Engineering, Production Manager, CIP Manager, Senior Engineer and Staff Analyst of Water Supply Engineering) prioritizes the list of projects to be presented within this CIP document based on selected criteria (these criteria are detailed in Chapter 1, Introduction), and also based on the level of discretion there is in meeting agency goals without implementing a given project. Due to anticipated near-term funding challenges, staff is utilizing this as an opportunity to thoroughly evaluate all proposed projects and scrutinize the need, cost and justification for each. As a result of a rigorous priority-setting process, the CIP Prioritization Group developed and finalized a list of CIP projects. From the initial list, several projects were recommended for deferral or deletion based upon available funding, assessment of need and priority relative to other projects. The projects meeting these criteria are presented in this Ten-Year CIP.

The planned FY 2009/10 Ten-Year CIP appropriations total \$587 million, which is about \$22 million or 4% more than the FY 08/09 10-Year CIP total of \$565 million.



MAJOR CHANGES

The most significant change that has impacted the Water System CIP is the significant slow-down in residential and commercial development that has occurred over the last couple of years. This trend is consistent with the overall slow-down in the national economy. Pursuant to the Zone 7 policy that "new development pays for itself", the Expansion program relies solely on water connection fees paid by developers when connecting new homes or businesses to our Retailers' water systems. Over the past two fiscal years (FY 06/07 and FY 07/08), connection fee revenue has fallen short of what was initially anticipated (see chart below).



Zone 7 expects the slow-down in revenue to continue (see Funding Analysis in Section II for more details) through FY 10/11. This significant drop in planned revenue has a direct impact on Zone 7's ability to fund major capital projects, such as the Altamont Water Treatment Plant (AWTP) and Altamont Pipeline - County Reach. Staff is recommending deferral of these two major projects by three years until sufficient funding is available. Note that a recent in-house evaluation has shown that maximum day demands (MDD) on our system have not increased as fast as in previous estimates and therefore this deferral will not impact our ability to meet our Retailers' demands.

Some other key changes from the FY 08/09 Ten-Year CIP are summarized below:

New Projects – Fund 72

Asset Management Program (AMP) Condition Assessment – \$210,000 in FY 09/10

- Update of the 2006 AMP Condition Assessment.

DVWTP Electrical Power System Upgrade- \$1,300,000 - \$430K in FY08/09 and \$870K in FY 09/10

- Replacement of the main plant switchboard as well as the motor control center and switchgear for backwash pump 2 and service water pumps as recommended in the 2006 AMP Condition Assessment.

Local Hazard Mitigation Plan - \$260,000 - \$50K in FY 09/10 and \$210K in FY 10/11

- Update Zone 7's existing Local Hazard Mitigation Plan, required every five years.

PPWTP Filter Improvements Study – \$80,000 in FY 11/12

- An evaluation of the performance of existing conventional plant filters and recommended improvements.

Replacement of Parkside Building Roof - \$80,000 in FY 09/10

- Project includes full replacement of the roof to prevent internal damage.

Safety Improvements at Water Treatment Facilities – \$450,000 in FY 12/13

- This project will provide facility-wide audible and visual emergency alarm devices and safety equipment to improve response to chemical emergencies.

Well Pump, Motor and Casing Inspections - \$350,000 over ten years starting in FY 09/10

- Annual inspection of at least two well pumps, casing and motors.

Vulnerability Assessment Review and Update - \$110,000 in FY 09/10

- Update of the 2003 Zone 7 Vulnerability Assessment Report.

Deleted Projects - Fund 72

The four projects listed below have been deleted after a re-assessment of their needs and system priorities:

- Upgrade of PPWTP ESS Building \$225K deleted from FY's 09/10 & 10/11
- PPWTP UF HVAC Systems Improvements \$460K deleted from FY's 08/09 & 09/10
- PPWTP UF Work Facility Addition \$540K deleted from FY's 08/09 & 09/10
- Install VFD at Mocho 3 or 4 \$330K deleted from FY 14/15

Fund 72 Projects Recommended For Deferral

Due to funding constraints and system priorities, we have re-prioritized, developed contingency plans where appropriate and recommend deferral of:

- DVWTP Aqueous Ammonia System estimated at \$3.2M. Completion date deferred from December 2010 to June 2016. Safety improvements to the existing anhydrous system are underway to facilitate this deferral.
- DVWTP Chemical Systems Improvements estimated at \$2.5M completion deferred from June 2009 to June 2011.
- DVWTP Interior Coating Improvements to the 4.5MG Steel Clearwell estimated at \$1.25M. Due to funding issues, the original project has been split into two phases. The first phase, deemed to be of higher priority, will be completed in FY 08/09 and includes interior re-coating of the 3MG concrete clearwell's metal roof and exterior recoating of the 4.5MG steel clearwell, This second phase, to be completed in FY 10/11, involves re-coating of the 4.5MG clearwell's interior.
- PPWTP Ammonia Facility Replacement estimated at \$2.3M. Completion date deferred from June 2011 to June 2014. Safety improvements to the existing anhydrous system are underway to facilitate this deferral.
- PPWTP Improvements 2012. Estimated at \$2.3M this is a collection of several PPWTP Conventional and UF Plant projects grouped together. In the FY 08/09 CIP, these projects were deferred until FY 11/12 due to funding constraints. In this CIP document, this larger project has been split into three separate projects: PPWTP Improvement Project 2011, PPWTP Improvement Project 2012 and PPWTP Improvement Studies 2011. The scheduling and grouping is based on priority and project type.
- *PPWTP Rehabilitation of Clarifier* estimated at \$1.76. Completion date deferred from June 2011 to June 2015.

