



**Zone 7 of
Alameda County Flood Control
And Water Conservation District**



**Fiscal Year 2008/09
Capital Improvement Program
Ten-Year Water System Plan
Five-Year Flood Control System Plan
October 2007**



Fiscal Year 2008/09 Capital Improvement Program

Ten-Year Water System Plan
Five-Year Flood Protection Plan

Prepared by:
Zone 7 Advance Planning Section

Adopted by the Zone 7 Board of Directors
October 17, 2007



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.

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A – ZONE 7 BOARD POLICY/PLANNING RESOLUTIONS

1. Salt 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

B – STREAM MANAGEMENT MASTER PLAN – EXECUTIVE SUMMARY

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
gpd	Gallons per day
gpcd	Gallons per capita per day
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
O&M	Operation and Maintenance
PPWTP	Patterson Pass Water Treatment Plant

Acronyms and Terms Glossary

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
VFD	Variable Frequency Drive
WTP	Water Treatment Plant
Zone 7	Zone 7 Water Agency

FY 2008/09 CAPITAL IMPROVEMENT PROGRAM

EXECUTIVE SUMMARY

ES.1 Introduction

Zone 7's Capital Improvement Program (CIP) includes the projects, costs, schedules, and priorities of its capital improvement program for both the Water and Flood Protection Systems. In this document, a Ten-Year Plan is provided for the Water System. The Flood Protection System includes a Five-Year Plan that will be expanded to a Ten-Year Plan upon completion of the StreamWISE (Waterway Improvements Supporting the Environment) Program, a comprehensive action and implementation plan, which will prioritize and sequence Flood Protection capital improvements, identify a financial strategy, and establish maintenance plans to facilitate implementation of the Stream Management Master Plan (SMMP).

ES.2 Water System

Overview

To ensure that the needs of Zone 7 customers are met, Zone 7's Water System goals, as defined explicitly and implicitly by adopted Board policies, are outlined below. The associated Board resolutions for each policy can be found in Appendix A.

Water Supply and Reliability

Reliability Policy for Municipal and Industrial (M&I) Water Supplies (Resolution No. 04-2662)

Goal 1: Meet 100% of its treated water customers' water supply needs in accordance with Zone 7's most current contracts for M&I Water Supply, including existing and projected demands for the next twenty (20) years as specified in Zone 7's Urban Water Management Plan (UWMP), which will be coordinated with Zone 7's M&I water contractors. Zone 7 will endeavor to meet this goal during an average water year¹, a single dry water year², and multiple dry water years³.

Goal 2: Provide sufficient treated water production capacity and infrastructure to meet at least 75% of the maximum daily M&I contractual demands should any one of Zone 7's major supply, production or transmission facilities experience an extended unplanned outage.

¹ Average water year – the statistical average quantity of water from all of the water supplies available to Zone 7 on a contractual or legal basis (e.g., surface water runoff to Del Valle reservoir), based on the historical hydrologic records available to Zone 7.

² Single dry water year – for the purposes of meeting the requirements of the UWMP, Zone 7 staff will identify and justify the selection of a calendar year from the historic record that represents the lowest yield from all normally contracted or legally available supplies.

³ Multiple dry water years – for the purposes of meeting the requirements of the UWMP, Zone 7 staff will identify and justify the selection of three or more consecutive dry years from the historic record that represent the lowest yields from all normally contracted or legally available supplies.

Note that in addition to the goals stated above, Zone 7 has a number of planning and operational criteria, which are associated with this Board resolution and are as follows:

1. Provide surface water treatment design capacity to meet 85% of the Zone 7 maximum day demand for reliability and operational flexibility.
2. Operate water supplies so that the groundwater basin levels do not drop below historic lows.

Water Quality

Groundwater Management Plan (Resolution No. 06--2796)

Purpose: Zone 7's Groundwater Management Plan is a compendium of Zone 7 Water Agency's pre-existing groundwater management policies and programs. One of these is the May 2004 Salt Management Plan (SMP), which was approved by the State of California Regional Water Quality Control Board on September 24, 2004 as satisfying the requirements of Provision D.1.c.ii of the regional "Master Water Recycling Permit" order No. 93-159. This permit was issued to the Dublin San Ramon Services District (DSRSD), the City of Livermore and Zone 7 and authorizes the production and distribution of recycled water. The SMP sets forth a plan to facilitate recycling without degrading local water quality. In addition, the SMP goals are to maintain or improve groundwater mineral quality and delivered water quality through the following:

- Providing a mechanism for mitigation of all salt loading associated with recycled water use;
- Offsetting the then-current (*original Salt Management policy adopted in 1999*) 2200 tons per year of salt loading plus approximately 200 tons per year projected annual increase;
- Maintaining or improve groundwater mineral quality;
- Maintaining or improve delivered water quality;
- Providing comparable delivered water quality to all retailers; and
- Minimizing total operational and maintenance costs through an adaptive management process.

Note: These numbers have changed since this resolution was passed in 1999. As of 2004, the salt load is approximately 5,000 tons per year plus approximately 50-100 tons per year projected annual increase.

Water Quality Policy for Potable and Non-Potable Water (Resolution No. 03-2494)

Goal 1: Zone 7 shall continue to meet all state and federal primary Maximum Contaminant Levels⁴ (MCLs) for potable water delivered to the M&I Contractors' turnouts, in accordance with existing water supply agreements.

⁴ 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.

Goal 2: Zone 7 shall meet all state and federal secondary MCLs⁴ in the potable water delivered to its M&I Contractors' turnouts. In addition, Zone 7 shall, within technical and fiscal constraints, proactively mitigate earthy-musty taste and odor events from surface water supplies and reduce hardness levels to "moderately hard", defined as 75 to 150 mg/L as CaCO₃. Also, Zone 7 shall optimize its treatment processes to minimize chlorinous odors by maintaining consistent disinfectant dosage and residual.

Goal 3: Zone 7 shall endeavor to deliver to its non-potable Contractor turnouts, from a variety of sources, water of a quality that meets the irrigation needs of its Contractors and does not negatively impact vegetation, crops, or soils.

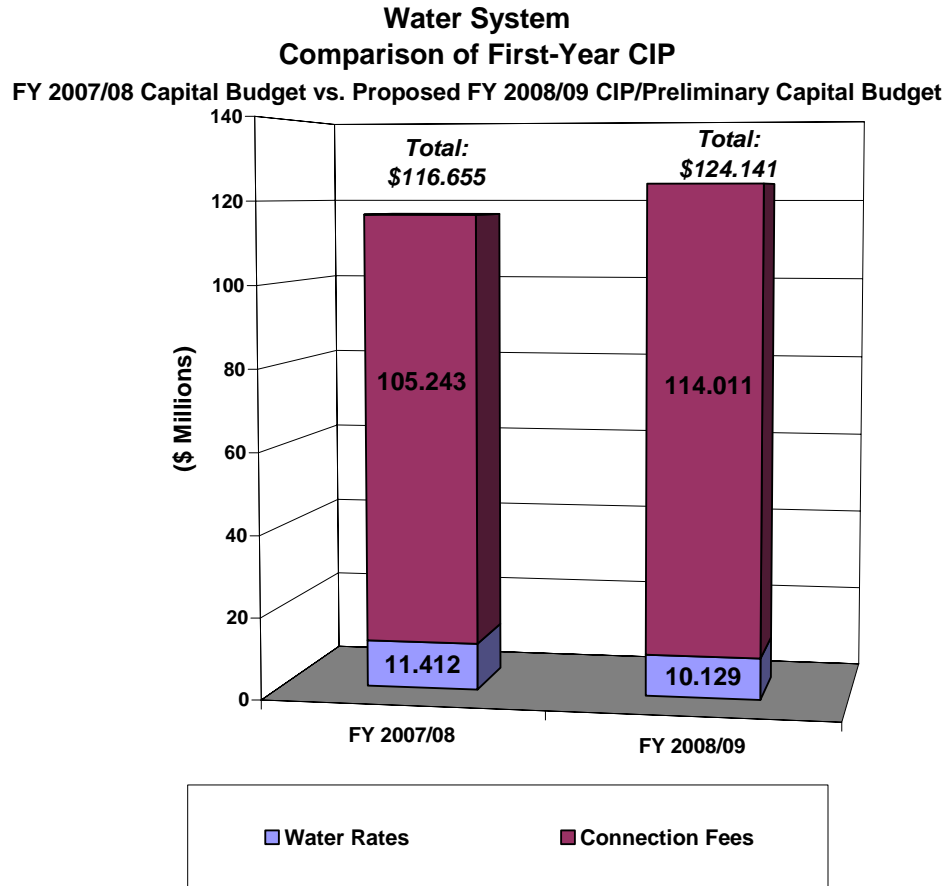
Goal 4: In order to achieve Goals 1 through 3, Zone 7 shall continue to work to improve the quality of its source waters. This may be achieved through Zone 7's Groundwater Management Plan, which will maintain or improve the water quality in the groundwater basin, and through advocacy of improvements in the State Water Project, its facilities and their operations, and enhanced watershed management programs, which may improve the source water of Zone 7's surface water supplies. In addition, Zone 7 will encourage the retailers to take similar steps as those outlined in this policy to improve the quality of the retail customers' water.