New Projects – Fund 73

Delta Conveyance Study - \$375,000 in FY's 09/10 and 10/11

This represents Fund 73's share (\$187.5K in FY 08/09 and \$187.5K in FY 09/10; 25% of the total Zone 7 share) for the Department of Water Resources (DWR) and United States Bureau of Reclamation (USBR) engineering and environmental studies for improved Delta conveyance facilities. Zone 7's total share is \$1.5M, the remaining \$1.125 or 75% will be funded by Fund 52 – Water Enterprise. Improved Delta conveyance facilities are needed to restore the State Water Project's (SWP) yield to previously anticipated levels (about 75%) of SWP Contract Table A Amounts.

Fund 73 Projects Recommended For Deferral

AWTP Phase 1 – estimated at \$130M. Completion date deferred from June 2011 to June 2014.

 Due to the slowdown in growth/demands and connection fee revenue, it is recommended that the construction of the AWTP be deferred by three years, with a new on-line date of summer 2014.

AWTP Phase 1A — estimated at \$7M. Completion date deferred from June 2014 to June 2016. AWTP Phase 2 — estimated at \$62M. Completion date deferred from June 2016 to June 2019.

- Consistent with the deferral of AWTP Phase 1, these two subsequent phases are also recommended for similar and proportionate deferral.

Altamont Pipeline - County Reach — estimated at \$30M. Completion date deferred from June 2009 to June 2013.

The Altamont Pipeline is divided into two phases/reaches. The first phase, Altamont Pipeline - Livermore Reach, is approximately five miles in length and 42-inches in diameter. Construction began in July 2008, with substantial completion estimated by July 2009. This second phase, Altamont Pipeline - County Reach, is recommended for deferral due to funding constraints.

Second Groundwater Demineralization Facility (100% from Fund 73) – estimated at \$51M.

Completion date deferred from June 2013 to June 2018 due to funding constraints. The subsequent Third Groundwater Demineralization Facility is recommended for similar and proportionate deferral.

MAJOR CAPITAL PROJECTS

The following major capital projects which will provide additional supply, improve water quality and increase reliability, are currently underway:

Mocho Groundwater Demineralization

This project will remove salts and minerals from groundwater supplies delivered primarily to the western side of Zone 7's service area. This project also facilitates regional use of recycled water by balancing and managing salt loading on the groundwater basin. Identified as a water quality improvement project in the Zone 7 Water Quality Management Program Implementation Plan, through RO technology, this facility will treat up to 7.7 million gallons of groundwater a day pumped from a series of nearby existing Zone 7 wells. After the salt concentrate is removed, about 6.1 MGD of treated water will be available for blending with other supplies prior to delivery to our Retailers. At a total capital cost of about \$37M (50% paid from water connections fees and 50% from water rates), this project is anticipated to be on-line in spring 2009. This plant is located at the northwest corner of the intersection of Santa Rita Road and Stoneridge Drive in Pleasanton.



Installation of a RO feed pump.

Chain of Lakes Wells 1 and 2

The Well Master Plan (WMP) identified the need to construct a number of municipal water supply wells over the next 15 years to meet Zone 7's potable water drought reliability goal. The first phase of this project involves two new wells in the Chain of Lakes area. These two wells will provide an additional 8 MGD of capacity and are currently scheduled to be in-service by summer 2009. As of August 2008, the wells have already been drilled and developed, and are awaiting completion of a construction contract for a 36-inch connecting pipeline ("El Charro Pipeline"), and also for the pumps, motors, buildings, sitework, etc., to make both of these new wells fully operational.



Drilling of the new wells.

Altamont Pipeline - Livermore Reach

In July 2008, Zone 7 began construction on the first 5-mile segment of the Altamont Pipeline, within the City of Livermore, from Kitty Hawk Road, easterly to the vicinity of Vasco Road. This pipeline segment will have its own immediate benefits; by creating a loop within Zone 7's existing transmission system, it will provide improved water supply reliability for a portion of eastern Livermore in the event of emergency outages of water deliveries from the South Bay Aqueduct (SBA).



Pipeline installation.

South Bay Aqueduct Improvement and Enlargement

The SBA Improvement and Enlargement Project will provide an additional 130 cubic feet per second (cfs) of raw water conveyance capacity to Zone 7, meeting Zone 7's long-term raw requirements, as delineated in the Water Conveyance Study (2001). In addition, as part of the overall project, a 425 acre-foot (active storage volume) raw water reservoir (Dyer Reservoir)

will be constructed, which will allow for more energy efficient operations through time-of-use pumping. In addition, it will provide water treatment benefits at Zone 7's future AWTP by minimizing fluctuations in influent water quality. Project completion is anticipated in fall 2010.



Taste and Odor Treatment at Del Valle and Patterson Pass Water Treatment Plants

Zone 7 staff is in the process of planning for long-term taste and odor (T&O) treatment improvements at the existing Del Valle and Patterson Pass Water Treatment Plants, to reduce earthy-musty tastes and odors from surface water supplies. Currently, Zone 7 is pilot testing ozone and ozone-peroxide treatment alternatives. Assuming that an inexpensive design and acceptable funding plan can be developed, the design phase is anticipated to occur during years 2009 and 2010, with construction commencing in FY 2011/12.

KEY ISSUES IMPACTING THE CIP

The following have been identified as key issues which may impact Zone 7's Ten-Year CIP.

Slow-Down in Growth, Demands, and Connection Fee Revenue

- The current slowdown in growth has caused a significant reduction in connection fee revenue available to fund major Expansion projects. Therefore, deferral of AWTP is recommended. With regard to demands, since maximum day demands on our system have not increased as fast as previous estimates, this deferral will not impact our ability to meet our Retailers' needs.

Endangered Species Act and Impact on Reliability, Call for Conservation

- Based on DWR's Draft SWP Delivery Reliability report (December 2007) which incorporates the impacts of Judge Wanger's Delta Smelt interim remedies, the average-year SWP yield is reduced from 76% to 66% (long-term SWP yield). In response, Zone 7 has asked customers to cut water use by 10%, ramped-up conservation activities, and is actively involved in developing a long term solution for Delta conveyance and habitat conservation.