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 (Resolution 06-2783).

This resolution establishes policy principles which will guide all three agencies in developing programs and operational guidelines relating to improving water quality. *A copy of this resolution can be found in Appendix A.*

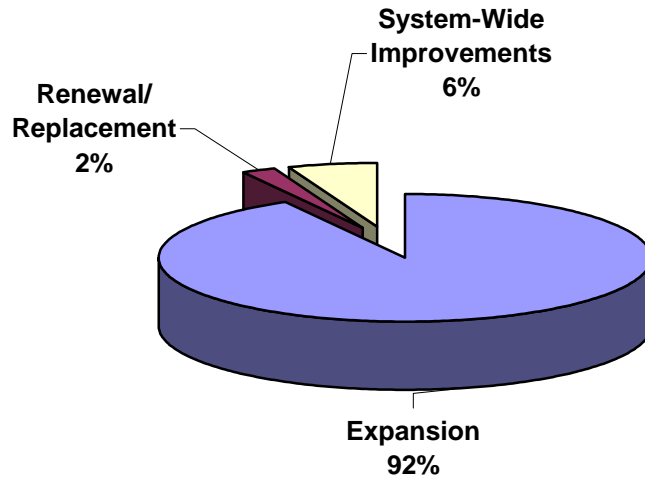
ES.2.1 First Year Analysis (FY 2008/09)

The first year of Zone 7's FY 2008/09 proposed CIP identifies projects funded as follows: \$10.129 million funded by Water Rates and \$114.011 million funded by Connection Fees for a total of \$124.141 million in project appropriations. This reflects an 11% decrease in Water Rate funded capital projects and an 8% increase in Connection Fee funded capital projects above the FY 2007/08 adopted Capital Budget which is \$116.655 million as compared to \$124.141 million in FY 2008/09, an overall increase of 6.4%. This comparison is used to show the difference between the current fiscal year's Capital Budget (FY 2007/08) and the first year of FY 2008/09 CIP which is also serves as the preliminary FY 2008/09 Capital Budget.



The following graph shows a breakdown of the capital appropriations by Strategy for the first year of the Ten-Year CIP.

**Water System
FY 2008/09
Strategy Breakdown**



Note:

- Connection (development) Fees fund Expansion projects.
- Renewal/Replacement and System-Wide Improvement projects are funded by Water Rates.

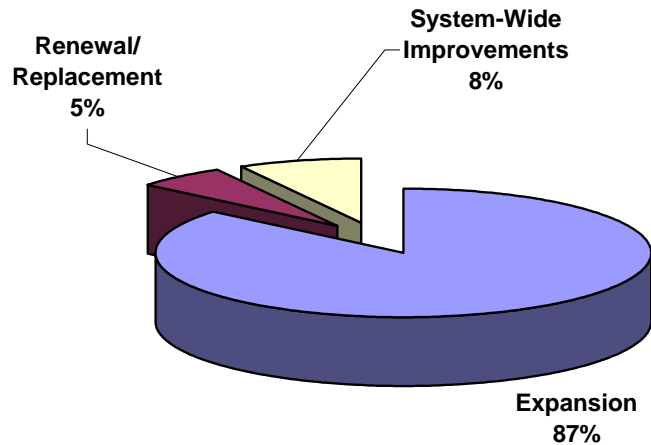
Strategy	FY 2008/09 (\$Millions)	Percentage
Expansion	114.011	92%
Renewal/Replacement	2.813	2%
System-Wide Improvements	7.316	6%
Total	124.141	100%

ES.2.2 Ten-Year Analysis (FY 2008/09 to FY 2017/18)

Both the latest Asset Management Program and Development Impact Fee reports provide input into the Ten-Year CIP for the Renewal/Replacement of existing facilities, System-Wide Improvements, and new capital facilities required to meet growth demands. The planned FY 2008/09 Ten-Year CIP appropriations total \$565.187 million, and are shown by Strategy on pages ES-21 through ES-24. The FY 2008/09 Ten-Year CIP appropriations have increased by approximately 34% since the FY 2007/08 Ten-Year CIP, which had a ten-year appropriation of \$433.933. This difference is due to increased project costs, timing of expenditures and inflation.

The following charts and tables present the planned annual appropriations for the Ten-Year Plan by Strategy.

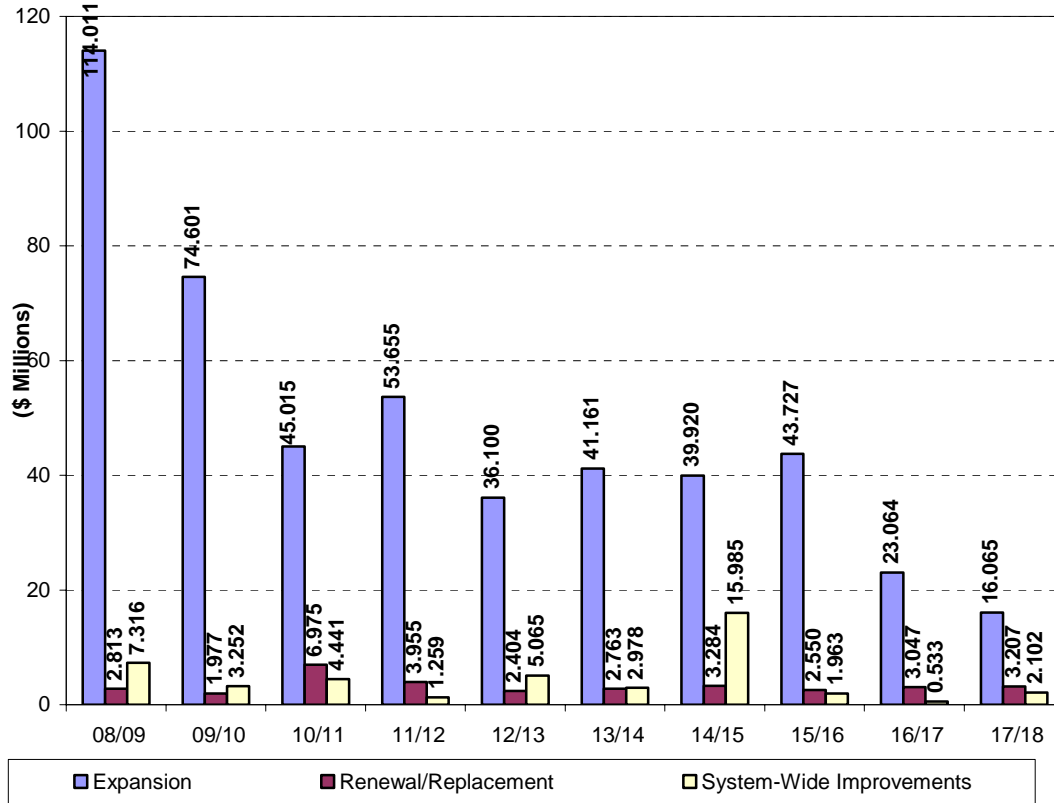
**Water System
FY 2008/09 Ten-Year Capital Improvement Program
Strategy Breakdown
(\$ Millions)**



Strategy	Ten-Year Total (\$ Millions)	Percentage
Expansion	487.319	86%
Renewal/Replacement	32.975	6%
System-Wide Improvements	44.892	8%
Total	565.187	100%

The following charts and tables present the planned annual appropriations for the Ten-Year CIP by Strategy and Program.