Increasing Costs of Supplies, Energy, Construction Materials

- Increases in the cost of gas, energy, construction materials, etc., may increase the project cost estimates provided in this CIP.

Reaching Appropriate Funding Levels for the AMP, While Infrastructure is Maturing

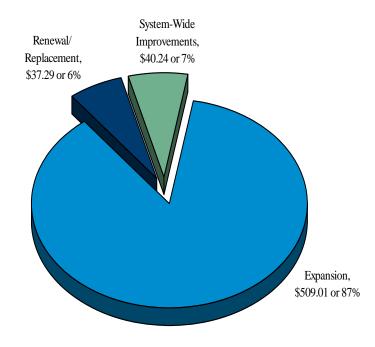
- Zone 7 will have limits on the scale and timing of its Renewal/Replacement and System-Wide Improvements Program (Fund 72) until a sufficient funding level is met.

WATER SYSTEM STRATEGY BREAKDOWN

The Water System CIP is categorized into these three strategies: Renewal/Replacement (R/R), System-Wide Improvements (SWI), and Expansion. R/R and SWI (Fund 72) is funded by water rates paid by existing customers via an annual transfer from Fund 52 – Water Enterprise (water rate revenue initially accrues to this fund). Expansion (Fund 73) is funded by connection fees paid by new development.

The following chart and table presents the total appropriations for the Ten-Year CIP by Strategy. As illustrated below, a large percentage of the CIP is dedicated to projects needed to meet the demands of future growth.

Water System Strategy Breakdown FY 2009/10 Ten-Year Total

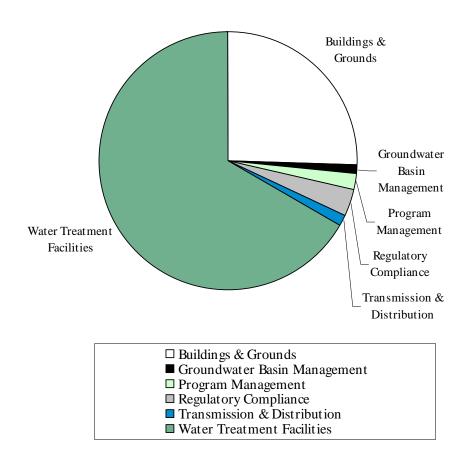


| Strategy | Ten-Year Total (\$ Millions) | Percentage |
|--------------------------|------------------------------|------------|
| Expansion | 509.01 | 87% |
| Renewal/Replacement | 37.29 | 6% |
| System-Wide Improvements | 40.24 | 7% |
| Total | 586.55 | 100.0% |

Fund 72 - Renewal/Replacement Strategy Overview

This Strategy identifies the projects needed for the Renewal and Replacement of the capital assets of Zone 7's Water System. The first-year appropriation requirement for this strategy is \$3.2 million and the ten-year total is \$37 million. A breakdown by program for the ten-year total is shown below:

Water System
Renewal/Replacement Strategy
Ten-Year Total

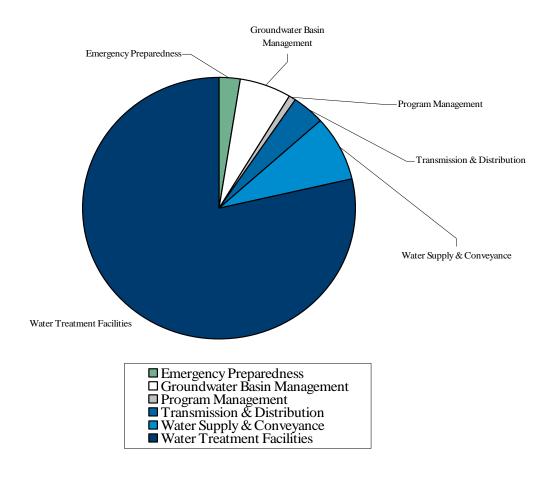


| Program | Ten-Year Total (\$ Millions) | Percentage |
|------------------------------|------------------------------|------------|
| Buildings & Grounds | 9.44 | 25% |
| Groundwater Basin Management | 0.45 | 1% |
| Program Management | 0.66 | 2% |
| Regulatory Compliance | 1.30 | 3% |
| Transmission & Distribution | 0.45 | 1% |
| Water Treatment Facilities | 24.65 | 66% |
| Wells | 0.35 | 1% |
| Total | 37.29 | 100% |

Fund -72 - System-Wide Improvements Strategy

This Strategy addresses enhancements to existing facilities that will improve water quality, safety, reliability, efficiency, operational flexibility, and/or decrease costs. The first year appropriation requirement is \$4.6 million and the ten-year total for this strategy is \$40 million. A breakdown of the related programs for the ten-year total is shown below:

Water System
System-Wide Improvements Strategy
Ten-Year Total



| Program | Ten-Year Total (\$ Millions) | Percentage |
|------------------------------|------------------------------|------------|
| Emergency Preparedness | 1.04 | 3% |
| Groundwater Basin Management | 2.48 | 6% |
| Program Management | 0.29 | 1% |
| Transmission & Distribution | 1.56 | 4% |
| Water Supply & Conveyance | 3.28 | 8% |
| Water Treatment Facilities | 31.60 | 79% |
| Total | 40.24 | 100% |

FUNDING ANALYSIS

Fund 72 – Renewal/Replacement & System-Wide Improvements Analysis

Fund 72 funds projects, or portions thereof, that relate to the replacement and/or improvement of existing water facilities, and which benefit existing customers. Revenues are generated from water rates paid by current Zone 7 Water System customers.