**Water System
FY 2008/09 Ten-Year Capital Improvement Program
Planned Appropriations by Strategy
(\$ Millions)**

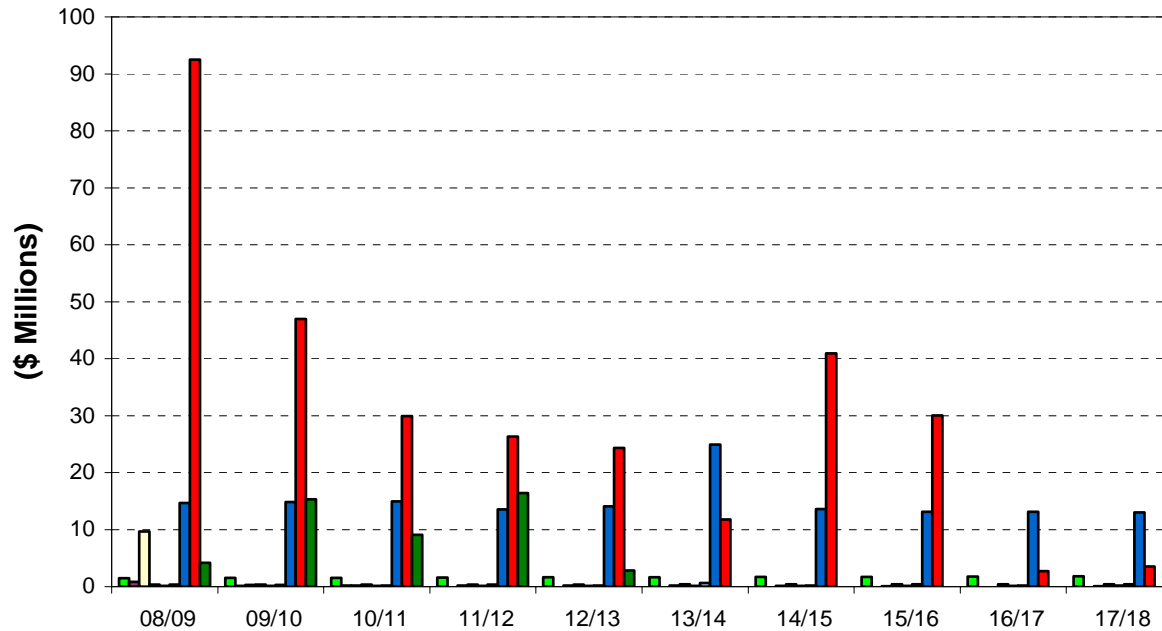


Note:

- Connection (development) Fees fund Expansion projects.
- Renewal/Replacement and System-Wide Improvement projects are funded by Water Rates.

Strategy (FY)	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	Total
Expansion	114.011	74.601	45.015	53.655	36.100	41.161	39.920	43.727	23.064	16.065	487.319
Renewal/Replacement	2.813	1.977	6.975	3.955	2.404	2.763	3.284	2.550	3.047	3.207	32.975
System-Wide Improvements	7.316	3.252	4.441	1.259	5.065	2.978	15.985	1.963	0.533	2.102	44.892
Total	124.141	79.830	56.432	58.870	43.570	46.901	59.189	48.239	26.643	21.374	565.187

Water System
FY 2008/09 Ten-Year Capital Improvement Program
Planned Appropriation by Program
(\$ Millions)



Program (FY)	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	Total
Building & Grounds	1.478	1.511	1.544	1.580	1.614	1.649	1.687	1.724	1.763	1.800	16.350
Emergency Preparedness	0.835	0.133	0.200	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.168
Groundwater Basin Management	9.703	0.310	0.150	0.200	0.160	0.200	0.130	0.060	0.000	0.060	10.973
Program Management	0.343	0.343	0.343	0.343	0.343	0.387	0.387	0.387	0.387	0.387	3.648
Regulatory Compliance	0.100	0.110	0.110	0.120	0.120	0.130	0.130	0.140	0.140	0.150	1.250
Transmission & Distribution	0.360	0.320	0.150	0.330	0.160	0.625	0.195	0.395	0.195	0.425	3.155
Water Supply & Conveyance	14.687	14.833	14.960	13.531	14.058	24.930	13.630	13.118	13.118	13.032	149.897
Water Treatment Facilities	92.475	46.990	29.895	26.316	24.315	11.800	40.930	30.025	2.670	3.520	308.936
Wells	4.160	15.280	9.080	16.450	2.800	7.180	2.100	2.390	8.370	2.000	69.810
Total	124.141	79.830	56.432	58.870	43.570	46.901	59.189	48.239	26.643	21.374	565.187

Major Changes in the FY 2008/09 Water System CIP

Both the latest Asset Management Program and Development Impact Fee reports provide input into the Ten-Year CIP for the Renewal/Replacement of existing facilities, System-Wide Improvements, and new capital facilities required to meet growth demands. The planned FY 2008/09 Ten-Year CIP appropriations total \$565.187 million. The FY 2008/09 Ten-Year CIP appropriations have increased by approximately 34% since the FY 2007/08 Ten-Year CIP, which had a ten-year appropriation of \$433.933. This difference is due to increased project costs, timing of expenditures and inflation. A summary of major changes since the FY 2007/08 Ten-Year CIP are summarized below.

- An increase in the cost estimate for the Well Master Plan project. This project involves the planning, design and construction of 11 municipal wells within the Zone 7 service area which are required to maintain sufficient well capacity to meet 100% of Zone 7's Municipal and Industrial (M&I) drought reliability goal through build-out. Several changes have occurred since the FY 2007/08 CIP in terms of cost, scheduling and project scope. The project cost has increased from approximately \$40 million to about \$82.5 million (2007 dollars) or \$98 million adjusted for inflation. The following factors have contributed to the cost increase:
 - Originally it was anticipated that 7-8 wells would meet the Zone 7 drought reliability goal but due to the lower than anticipated yields found in the Chain of Lakes and Gravel Pits wellfields, the estimate has been revised to 11 new wells needed to meet the same goal.
 - In the Chain of Lakes area, the addition of approximately 3,000 feet of 36-inch pipeline to complete a looped system between the Vineyard and Cross Valley Pipelines, and about 6,000 feet more 18 to 24-inch pipe to facilitate a single centralized well water treatment facility for the Chain of Lakes wellfield design. The original Chain of Lakes wellfield design concept included shorter 18-inch pipeline runs to multiple satellite well water treatment facilities.
 - Additional factors include changes in the distribution system to accommodate the new wells, higher-than-anticipated prices on monitoring and test well bids as well as increased cost estimates for production wells and well facilities, site work, pipeline estimates and design fees.
- To accommodate the increased cost estimate of the Well Master Plan project, the Delta Water Storage Program has been deferred to FY 2013/14 due to near-term funding challenges.
- For planning purposes and to accurately account for the capital project inflation estimates, project appropriations have been adjusted by an inflation factor of 4% annually. In some cases, project appropriations such as lease payments and water supply and conveyance projects that are financed through other entities (e.g., Cawelo Groundwater Banking Program, South Bay Aqueduct Improvement and Enlargement Project) already have an interest component and have not been further adjusted by 4% inflation. For comparative purposes, total project costs are shown with and without inflation in the project summary reports (Section 2.6.3. of Chapter 2), as applicable. Note: This change has significant impact as staff has previously included inflation adjustments in financial planning models. The most

important change is that the inflation adjustments are explicit rather than embedded in the financial planning model.

- Rather than appropriating \$200K biennially for laboratory equipment replacement, \$100K will be appropriated annually. This budgeting adjustment will provide consistency in funding and coverage for unforeseen equipment failures.
- PPWTP Sludge Handling Improvements project has been appropriately shifted from Fund 73 to Fund 72 – RR/SWI and is being deferred three years due to inadequate short-term capital funding. In the interim, rental equipment will continue to process sludge at PPWTP.
- The Recycled Water Storage Program has been removed from the Ten-Year CIP, pending identification of a possible future project compatible with the future Chain of Lakes Master Plan.
- The total project cost of the South Bay Aqueduct Improvement and Enlargement project has increased from \$172 million (or \$99 M in 2007 dollars) to \$230 million (or \$132 M in 2007 dollars) due to project delays and permitting issues. This project is debt-financed through the Department of Water Resources, whereby Zone 7 makes annual payments until FY 2035/36 to cover its share of the improvements and enlargement.
- Increased engineering estimate for the Altamont Water Treatment Plant and Pipeline Project from \$160 million to \$195 million due to increased cost estimates for electrical, instrumentation and control infrastructure as well as added infrastructure costs as a result of site constraints (i.e. site accessibility during construction and costs for campus style set up to meet aesthetic requirements). Construction on the Altamont Pipeline and Altamont Treatment Plant are planned to commence in 2008. The treatment plant is intended to be operational in Summer 2010.
- Altamont Water Treatment Plant, “Phase 1A”, totaling \$6.4 million has been added to the Expansion Fund. This project involves increasing clearwell storage and emergency generator capacity to increase reliability. Also, an Altamont Water Treatment Plant Membrane Module project has been added in anticipation of the periodic need to replace membrane modules.
- The addition of two new emergency preparedness projects. These are Upgrade PPTWP Emergency and Safety Services Building and Vulnerability Assessment Review & Update totaling \$300,000. Also, the Security Improvements at Existing Facilities project has been added. This project involves security improvements to Zone 7’s water facilities (water treatment plants, wells and pump stations) including the addition of security cameras, intrusion alarms, and motion detectors. Planning and design of this project began in FY 2006/07 and construction will take place during FY 2007/08 and FY 2008/09.