In order to minimize the burden to water rate payers of widely-varying annual costs, an annual funding allowance of approximately \$4 million (\$3M for Renewal/Replacement plus a \$1M allowance for System-Wide Improvements) was established in 1994. In the 2004 Asset Management Program (AMP) Study, it was determined that this \$4 million annual water rate contribution would no longer be adequate to fund the program. The AMP includes an evaluation of Zone 7's inventory of capital assets, asset service life as determined through condition assessments, economic life of the asset, asset risk, criticality, and vulnerability, true replacement costs under current conditions, and the annual allowance necessary to adequately fund Renewal/Replacement projects. In the 2004 study, Zone 7 obtained a current asset valuation of its existing facilities and recommended an annual funding allowance of \$10 million to adequately fund the program. In order to meet this \$10 million target, water rates would need to be raised. To lessen the impact of water rate increases, a gradual ramp-up to \$10M by FY 2014/15 was proposed. In 2005, our Retailers expressed support for a gradual increase in the annual transfer of funds for the RR/SWI program; in particular, the Retailers supported the transfer of approximately \$4.6 million in each of the fiscal years ending 2006, 2007 and 2008 to fund both R/R and SWI projects.

The transfers for these years are shown in the table below:

| FY 05/06 | FY 06/07 | FY 07/08 |
|---------------|---------------|---------------|
| \$2.5 million | \$5.5 million | \$2.5 million |

The average for these three fiscal years is \$3.5 million, approximately one million less than the Retailer-supported target of \$4.6M. In addition to gaining support and properly funding our RR/SWI allowance, another important near-term issue for Fund 72 is the available funding for future T&O treatment at both of our current surface water treatment plants. Approximately \$6 million was allocated five years ago after the completion of the Water Quality Management Program Implementation Plan. However, a consultant (Water Quality & Treatment Solutions) is expected to issue a report by June 2009 that may recommend ozone and ozone-peroxide treatment at both plants. The cost has not been estimated, but it is thought to be substantially greater than \$6M. When an updated cost estimate is provide in June 2009, a specific schedule and funding plan may need to be developed for this potential future project.

The near-term funding outlook projection (Table ES-1) shows that there will be adequate funding to complete projects scheduled in this Ten-Year CIP assuming that projects are deferred as recommended above. At the end of FY 2018/19, the program end balance is approximately \$38 million. The R/R and SWI programs extends indefinitely beyond this ten-year planning period, therefore, the program ending balance shown will be used to fund future infrastructure replacement and improvement needs (e.g., pipeline repair and replacement, Third Groundwater Demin Facility, etc.). Since Zone 7 employs a pay-as-you-go financing strategy, continued foresight in financial planning is needed.

TABLE ES-1
Fund 72 - Water Rates
PROJECTED FUNDING OUTLOOK
(\$ Millions)

| 1 | Fiscal Year | 08/09 | 09/10 | 10/11 | 11/12 | 12/13 | 13/14 | 14/15 | 15/16 | 16/17 | 17/18 | 18/19 |
|----|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 2 | Beginning Fund Balance | 23.53 | 7.80 | 5.41 | 1.29 | 1.04 | 2.03 | 4.02 | 3.85 | 1.08 | 12.20 | 23.43 |
| 3 | Revenue | | | | | | | | | | | |
| 4 | Water Rates | 2.50 | 4.38 | 4.54 | 4.59 | 4.63 | 7.59 | 10.01 | 11.41 | 13.13 | 15.51 | 17.36 |
| 5 | Facility Use Fees | 1.00 | 1.25 | 1.25 | 1.25 | 2.03 | 2.57 | 2.24 | 2.24 | 1.12 | 1.12 | 1.00 |
| 6 | Interest Income | 0.56 | 0.31 | 0.22 | 0.05 | 0.04 | 0.12 | 0.37 | 0.56 | 0.78 | 1.02 | 1.01 |
| 7 | Total Revenue | 4.06 | 5.94 | 6.00 | 5.89 | 6.70 | 10.28 | 12.63 | 14.22 | 15.02 | 17.64 | 19.38 |
| 8 | Expenditures: | | | | | | | | | | | |
| 9 | R/R | 4.80 | 2.82 | 3.10 | 1.68 | 1.68 | 5.47 | 3.28 | 5.46 | 2.24 | 4.72 | 2.83 |
| 10 | SWI | 14.14 | 4.65 | 6.15 | 3.54 | 3.09 | 1.83 | 8.51 | 10.47 | 0.57 | 0.58 | 0.85 |
| 11 | Program Contingency | 0.50 | 0.50 | 0.52 | 0.54 | 0.56 | 0.58 | 0.61 | 0.63 | 0.66 | 0.68 | 0.71 |
| 12 | Total Expenditures | 19.44 | 7.97 | 9.76 | 5.76 | 5.33 | 7.89 | 12.40 | 16.56 | 3.47 | 5.98 | 4.39 |
| 13 | Ending Fund Balance | 8.15 | 5.77 | 1.65 | 1.42 | 2.41 | 4.42 | 4.25 | 1.50 | 12.63 | 23.87 | 38.42 |
| 14 | Reserves: | | | | | | | | | | | |
| 15 | Building Sinking Fund | 0.35 | 0.36 | 0.37 | 0.38 | 0.39 | 0.40 | 0.41 | 0.42 | 0.43 | 0.44 | 0.45 |
| 16 | Net Ending Fund Balance | 7.80 | 5.41 | 1.29 | 1.04 | 2.03 | 4.02 | 3.85 | 1.08 | 12.20 | 23.43 | 37.97 |

Kev Assumptions

Line 4 Projected annual RR/SWI allowance transfer from Fund 52, Water Enterprise to Fund 72.

Line 5 Facility use fees are charged to the Dougherty Valley Service Area to compensate Zone 7 for the use of Zone 7's existing facilities to provide water to this area.

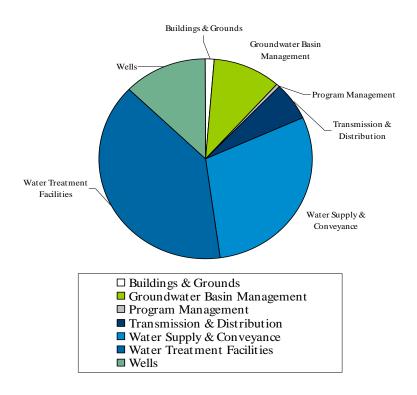
Line 6 Assumes 4% interest income earned on beginning cash and sinking fund balances.