Update of Major Projects

Mocho Groundwater Demineralization Plant

The Mocho Groundwater Demineralization Plant will be constructed on the vacant portion of the Mocho Well No. 4 site on the northwest corner of Santa Rita Road and Stoneridge Drive in Pleasanton. The new plant will use reverse osmosis (RO) membrane technology to treat up to 7.7 MGD of groundwater pumped from Zone 7's existing Mocho wells to produce 6.1 mgd of demineralized water. In April 2007, three construction bids were received for the Mocho Groundwater Demineralization Facility. The construction contract was awarded to GSE Construction in the amount of \$23.9 million. Construction of the facility began in July 2007 and will be completed in June 2009. In addition, the \$36 million estimated cost of this project will be partially offset by an estimated \$730,000 in Proposition 50 grant funding awarded to Zone 7 for this project.

DVWTP Dissolved Air Flotation (DAF) Facility

The new Dissolved Air Flotation (DAF) Facility is located at the Del Valle Water Treatment Plant (DVWTP), and will provide an additional 10 MGD to firm plant capacity of 36 MGD and year-round, reliable clarification by operating in parallel with the existing superpulsator clarifiers. Achieving these objectives will be particularly critical as system-wide demand continues to grow over the next decade. Furthermore, maximizing treatment plant capacity is important to maintaining and improving delivered water quality to Zone 7 customers. In August 2005, the Zone 7 Board awarded the construction contract for the DAF Project to RGW Construction, Inc. for \$9,095,000. Construction commenced in Fall 2005 with substantial completion in Spring 2007. As of July 2007, the startup and testing phase is in progress, and the facility is anticipated to be in service September 2007.

Well Master Plan Wells

The Well Master Plan (WMP) project involves the construction of up to eleven municipal water supply wells over the next 15 years to meet Zone 7's potable water drought reliability goal. As an additional benefit, these wells will provide Zone 7 with an improved ability to manage groundwater levels, groundwater flow, dissolved salt build-up/removal, delivered water quality blending, and peak-day demands. The WMP was completed by CH2M Hill in 2003, and an Environmental Impact Report (EIR) was certified by the Zone 7 Board in August 2005. Since then, several test wells have been installed in and around the Chain of Lakes area resulting in the identification of five potential new well locations. In 2006, ECO:LOGIC was contracted by Zone 7 to further develop the project concepts and complete the project design(s). Progress is being made on all fronts, including property acquisition. The preliminary schedule depicts a completion date for the first two wells by summer 2009.

South Bay Aqueduct Improvement and Enlargement

The South Bay Aqueduct (SBA) Improvement and Enlargement Project will provide an additional 130 cubic feet per second (cfs) or approximately 84 million gallons per day (MGD) of conveyance capacity in the SBA for Zone 7, meeting Zone 7's long-term raw water conveyance capacity requirements as delineated in the Water Conveyance Study (2001). In addition, as part of the overall project, a 425 acre-foot or 138 million gallon (active storage) raw water reservoir (Dyer Reservoir) will be constructed, which will add increased reliability to Zone 7 during periods when the SBA is shut down for short periods of time, and will allow for more energy efficient operations through time-of-use pumping, it will also provide water treatment benefits at Zone 7's future Altamont Water Treatment Plant by minimizing fluctuations in influent water quality. This project is estimated to cost approximately \$230 (sum of payments to DWR through

FY 2035/36) million and be completed in late 2009. Between the “Enlargement” portion of the project, which is 100% for Zone 7, and the “Improvement” portion, which benefits Zone 7, Alameda County Water District and Santa Clara Valley Water District, Zone 7’s total proportion of the project costs is roughly 75%.

As of July 2007, construction has started on the “South Bay Pumping Plant – Initial” construction contract and the “Discharge Line & Brushy Creek Pipeline No. 3” construction contract. The other three major construction contracts (“South Bay Pumping Plant – Completion”, “Dyer Reservoir” and “Canal Modifications”) are expected to be advertised later in Summer 2007. The actual dates of advertisement will be dependent upon receiving final environmental clearance, which is expected to be in time for Summer 2007 advertisement.

Altamont Water Treatment Plant and Pipeline Project

The Altamont Water Treatment Plant (AWTP) will be constructed on a 31-acre parcel located off Dyer Road, approximately 1.5 miles north of the Dyer Road-Altamont Pass Road intersection. This is an expansion project in order to have adequate treated water supply for current and future Zone 7 customers. The first phase of AWTP will have a capacity of 24 million gallons per day (MGD) of treated water with a second phase adding an additional 12-16 MGD. The project includes a raw water pump station conveying water from the South Bay Aqueduct and/or the future Dyer Reservoir to AWTP. The primary treatment processes at AWTP will be an immersed ultrafiltration membrane system with ozone and/or chloramine disinfection and a biologically activated carbon system.

The anticipated AWTP construction cost is \$99 million. This includes the treatment process components, sludge handling facilities, offices, chemical storage facilities, standby power facilities, the off-site raw water pump station, approximately 6,500 feet of 48-inch diameter raw water and treated water pipeline, and the reconstruction of approximately 1 mile of Dyer road. Due to the extended duration for design, environmental compliance, permitting, and property acquisition, actual AWTP construction is not anticipated to start until the Spring of 2008. This is mainly due to environmental permit restrictions in the winter time. Once the construction starts, environmental mitigation measures will be in place so that work can be performed in the winter season. While actual construction would start in the Spring of 2008, Zone 7 will be trying to award the contract in the Winter of 2008 to take advantage of the construction submittals process. Therefore, with this current plan, it is anticipated that the AWTP construction will be completed in June 2010.

The Altamont Pipeline (APL) will begin at the proposed AWTP site off Dyer Road, north of Livermore, and connect to Zone 7’s existing 36-inch diameter Cross Valley Pipeline near Kittyhawk Road and I-580, in Livermore. There will also be a connection to Zone 7’s 18-inch diameter Vasco Pipeline located near Vasco Road, in Livermore. This pipeline is approximately twelve miles in length and 48 to 42-inches in diameter. The anticipated construction cost is \$50 million. Assuming encroachment permits are obtained, the APL Project may include enough work outside of the outstanding environmental issue areas that it may be advertised in October 2007. Therefore, projecting an actual start construction date in the January 2008, it is anticipated that the APL construction will be completed in December 2009. The APL project is scheduled for earlier completion to take advantage of its use for startup and testing of the Altamont Water Treatment Plant.

ES.2.3 Financial Overview

Fund 72 – Renewal Replacement/System-Wide Improvements

Funds projects, or portions thereof, that relate to the replacement or improvement of existing water facilities, and which benefits existing customers. Revenues are generated from water rates paid by current Zone 7 water system customers.

Fund 72 Funding Analysis

These Strategies identify the projects, funding and schedules needed for the future Renewal/Replacement and System-Wide Improvements of the capital assets of Zone 7's Water System. In order to minimize the burden to water rate payers of widely-varying annual costs, an annual funding allowance of approximately \$4 million (\$3 million for Renewal/Replacement plus a \$1 million 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 and System-Wide Improvement 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 (\$8.8 million for Renewal/Replacement and \$1.2 for System-Wide Improvements) to adequately fund the program. In 2005, the Zone 7 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 actual transfer in FY 05/06 was \$2.53 million, \$5.5 million is proposed in FY 06/07 (will be transferred to Fund 72 in fall 2007) and \$4.06 million is projected for FY 07/08. This is a three-year average of about \$4.1 million.

Historically, Zone 7 has cash-funded capital expenditures ("pay-as-you-go" financing) because cash-funding is often less expensive than interest-bearing debt financing and eliminates the long-term liability incurred with the use of debt. Until the \$10 million transfer target is met in FY 2014/15 (current goal) Zone 7 has limits on the scale and timing of its Renewal/Replacement and System-Wide Improvements. As a result, the exercise of prioritizing projects has become increasingly important. As part of the capital planning process, the Capital Review Group prioritizes the list of projects to be presented within the CIP document based on resources, available funding and project justifications. When insufficient funds are projected, projects are deferred until enough funding is available, or interim solutions are proposed.

Zone 7 staff is in the process of planning for long-term taste and odor (T&O) treatment improvements at Del Valle and Patterson Pass Water Treatment Plants. A consultant has been hired by Zone 7 to conduct an engineering study to examine potential T&O treatment processes. It is anticipated that the study phase will take approximately twenty months and will be completed by May 2009. There will be a pilot test of ozone and ozone-peroxide treatment alternatives, Zone 7 staff and a Technical Review Committee comprised of Retailer staff and a representative from the California Department of Public Health will evaluate the results. The design phase is anticipated to occur during years 2009 and 2010, with construction commencing in FY 2011/12. This CIP document has an estimated project cost of \$6.6 million, which is a placeholder pending

completion of the study. Note that the preliminary estimates depict a cost of \$10-\$15 million for each water treatment facility. Zone 7 staff will work with our Board and Retailers to develop a funding plan to pay for necessary T&O projects as the project develops and more refined cost estimates are made.

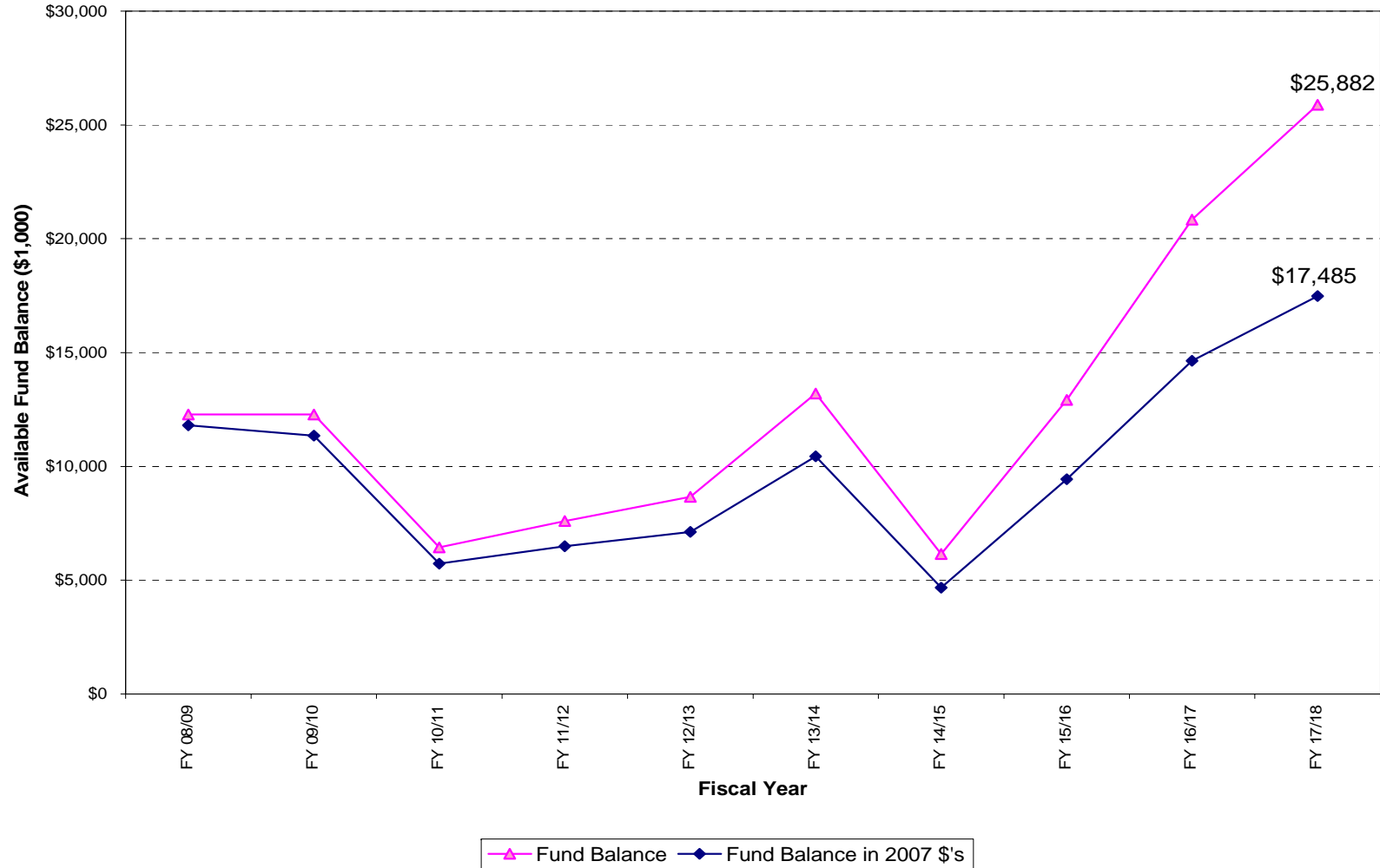
The ten-year funding outlook (Table ES-1) shows that with the ramp-up of the annual Fund 72 allowance, or water rate contribution there will be adequate funding to complete projects planned in this Ten-Year CIP. Graph ES-1 shows the projected available fund balance through FY 2017/18 in both actual and 2007 dollars. At the end of FY 2017/18, the program end balance is approximately \$22 million. Note that the Renewal/Replacement and System-Wide Improvement Program extends indefinitely beyond this ten-year planning period. The program end balance seen will be used to fund future projects within this program, such as a Third Groundwater Demineralization Facility (estimated at \$49 million). Since Zone 7 employs a preferred a pay-as-you-go financing strategy, continued foresight in financial planning is needed.

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

Fiscal year (FY)	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18
Beg. Balance	17.382	12.281	12.278	6.440	7.600	8.660	13.205	6.153	12.918	20.840
Water Rate Contribution	4.060	4.004	4.377	4.642	6.420	8.276	10.046	10.046	10.046	10.046
Dougherty Valley Facility Use Fee	1.250	1.250	1.250	2.034	2.566	2.245	2.245	1.115	1.115	0.000
Interest Income	0.219	0.491	0.491	0.258	0.124	0.374	0.557	0.775	1.020	1.015
R&R Expenditures	2.464	1.619	6.608	3.578	2.018	2.368	2.878	2.134	2.620	2.770
SWI Expenditures	7.3	3.3	4.441	1.259	5.065	2.978	15.985	1.963	0.533	2.102
Program Contingency¹	0.500	0.520	0.540	0.560	0.580	0.610	0.630	0.660	0.680	0.710
Subtotal	12.630	12.636	6.807	7.977	9.046	13.600	6.559	13.334	21.267	26.319
<i>Reserved Funds</i>										
Building Sinking Fund	0.349	0.358	0.367	0.377	0.386	0.395	0.406	0.416	0.427	0.437
Net Estimated Available Fund Balance	12.281	12.278	6.440	7.600	8.660	13.205	6.153	12.918	20.840	25.882
Net Estimated Available Fund Balance in 2007 Dollars:	11.809	11.352	5.725	6.496	7.118	10.436	4.676	9.439	14.642	17.485

1. Program contingency is adjusted by 4% annually to account for inflation.

GRAPH ES-1
Fund 72 – Water Rates
Ten-Year Funding Outlook through FY 2017/18
Available Fund Balance
Shown in Actual and 2007 Dollars



Fund 73 – Expansion

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, conveyance facilities (e.g., SBA Improvement & Enlargement Project), treatment and transmission facilities.

Fund 73 Funding Analysis

As has been communicated the last few years, there would be a funding shortfall in Fund 73 if there were to be no additional sources of revenues and/or no changes in projected expenditures. The primary reason for this projected near-term deficit is the cost (currently estimated at \$195 million) of the Altamont Water Treatment Plant Phase I and Pipeline Project. Zone 7 hired the firm of Bartle Wells Associates (BWA), independent public finance advisors, to develop funding strategies to meet this projected near-term deficit in Fund 73. BWA, with Zone 7's assistance, developed various potential financing plans capable of eliminating the otherwise-projected funding shortfall. In October 2006, staff recommended to the Zone 7 Board, a financing plan which included a 45% increase in connection fees and \$30 million in short-term financing. The Board subsequently approved the fee increase from \$13,500 to \$19,570 for the Zone 7 service area and from \$13,050 to \$18,120 for Dougherty Valley. At that time it was noted that staff would return to the Board with a full evaluation of the available funding alternatives and a request for authorization to pursue an appropriate course of action.

On April 4, 2007, staff and BWA presented the Zone 7 Finance Committee with a range of potential funding alternatives and communicated the need to secure more funding than previously anticipated. Based on the latest project cost estimates and cash flow needs, staff has identified the need to secure additional funding in the amount of \$60 million rather than the previously-estimated amount of \$30 million. This increase is attributed to increased project costs and lower-than-anticipated connection fee revenue. The Finance Committee directed staff to analyze various scenarios, including the "Most Probable", "Worst Case" and "Best Case" and present the findings to the full Board. The Finance Committee found it prudent to analyze each scenario considering continuation of the current development slowdown, which would affect revenue projections, as well as considering the impact of potential increased costs for major projects such as the Altamont Water Treatment Plant Phase 1 and Pipeline Project. To provide for reasonable revenue projections and also to recognize the cyclical variability in economic growth, a concept of "growth cycling" has been utilized in projecting future connection fee revenues. This approach assumes that for the planning period under consideration, for the first five years, 70% of the projected number of connections would actually come in and the remaining 30% would materialize in following five years in addition to 100% of the normally projected number of equivalent connections for those years or 130%. The cycle would then restart in the first year of the subsequent ten-year period.