Line 7 Expenditures are shown in actual dollars (current dollars adjusted by a 4% annual inflation factor).

Fund 73 - Expansion Strategy Overview

Fund 73 funds projects, or portions thereof, that are needed because of additional demands on the Water System from new development. This includes all water purchases, new or expanded conveyance (e.g., SBA Improvement & Enlargement Project), treatment and transmission facilities. The specific projects that comprise the Expansion Strategy are described in the following pages with respect to their associated programs. The first-year appropriation requirement is \$22 million while the ten-year total for this strategy is \$509 million, which is 87% of the \$587 million total estimated expenditures planned in this ten-year CIP. A breakdown by program for the ten-year plan is shown below:

Water System
Expansion Strategy
Ten-Year Total by Program



| Program | Ten-Year Total (\$ Millions) | Percentage |
|------------------------------|------------------------------|------------|
| Buildings & Grounds | 7.35 | 1% |
| Groundwater Basin Management | 52.15 | 10% |
| Program Management | 2.79 | 1% |
| Transmission & Distribution | 31.07 | 6% |
| Water Supply & Conveyance | 150.26 | 30% |
| Water Treatment Facilities | 200.09 | 39% |
| Wells | 65.29 | 13% |
| Total | 509.01 | 100% |
| November 2009 | | EC 17 |

FUNDING ANALYSIS

Fund 73 – Expansion

On January 15, 2008, Zone 7 completed the necessary documents required to close on a \$60 million Installment Sale Agreement (ISA), which is a form of lease financing which functions similarly to a line of credit. This funding is needed to bridge the short-term funding gap between anticipated expenditures and revenue. As of August 2008, Zone 7 had not drawn any funds from the ISA to fund the CIP.

In May 2008, staff performed an analysis to determine, based on the latest water demand information, when the AWTP is needed, and based on available funding, when Zone 7 can move forward with constructing the facility. Incorporating new water demand projections provided by our Retailers, the analysis determined that Zone 7 can meet projected MDD for an additional three years without the AWTP; however, under a scenario that assumes an extended outage at the Del Valle Water Treatment Plant (DVWTP), Zone 7 will not be able to provide 75% of MDD. In addition, the Zone 7 Water System will fall short of meeting the planning criteria of supplying 85% of MDD through our surface water production capacity until AWTP is in-service. However, with the slow-down in demands and increased conservation efforts, coupled with the new facilities soon to be in-service (Mocho Groundwater Demin, Chain of Lakes Wells 1 and 2, Altamont Pipeline-Livermore Reach), Zone 7 can meet near-term projected demands and water quality targets. The analysis also concluded that Zone 7 should be in a better position to pay for AWTP (assuming the currentlyauthorized funding plan and projected revenues) if the construction schedule is delayed by at least three years. This CIP therefore recommends that construction of AWTP be delayed from a start date of January 2009 to January 2012. Assuming a two year construction schedule, the plant should be substantially complete by January 2014, with final completion by summer 2014.

The near-term funding outlook projection (Table ES-2) below, shows that there will be adequate funding to complete projects scheduled in this Ten-Year CIP, assuming that the AWTP and related projects are deferred as recommended and connection fee revenue accrues as projected.

TABLE ES-2

Fund 73 - Connection Fees

PROJECTED FUNDING OUTLOOK

(\$ Millions)

| 1 | Fiscal Year | 08/09 | 09/10 | 10/11 | 11/12 | 12/13 | 13/14 | 14/15 | 15/16 | 16/17 | 17/18 | 18/19 |
|---------------|---|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|
| 2 | Beginning Fund Balance | 64.42 | 7.53 | 3.96 | 1.00 | 9.31 | 7.54 | 5.40 | 24.72 | 72.74 | 124.94 | 180.42 |
| 3 | Revenue | | | | | | | | | | | |
| 4 | Connection Fees | 14.25 | 20.56 | 32.68 | 58.36 | 75.13 | 87.25 | 92.61 | 96.31 | 106.24 | 108.26 | 40.32 |
| 5 | Prepaid Connections | 0.49 | 0.73 | 0.98 | 1.23 | 1.23 | 1.23 | 1.47 | 1.04 | 0.00 | 0.00 | 0.00 |
| 6 | ISA Advances/Payments | 0.00 | 0.00 | 0.00 | 0.00 | 45.00 | 0.00 | -45.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | Interest Income | 1.30 | 0.47 | 0.44 | 0.59 | 0.69 | 0.64 | 1.06 | 2.12 | 3.77 | 5.46 | 8.53 |
| | to | | | | 60.40 | 100.00 | 00.40 | EO 4.4 | 00.50 | 440.00 | 440 70 | 40.05 |
| 8 | Total Revenue | 16.04 | 21.77 | 34.11 | 60.19 | 122.06 | 89.13 | 50.14 | 99.56 | 110.02 | 113.72 | 48.85 |
| 9 | Expenditures | 16.04 | 21.77 | 34.11 | 60.19 | 122.06 | 89.13 | 50.14 | 99.56 | 110.02 | 113./2 | 48.85 |
| | | 70.51 | 23.05 | 34.11 | 49.42 | 122.06 | 89.13 | 28.05 | 48.69 | 54.85 | 55.17 | 52.60 |
| 9 | Expenditures | | | | | | | | | | | |
| 9 10 | Expenditures Project Expenditures | 70.51 | 23.05 | 34.70 | 49.42 | 121.26 | 88.61 | 28.05 | 48.69 | 54.85 | 55.17 | 52.60 |
| 9 10 11 | Expenditures Project Expenditures Sinking Funds | 70.51 2.42 | 23.05 2.28 | 34.70 2.37 | 49.42 2.46 | 121.26 2.56 | 88.61 2.65 | 28.05 2.75 | 48.69 2.86 | 54.85 2.96 | 55.17 3.08 | 52.60 3.20 |

Key Assumptions/Notes

- Line 4 Connection fee revenue assumes 4% annual inflationary adjustments to connection fees.
- Line 5 Prepaid connections reflect anticipated revenue received from 2,035 connections purchased in 2000 at \$4,915 per connection.
- Line 6 The ISA is scheduled to mature in January 2014; however, this scenario assumes that the term can be extended for 1-2 additional years.
- Line 7 Assumes 4% interest earned on beginning cash and sinking fund balances.
- Line 9 Total expenditures include: project expenditures (adjusted by 4% annual inflation); administrative fee (1% of connection fee revenue) to Retailers; lease payment for Admin Building; program contingency; and interest paid on ISA (est. 4%).
- Line 13 Fund Balance Target is \$10M minimum balances of \$3M cash and \$7M minimum ISA.