Accordingly, staff developed parameters for these scenarios which take in consideration the potential for increased project costs and decreased connection fee revenue in the near-term. These scenarios were presented to the full Zone 7 Board on April 18, 2007. At that time, staff recommended proceeding under Funding Scenario 1, illustrated in Table ES-2 below which facilitates timely completion of Expansion projects as planned while using conservative revenue projections. The conservative revenue projection that was used in this scenario is a slight modification of the normal growth cycle. This modified growth scenario accounts for the slowdown in development that occurred in FY 06/07. Instead of 70% of planned growth,

40% of planned growth was estimated for FY 06/07, returning to 70% of planned growth in the following four years, with the remaining 60% from FY 06/07 and 30% from FY 07/08 – FY 10/11 materializing in the subsequent five years (160% in FY 11/12 and 130% in FY 12/13 – 15/16). Note that this scenario has been further modified to provide for more conservatism in revenue projections, rather than 160% in FY 11/12 and 130% in FY 12/13 – 15/16, 100% of planned growth is projected for FY 11/12 and 145% in FY 12/13 – FY15/16).

In addition, this scenario includes financing of up to \$60 million over a six year period in the form of an Installment Sale Structure (ISS). An ISS is a form of lease financing which functions similarly to a line of credit. Zone 7 will make interest only payments on the amount financed during the six-year term with the principal amount due in year six. The agreement with the financial institution will contain certain covenants by Zone 7 that are very similar to those associated with a revenue bond. The most important covenant is that payments by Zone 7 will be secured solely by net water revenues (connection fee and water rate revenues after payment of operations and maintenance costs). Under this arrangement there is no lien on Zone 7's other funds, and there will not be any lien or pledge of Zone 7's physical assets. It is important to note that while the ISS will be secured by net water revenues, actual payments will be made using connection fee revenue.

At the May 2, 2007 Zone 7 Board meeting; the Board authorized BWA, on behalf of the General Manager to solicit bids from financial institutions to secure an ISS. Upon authorization, BWA issued a Request for Proposal (RFP) on May 25, 2007 to solicit bids from financial institutions to secure an ISS in the amount of \$60 million. The RFP was issued to eight financial institutions and five responses were received. BWA and Zone 7 staff reviewed all of the proposals received and recommended proceeding with Wells Fargo Bank, N.A. (Well Fargo). Wells Fargo offered the most favorable overall financial terms for Zone 7, including an attractive interest rate, no upfront fees and the lowest unused portion fee. At the June 20, 2007 Zone 7 Board of Directors meeting, the Board authorized the Zone 7 General Manager to negotiate and execute an agreement with Wells Fargo secure the ISS. Staff is currently working with Wells Fargo to finalize the documents and anticipates drawing on the ISS some time in FY 2008/09, but the exact timing will be dependent upon receipt of connection fee revenue and project costs and schedules. The resultant ten-year funding outlook under this funding structure is shown in Table ES-2 below.

TABLE ES-2
Fund 73 (Connection Fees)
TEN-YEAR FUNDING OUTLOOK - WITH \$60 M INSTALLMENT SALE STRUCTURE

Expansion Program Ten-Year Funding Outlook										
Scenario 1 - Most Probable. Growth 40%, 70%, 70%, 70%, 70% for FY 06/07-10/11.										
AWTP Phase 1 & Altamont Pipeline online by 2010.										
\$60M ISS Opened - \$55M Used - \$7M Minimum Funds Available ¹										
	FY 08/09	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
BEGINNING OF YEAR FUND BALANCE										
Cash	68,705	3,443	3,053	6,395	5,212	8,829	49,506	85,333	88,267	86,042
ISS available	60,000	50,000	5,000	7,500	10,000					
ISS being used	0	10,000	55,000	52,500	50,000	0				
TOTAL FUNDS AVAILABLE	128,705	53,443	8,053	13,895	15,212	8,829	49,506	85,333	88,267	86,042
REVENUE (\$1000s)										
Dougherty Valley ²	3,485	3,590	5,303	9,941	26,003	21,196	21,514	12,654	0	0
Zone 7 ²	34,242	32,315	50,836	51,742	72,903	69,956	61,148	41,113	21,403	25,422
Interest Income ³	2,748	138	122	256	208	353	1,980	3,413	3,531	3,442
ISS Used/Paid Back	10,000	45,000	-2,500	-2,500	-50,000					
Dougherty Valley Trust Fund										
Total Revenue	50,475	81,043	53,761	59,440	49,114	91,505	84,642	57,180	24,933	28,864
EXPENDITURES (\$1000s)										
Total Expenditures⁴	113,542	79,154	48,054	58,167	42,947	48,182	46,067	51,393	24,195	16,213
END CASH FUND BALANCE	5,637	5,332	8,760	7,667	11,379	52,153	88,081	91,120	89,005	98,693
Sinking Fund Contributions⁵	2,195	2,279	2,365	2,456	2,550	2,647	2,748	2,853	2,962	3,075
Year Ending Net Available Fund Balance	3,443	3,053	6,395	5,212	8,829	49,506	85,333	88,267	86,042	95,617
Cash Available	3,443	3,053	6,395	5,212	8,829	49,506	85,333	88,267	86,042	95,617
ISS Available	50,000	5,000	7,500	10,000		0	0	0	0	0
Total Funds Available (Cash & ISS)	53,443	8,053	13,895	15,212	8,829	49,506	85,333	88,267	86,042	95,617
Total Funds Available in 2007 Dollars	51,387	7,446	12,352	13,003	7,257	39,125	64,846	64,495	60,452	64,596
PROJECTED CONNECTIONS										
Dougherty Valley	184	184	264	480	1,217	963	963	566	0	0
Zone 7	1,672	1,532	2,339	2,310	3,159	2,942	2,534	1,704	887	1,054
% of General Plan Growth	70%	70%	70%	100%	145%	145%	145%	145%	70%	70%

¹ \$7M total minimum funds available includes separate minimum balances of \$2M cash fund balance and \$5M minimum ISS.

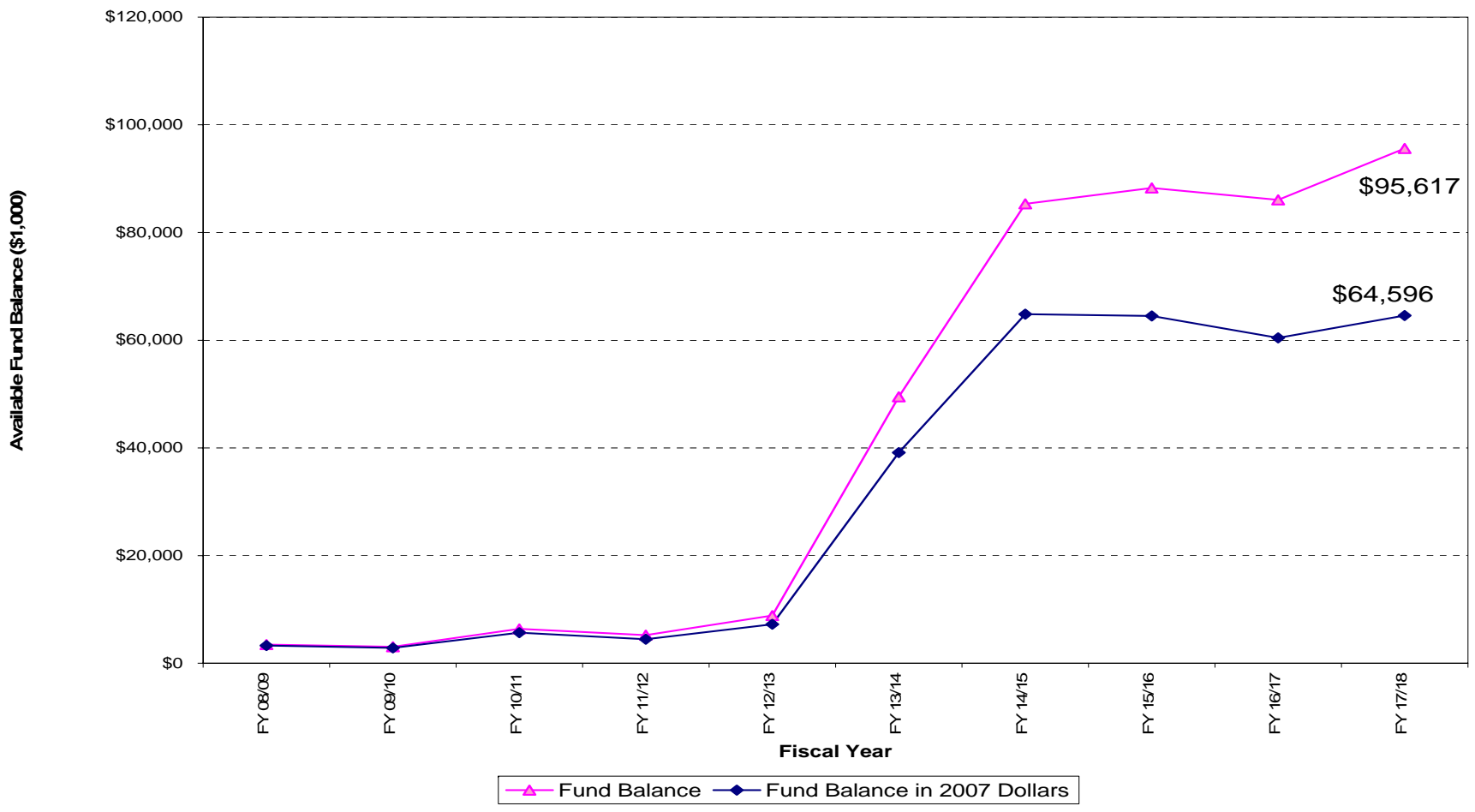
² For normal planning purposes a growth cycling concept is used. It assumes 70% of projected growth for the first five years and 130% for the succeeding five years. This scenario assumes 40% of projected growth in FY 2006/07, 70% of projected growth in FY 07/08 - FY 10/11, 100% of projected growth in FY 11/12 and 145% in FY 12/13 - FY 15/16.