Notes For normal planning purposes a "growth cycling" concept is used. It assumes 70% of projected growth for the first five years and 130% for the succeeding five years. This scenario has been modified to assume a major slow down in growth FY 07/08-09/10, some recovery in FY 10/11-11/12, catching up thereafter. The actual growth over the long-term may continue to be slow and accumulated revenues may accrue at a slower rate than

shown above. In addition, due to potentially major Delta conveyance improvements by the State, there may be a number of additional costs in the future that are not shown above.

The appropriation summary below identifies the appropriations for each project included in the Ten-Year Water System CIP.

Capital Improvement Program Project Summary by Program

| | | | | Annro | priations (\$Mil | lione) | | | | | |
|--|----------|----------|----------------|----------|------------------|---------------|-----------------|----------------|----------------|---------------|----------|
| Programs | FY 09/10 | FY 10/11 | FY 11/12 | FY 12/13 | FY 13/14 | FY 14/15 | FY 15/16 | FY 16/17 | FY 17/18 | FY 18/19 | Total |
| Buildings & Grounds | | | | | | | | | | | |
| Administrative & Engineering Building Lease | \$0.871 | \$0.888 | \$0.907 | \$0.924 | \$0.943 | \$0.962 | \$0.981 | \$1.001 | \$1.020 | \$1.041 | \$9.538 |
| (Water System) Administrative & Engineering Building - Sinking | \$0.640 | \$0.656 | \$0.673 | \$0.690 | \$0.706 | \$0.725 | \$0.743 | \$0.762 | \$0.780 | \$0.800 | \$7.175 |
| Fund (Water System) | | 40000 | + | 401000 | 7 | 400. | 4417.12 | 4000- | 401100 | 7 - 1 - 2 - 2 | |
| Replacement of Parkside Building Roof | \$0.080 | | | | | | | | | | \$0.080 |
| Subtotal | \$1.591 | \$1.544 | \$1.580 | \$1.614 | \$1.649 | \$1.687 | \$1.724 | \$1.763 | \$1.800 | \$1.841 | \$16.793 |
| Emergency Preparedness | | | | | | | | | | | |
| Local Hazard Mitigation Plan Update | \$0.050 | \$0.210 | | | | | | | | | \$0.260 |
| Security Improvements at Existing Facilities | \$0.670 | | | | | | | | | | \$0.670 |
| Vulnerability Assessment Review & Update | | \$0.110 | | | | | | | | | \$0.110 |
| Subtotal | \$0.720 | \$0.320 | | | | | | | | | \$1.040 |
| Groundwater Basin Management | | | | | | | | | | | |
| Mocho Groundwater Demineralization Plant | \$0.500 | | | | | | | | | | \$0.500 |
| Monitoring Well Replacements & Abandonments | \$0.050 | | \$0.050 | | \$0.080 | | \$0.080 | | \$0.080 | | \$0.340 |
| New Groundwater Management Program | \$0.120 | | | | | | | | | | \$0.120 |
| Monitoring Wells Second Groundwater Demineralization Facility | | | | | | \$4.610 | \$20.530 | \$21.350 | \$5.180 | | \$51.670 |
| Stream Gage Replacement | \$0.110 | | | | | φ4.010 | Ψ20.550 | Ψ21.330 | Ψ3.100 | | \$0.110 |
| Third Groundwater Demineralization Facility | Ψ0.1.10 | | | \$2.340 | | | | | | | \$2.340 |
| Subtotal | \$0.780 | | \$0.050 | \$2.340 | \$0.080 | \$4.610 | \$20.610 | \$21.350 | \$5.260 | \$0.000 | \$55.080 |
| Program Management | | | • | · | | • | | • | · | • | · |
| Capital Improvement Program Management | \$0.143 | \$0.143 | \$0.143 | \$0.143 | \$0.152 | \$0.152 | \$0.152 | \$0.152 | \$0.152 | \$0.162 | \$1.492 |
| Expansion Program Management | \$0.150 | \$0.150 | \$0.150 | \$0.150 | \$0.175 | \$0.175 | \$0.175 | \$0.175 | \$0.175 | \$0.200 | \$1.675 |
| System-Wide Improvement, Renewal/Replacement | \$0.050 | \$0.050 | \$0.050 | \$0.050 | \$0.060 | \$0.060 | \$0.060 | \$0.060 | \$0.060 | \$0.070 | \$0.570 |
| Program Management | | 40000 | + | 40000 | 7 - 1 - 2 - 2 | 4 - 1 - 2 - 2 | 4 - 1 - 2 - 2 | 40000 | 401000 | 7 3 3 3 3 | 40.270 |
| Subtotal | \$0.343 | \$0.343 | \$0.343 | \$0.343 | \$0.387 | \$0.387 | \$0.387 | \$0.387 | \$0.387 | \$0.432 | \$3.737 |
| Regulatory Compliance | | | | | | | | | | | |
| Laboratory Equipment Replacement | \$0.110 | \$0.110 | \$0.120 | \$0.120 | \$0.130 | \$0.130 | \$0.140 | \$0.140 | \$0.150 | \$0.150 | \$1.300 |
| Subtatal | \$0.110 | \$0.110 | \$0.120 | \$0.120 | \$0.130 | \$0.130 | \$0.140 | \$0.140 | \$0.150 | \$0.150 | \$1.300 |
| Subtotal | \$0.110 | \$0.110 | \$0.120 | \$0.120 | φυ.130 | φυ.130 | \$0.14 0 | \$0.140 | Ф 0.150 | φυ.150 | \$1.500 |
| Transmission & Distribution | | | | | | | | | | | |
| Altamont Pipeline - County Reach | | | \$2.730 | \$28.000 | \$0.050 | | | | | | \$30.780 |
| Corrosion Master Plan Update | | | | | \$0.250 | | | | | \$0.310 | \$0.560 |
| System-Wide Installation of Line Valves | \$0.050 | \$0.060 | \$0.060 | \$0.060 | \$0.060 | \$0.070 | \$0.070 | \$0.070 | \$0.070 | | \$0.570 |
| Transmission System Master Planning | \$0.100 | \$0.100 | \$0.100 | \$0.100 | \$0.125 | \$0.125 | \$0.125 | \$0.125 | \$0.125 | \$0.150 | \$1.175 |
| | \$0.150 | \$0.160 | \$2.890 | \$28.160 | \$0.485 | \$0.195 | \$0.195 | \$0.195 | \$0.195 | \$0.460 | \$33.085 |

Capital Improvement Program

Project Summary by Program
(Appropriations shown in \$Millions)
(Continued)

| | | | | Annron | riations (\$Millio | one) | | | | | |
|---|----------|----------|----------|----------|--------------------|----------|----------|----------|----------|----------|-----------|
| Programs | FY 09/10 | FY 10/11 | FY 11/12 | FY 12/13 | FY 13/14 | FY 14/15 | FY 15/16 | FY 16/17 | FY 17/18 | FY 18/19 | Total |
| Water Supply & Conveyance | | | | | | | | | | | |
| Arroyo Mocho Low Flow Crossings | \$0.180 | | | | | | | | | | \$0.180 |
| Arroyo Mocho/Lake H Diversion Structure | \$0.260 | | | | | | | | | | \$0.260 |
| Cawelo Groundwater Banking Program | \$1.295 | \$1.293 | \$1.296 | \$1.293 | \$1.294 | \$1.295 | \$1.295 | \$1.294 | \$1.297 | \$1.299 | \$12.951 |
| Chain of Lakes Facilities and Improvements | \$0.530 | \$0.150 | \$0.360 | \$0.890 | \$1.230 | \$1.330 | \$0.350 | \$0.590 | \$1.030 | \$1.380 | \$7.840 |
| Chain of Lakes Master Plan | | | | \$2.903 | \$0.490 | | | | | | \$3.393 |
| CUWA Membership | \$0.060 | \$0.060 | \$0.060 | \$0.060 | \$0.060 | \$0.060 | \$0.060 | \$0.060 | \$0.060 | \$0.060 | \$0.600 |
| Delta Conservation Plan | \$0.135 | | | | | | | | | | \$0.135 |
| Delta Conveyance Study | \$0.188 | | | | | | | | | | \$0.188 |
| Fixed Cost of Water Entitlement | \$0.068 | \$0.033 | \$0.022 | \$0.011 | | | | | | | \$0.134 |
| Fourth Contractor's Share of the SBA | \$0.726 | \$0.726 | \$0.726 | \$0.726 | \$0.726 | \$0.726 | \$0.726 | \$0.726 | \$0.726 | \$0.726 | \$7.260 |
| Fourth Contractor's Share of the SBA - Sinking Fund | \$0.196 | \$0.196 | \$0.196 | \$0.196 | \$0.196 | \$0.196 | \$0.196 | \$0.196 | \$0.196 | \$0.196 | \$1.960 |
| High Efficiency Toilet Rebate Program | \$0.060 | \$0.070 | \$0.070 | \$0.070 | \$0.090 | \$0.090 | \$0.100 | \$0.100 | \$0.100 | \$0.110 | \$0.860 |
| High-Efficiency Washing Machine Rebate Program | \$0.085 | \$0.085 | \$0.085 | \$0.085 | \$0.085 | \$0.085 | | | | | \$0.510 |
| Semitropic Stored Water Recovery Unit | \$0.048 | \$0.048 | \$0.048 | \$0.048 | \$0.048 | \$0.048 | \$0.048 | \$0.048 | \$0.048 | \$0.048 | \$0.480 |
| South Bay Aqueduct Improvement & Enlargement | \$8.548 | \$8.629 | \$8.491 | \$8.491 | \$8.494 | \$8.492 | \$8.491 | \$8.494 | \$8.492 | \$8.493 | \$85.115 |
| Project South Bay Aqueduct Improvement & Enlargement Project - Sinking Fund | \$1.500 | \$1.500 | \$1.500 | \$1.500 | \$1.500 | \$1.500 | \$1.500 | \$1.500 | \$1.500 | \$1.500 | \$15.000 |
| SWP Peaking Payment (Lost Hills & Belridge Water Districts) | \$0.264 | \$0.270 | \$0.267 | \$0.268 | \$0.267 | \$0.268 | \$0.267 | \$0.265 | \$0.268 | \$0.268 | \$2.672 |
| Water Conservation Best Management Practices | \$0.275 | \$0.275 | \$0.275 | \$0.275 | \$0.275 | \$0.325 | \$0.325 | \$0.325 | \$0.325 | \$0.325 | \$3.000 |
| Water Supply Purchase for Reliability | | | | | \$11.000 | | | | | | \$11.000 |
| Total | \$14.418 | \$13.335 | \$13.396 | \$16.816 | \$25.755 | \$14.415 | \$13.358 | \$13.598 | \$14.042 | \$14.405 | \$153.538 |
| Water Treatment Facilities | | | | | | | | | | | |
| Altamont Water Treatment Plant Operational | | | \$0.230 | \$0.240 | | | | | | | \$0.470 |
| Training Altamont Water Treatment Plant Phase 1 (24 MGD) | \$0.500 | \$0.500 | \$13.350 | \$64.900 | \$48.580 | \$2.692 | | | | | \$130.522 |
| Altamont Water Treatment Plant Phase 1A | | | | | | \$1.012 | \$6.051 | | | | \$7.063 |
| Altamont Water Treatment Plant Phase 2 (12-18 | | | | | | | | \$4.270 | \$26.648 | \$30.787 | \$61.705 |
| MGD) Asset Management Program Condition Assessment | \$0.210 | | | | | | | | | | \$0.210 |
| AWTP Membrane Replacement | | | | | | | | | | \$0.770 | \$0.770 |
| Dougherty Reservoir Access Road Rehabilitation | | \$0.260 | | | | | | | | | \$0.260 |
| DVWTP Aqueous Ammonia System | | | | | | | \$3.230 | | | | \$3.230 |
| DVWTP Chemical Systems Improvements | \$0.485 | \$2.060 | | | | | | | | | \$2.545 |
| DVWTP Electrical Power System Upgrade | \$0.870 | | | | | | | | | | \$0.870 |
| DVWTP Filter Underdrain Replacement | | | | | | | | \$0.310 | \$1.590 | | \$1.900 |
| DVWTP Filter Valves Replacement | \$0.270 | | | | | | | | | | \$0.270 |
| DVWTP Instrumentation Upgrades | | | | | | \$0.040 | \$0.390 | | | | \$0.430 |
| DVWTP Interior Coating Improvements to the 4.5 MG Steel Clearwell | | \$1.250 | | | | | | | | | \$1.250 |
| DVWTP Sludge Handling Improvements | | | | | \$1.010 | \$6.840 | | | | | \$7.850 |