³ Assumes 4% interest earned on beginning and sinking fund balances.

⁴ Total expenditures include: project expenditures (adjusted by 4% annual inflation); administrative fee (1% of connection fee revenue) to Retailers; lease payment for Administration & Engineering Building; \$500K program contingency for FY 08/09, increasing to 10% of total annual expenditures for FY 09/10 -11/12, 30% thereafter and interest paid on ISS (est. 4.52%).

⁵ Sinking Fund Contribution includes: Future Contractor's Share of the SBA, SBA Enlargement and Administration & Engineering Building sinking funds.

GRAPH ES-2
Fund 73 – Connection Fees
Ten-Year Funding Outlook until FY 2017/18
Available Fund Balance
Shown in Actual and 2007 Dollars



Appropriation Summary

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

Renewal/Replacement Strategy Breakdown

Programs	Appropriations (\$Millions)										Total
	FY08/09	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	
Building & Grounds											
Administrative & Engineering Building Lease (Water System)	\$0.478	\$0.488	\$0.497	\$0.508	\$0.517	\$0.528	\$0.539	\$0.549	\$0.561	\$0.571	\$5.237
Administrative & Engineering Building - Sinking Fund (Water System)	\$0.349	\$0.358	\$0.367	\$0.377	\$0.386	\$0.395	\$0.406	\$0.416	\$0.427	\$0.437	\$3.919
Subtotal	\$0.828	\$0.846	\$0.865	\$0.885	\$0.904	\$0.923	\$0.945	\$0.965	\$0.987	\$1.008	\$9.156
Emergency Preparedness											
Upgrade of PPTWP Emergency & Safety Services Building	\$0.000	\$0.025	\$0.200								\$0.225
Subtotal	\$0.000	\$0.025	\$0.200								\$0.225
Groundwater Basin Management											
Monitoring Well Replacements	\$0.050	\$0.050		\$0.040		\$0.060		\$0.060		\$0.060	\$0.320
Stream Gage Replacement	\$0.120	\$0.110				\$0.140	\$0.130				\$0.500
Subtotal	\$0.170	\$0.160		\$0.040		\$0.200	\$0.130	\$0.060		\$0.060	\$0.820
Program Management											
Capital Improvement Program Management	\$0.036	\$0.036	\$0.036	\$0.036	\$0.036	\$0.038	\$0.038	\$0.038	\$0.038	\$0.038	\$0.368
System-Wide Improvement, Renewal/Replacement Program Management	\$0.025	\$0.025	\$0.025	\$0.025	\$0.025	\$0.030	\$0.030	\$0.030	\$0.030	\$0.030	\$0.275
Subtotal	\$0.061	\$0.061	\$0.061	\$0.061	\$0.061	\$0.068	\$0.068	\$0.068	\$0.068	\$0.068	\$0.643
Regulatory Compliance											
Laboratory Equipment Replacement	\$0.100	\$0.110	\$0.110	\$0.120	\$0.120	\$0.130	\$0.130	\$0.140	\$0.140	\$0.150	\$1.250
Subtotal	\$0.100	\$0.110	\$0.110	\$0.120	\$0.120	\$0.130	\$0.130	\$0.140	\$0.140	\$0.150	\$1.250
Transmission & Distribution											
Transmission System Master Planning	\$0.025	\$0.025	\$0.025	\$0.025	\$0.025	\$0.031	\$0.031	\$0.031	\$0.031	\$0.031	\$0.281
Subtotal	\$0.025	\$0.025	\$0.025	\$0.025	\$0.025	\$0.031	\$0.031	\$0.031	\$0.031	\$0.031	\$0.281
Water Treatment Facilities											
Altamont Water Treatment Plant Membrane Module Replacement								\$0.685	\$0.710	\$0.740	\$2.135
DVWTP Access Road Maintenance Project			\$0.040								\$0.040
DVWTP Aqueous Ammonia System			\$2.690								\$2.690
DVWTP Chemical Feed System Replacement	\$0.330										\$0.330
DVWTP Filter Valves Replacement		\$0.270									\$0.270
DVWTP Instrumentation Upgrades			\$0.110	\$0.290							\$0.400
Minor Renewal/Replacement Projects	\$0.200	\$0.200	\$0.225	\$0.225	\$0.225	\$0.250	\$0.250	\$0.250	\$0.250	\$0.250	\$2.325
PPWTP Ammonia Facility Replacement			\$2.020								\$2.020
PPWTP Instrumentation Upgrades				\$0.120	\$0.360						\$0.480
PPWTP Rehabilitation of Clarifier and Replacement of Motor				\$1.520							\$1.520
PPWTP Ultrafiltration Membrane Replacement	\$0.320	\$0.010	\$0.350	\$0.370	\$0.410	\$0.840	\$0.480		\$0.510	\$0.530	\$3.820
SCADA Enhancements	\$0.780	\$0.270	\$0.280	\$0.300	\$0.300	\$0.320	\$1.250	\$0.350	\$0.350	\$0.370	\$4.570
Subtotal	\$1.630	\$0.750	\$5.715	\$2.825	\$1.295	\$1.410	\$1.980	\$1.285	\$1.820	\$1.890	\$20.600
Total	\$2.813	\$1.977	\$6.975	\$3.955	\$2.404	\$2.763	\$3.284	\$2.550	\$3.047	\$3.207	\$32.975
In 2007 Dollars:	\$2.705	\$1.828	\$6.201	\$3.381	\$1.976	\$2.184	\$2.496	\$1.863	\$2.141	\$2.167	\$26.940