Capital Improvement Program

Project Summary by Program
(Appropriations shown in \$Millions)
(Continued)

| Appropriations (\$Millions) | | | | | | | | | | | |
|--|----------|----------|----------|-----------|----------|----------|----------|----------|----------|----------|-----------|
| Programs | FY 09/10 | FY 10/11 | FY 11/12 | FY 12/13 | FY 13/14 | FY 14/15 | FY 15/16 | FY 16/17 | FY 17/18 | FY 18/19 | Total |
| Minor Renewal/Replacement Projects | \$0.250 | \$0.250 | \$0.250 | \$0.250 | \$0.250 | \$0.275 | \$0.275 | \$0.275 | \$0.275 | \$0.275 | \$2.625 |
| PPWTP Ammonia Facility Replacement | | | | | \$2.280 | | | | | | \$2.280 |
| PPWTP Filter Improvements Study | | | \$0.080 | | | | | | | | \$0.080 |
| PPWTP Filter to Waste Improvements | \$0.200 | | | | | | | | | | \$0.200 |
| PPWTP Improvement Project 2011 | \$0.260 | \$0.770 | | | | | | | | | \$1.030 |
| PPWTP Improvement Project 2012 | | \$0.270 | \$1.060 | | | | | | | | \$1.330 |
| PPWTP Improvement Studies 2011 | \$0.270 | \$0.070 | | | | | | | | | \$0.340 |
| PPWTP Instrumentation Upgrades | | | | | | \$0.130 | \$0.375 | | | | \$0.505 |
| PPWTP Rehabilitation of Clarifier and Replacement | | | | | \$0.510 | \$1.250 | | | | | \$1.760 |
| of Motor PPWTP Sludge Handling Improvements | | | | | | \$1.050 | \$9.900 | | | | \$10.950 |
| PPWTP Ultrafiltration Membrane Replacement | | \$0.350 | \$0.370 | \$0.410 | \$0.400 | \$0.490 | \$0.000 | \$0.530 | \$0.550 | \$0.580 | \$3.680 |
| Safety Improvements at Water Treatment Plants | | | | \$0.450 | | | | | | | \$0.450 |
| SCADA Enhancements | \$0.250 | \$0.250 | \$0.250 | \$0.250 | \$1.150 | \$0.270 | \$0.270 | \$0.270 | \$1.350 | \$0.300 | \$4.610 |
| Water Quality - PPWTP & DVWTP Taste and Odor Treatment | \$1.840 | \$2.130 | \$1.870 | | | | | | | | \$5.840 |
| Water Quality Management Program | \$0.110 | \$0.110 | \$0.120 | \$0.120 | \$0.130 | \$0.130 | \$0.140 | \$0.140 | \$0.150 | \$0.160 | \$1.310 |
| Total | \$5.515 | \$8.270 | \$17.580 | \$66.620 | \$54.310 | \$14.179 | \$20.631 | \$5.795 | \$30.563 | \$32.872 | \$256.335 |
| Wells | | | | | | | | | | | |
| Well Master Plan Wells | \$6.250 | \$18.080 | \$16.450 | \$2.800 | \$7.180 | \$1.770 | \$2.390 | \$8.370 | \$2.000 | | \$65.290 |
| Well Pump, Motor and Casing Inspections | \$0.030 | \$0.030 | \$0.030 | \$0.030 | \$0.030 | \$0.040 | \$0.040 | \$0.040 | \$0.040 | \$0.040 | \$0.350 |
| Total | \$6.280 | \$18.110 | \$16.480 | \$2.830 | \$7.210 | \$1.810 | \$2.430 | \$8.410 | \$2.040 | \$0.040 | \$65.640 |
| Ten Year CIP Total | \$29.906 | \$42.192 | \$52.439 | \$118.843 | \$90.006 | \$37.413 | \$59.475 | \$51.638 | \$54.437 | \$50.200 | \$586.547 |
| In 2008 Dollars | \$28.756 | \$39.009 | \$46.618 | \$101.587 | \$73.978 | \$29.568 | \$45.196 | \$37.731 | \$38.247 | \$33.913 | \$474.604 |

Total