System-Wide Improvements Strategy Breakdown

Programs	Appropriations (\$Millions)										Total	
	FY 08/09	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		
Emergency Preparedness												
Security Improvements at Existing Facilities	\$0.835											\$0.835
Vulnerability Assessment Review & Update		\$0.108										\$0.108
Subtotal	\$0.835	\$0.108										\$0.943
Groundwater Basin Management												
Mocho Groundwater Demineralization Plant	\$4.692											\$4.692
New Monitoring Wells	\$0.150	\$0.150	\$0.150	\$0.160	\$0.160							\$0.770
Subtotal	\$4.842	\$0.150	\$0.150	\$0.160	\$0.160							\$5.462
Program Management												
System-Wide Improvement, Renewal/Replacement Program Management	\$0.025	\$0.025	\$0.025	\$0.025	\$0.025	\$0.030	\$0.030	\$0.030	\$0.030	\$0.030	\$0.030	\$0.275
Subtotal	\$0.025	\$0.025	\$0.025	\$0.025	\$0.025	\$0.030	\$0.030	\$0.030	\$0.030	\$0.030	\$0.030	\$0.275
Transmission & Distribution												
Corrosion Master Plan	\$0.210					\$0.250						\$0.460
System-Wide Installation of Line Valves	\$0.050	\$0.220	\$0.050	\$0.230	\$0.060	\$0.250	\$0.070	\$0.270	\$0.070	\$0.300		\$1.570
Transmission System Master Planning	\$0.025	\$0.025	\$0.025	\$0.025	\$0.025	\$0.031	\$0.031	\$0.031	\$0.031	\$0.031	\$0.031	\$0.281
Subtotal	\$0.285	\$0.245	\$0.075	\$0.255	\$0.085	\$0.531	\$0.101	\$0.301	\$0.101	\$0.331		\$2.311
Water Supply & Conveyance												
High-Efficiency Washing Machine Rebate Program	\$0.056	\$0.056	\$0.038	\$0.038	\$0.038	\$0.038	\$0.038					\$0.300
Ultra Low Flush/High Efficiency Toilet Rebate Program	\$0.038	\$0.038	\$0.045	\$0.045	\$0.045	\$0.045	\$0.053	\$0.053	\$0.053	\$0.053	\$0.053	\$0.465
Water Conservation Best Management Practices	\$0.188	\$0.188	\$0.206	\$0.206	\$0.206	\$0.206	\$0.206	\$0.244	\$0.244	\$0.244	\$0.244	\$2.138
Subtotal	\$0.281	\$0.281	\$0.289	\$0.289	\$0.289	\$0.289	\$0.296	\$0.296	\$0.296	\$0.296	\$0.296	\$2.903
Water Treatment Facilities												
DVWTP Caustic Soda Chemical Storage Upgrade	\$0.510											\$0.510
DVWTP Recovery Ponds Solids Extraction System	\$0.100											\$0.100
DVWTP Sludge Handling Improvements						\$1.010	\$6.840					\$7.850
PPWTP Improvements - 2012					\$2.310							\$2.310
PPWTP Sludge Handling Improvements						\$1.020	\$8.290	\$1.230				\$10.540
PPWTP UF HVAC Improvements	\$0.070	\$0.390										\$0.460
PPWTP UF Work Facility Addition	\$0.090	\$0.450										\$0.540
Third Groundwater Demineralization Facility					\$2.106					\$1.332		\$3.438
Water Quality - DVWTP Taste and Odor Treatment	\$0.100	\$0.760	\$1.910	\$0.220								\$2.990
Water Quality - PPWTP Taste and Odor Treatment	\$0.100	\$0.760	\$1.910	\$0.220								\$2.990
Water Quality Management Program	\$0.078	\$0.083	\$0.083	\$0.090	\$0.090	\$0.098	\$0.098	\$0.105	\$0.105	\$0.113	\$0.113	\$0.941
Subtotal	\$1.048	\$2.443	\$3.903	\$0.530	\$4.506	\$2.128	\$15.228	\$1.335	\$0.105	\$1.445		\$32.669
Wells												
Install VFD at Mocho 3 or Mocho 4							\$0.330					\$0.330
Subtotal							\$0.330					\$0.330
Total	\$7.316	\$3.252	\$4.441	\$1.259	\$5.065	\$2.978	\$15.985	\$1.963	\$0.533	\$2.102		\$44.892
In 2007 Dollars:	\$7.035	\$3.007	\$3.948	\$1.076	\$4.163	\$2.354	\$12.147	\$1.434	\$0.374	\$1.420		\$36.958

Expansion Strategy Breakdown

Programs	Appropriations (\$Millions)										Total
	FY08/09	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	
Building & Grounds											
Administrative & Engineering Building Lease (Water System)	\$0.376	\$0.383	\$0.391	\$0.399	\$0.407	\$0.415	\$0.423	\$0.432	\$0.440	\$0.449	\$4.114
Administrative & Engineering Building - Sinking Fund (Water System)	\$0.275	\$0.282	\$0.289	\$0.296	\$0.304	\$0.311	\$0.319	\$0.327	\$0.335	\$0.343	\$3.080
Subtotal	\$0.650	\$0.665	\$0.679	\$0.695	\$0.710	\$0.726	\$0.742	\$0.759	\$0.776	\$0.792	\$7.194
Groundwater Basin Management											
Mocho Groundwater Demineralization Plant	\$4.692										\$4.692
Subtotal	\$4.692										\$4.692
Program Management											
Capital Improvement Program Management	\$0.107	\$0.107	\$0.107	\$0.107	\$0.107	\$0.114	\$0.114	\$0.114	\$0.114	\$0.114	\$1.104
Expansion Program Management	\$0.150	\$0.150	\$0.150	\$0.150	\$0.150	\$0.175	\$0.175	\$0.175	\$0.175	\$0.175	\$1.625
Subtotal	\$0.257	\$0.257	\$0.257	\$0.257	\$0.257	\$0.289	\$0.289	\$0.289	\$0.289	\$0.289	\$2.729
Transmission & Distribution											
Transmission System Master Planning	\$0.050	\$0.050	\$0.050	\$0.050	\$0.050	\$0.063	\$0.063	\$0.063	\$0.063	\$0.063	\$0.563
Subtotal	\$0.050	\$0.050	\$0.050	\$0.050	\$0.050	\$0.063	\$0.063	\$0.063	\$0.063	\$0.063	\$0.563
Water Supply & Conveyance											
Arroyo Mocho Low Flow Crossings	\$0.350										\$0.350
Arroyo Mocho/Lake H Diversion Structure	\$0.230	\$0.080									\$0.310
CAL-FED Project Proportional Local Share	\$0.090	\$0.090	\$0.090	\$0.090	\$0.090	\$0.090	\$0.090	\$0.090	\$0.090		\$0.810
Cawelo Groundwater Banking Program	\$1.295	\$1.295	\$1.293	\$1.296	\$1.293	\$1.294	\$1.295	\$1.295	\$1.294	\$1.297	\$12.947
Chain of Lakes Facilities and Improvements	\$1.250	\$0.790	\$1.340	\$0.400	\$0.940	\$0.820	\$0.510				\$6.050
Chain of Lakes Master Plan	\$1.250	\$0.580	\$0.340								\$2.170
CUWA Membership	\$0.110	\$0.110	\$0.110	\$0.110	\$0.110	\$0.110	\$0.110	\$0.110	\$0.110	\$0.110	\$1.100
Delta Conservation Plan	\$0.130	\$0.135									\$0.265
Delta Outreach Program	\$0.026	\$0.028									\$0.054
Delta Water Supply/Storage						\$11.000					\$11.000
Fixed Cost of Water Entitlement	\$0.139	\$0.068	\$0.033	\$0.022	\$0.011						\$0.273
Future 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
Future 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 Washing Machine Rebate Program	\$0.019	\$0.019	\$0.013	\$0.013	\$0.013	\$0.013	\$0.013				\$0.100
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 Project	\$6.702	\$8.548	\$8.629	\$8.491	\$8.491	\$8.494	\$8.492	\$8.491	\$8.494	\$8.492	\$83.324
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)	\$0.270	\$0.264	\$0.270	\$0.267	\$0.268	\$0.267	\$0.268	\$0.267	\$0.265	\$0.268	\$2.674
Ultra Low Flush/High Efficiency Toilet Rebate Program	\$0.013	\$0.013	\$0.015	\$0.015	\$0.015	\$0.015	\$0.018	\$0.018	\$0.018	\$0.018	\$0.155
Water Conservation Best Management Practices	\$0.063	\$0.063	\$0.069	\$0.069	\$0.069	\$0.069	\$0.069	\$0.081	\$0.081	\$0.081	\$0.713
Subtotal	\$14.406	\$14.552	\$14.671	\$13.242	\$13.769	\$24.641	\$13.334	\$12.822	\$12.822	\$12.736	\$146.995

Expansion Strategy Breakdown (Continued)

Programs	Appropriations (\$Millions)										
	FY08/09	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	Total
Water Treatment Facilities											
Altamont Water Treatment Plant Operational Training	\$0.200										\$0.200
Altamont Water Treatment Plant Phase 1 (24 MGD) & Altamont Pipeline	\$89.571	\$43.770	\$15.420								\$148.761
Altamont Water Treatment Plant Phase 1A			\$0.900	\$5.381							\$6.281
Altamont Water Treatment Plant Phase 2 (12-18 MGD)						\$3.800	\$23.690	\$27.370	\$0.710		\$55.570
Second Groundwater Demineralization Facility			\$3.930	\$17.550	\$18.250	\$4.430					\$44.160
Third Groundwater Demineralization Facility					\$0.234					\$0.148	\$0.382
Water Quality Management Program	\$0.026	\$0.028	\$0.028	\$0.030	\$0.030	\$0.033	\$0.033	\$0.035	\$0.035	\$0.038	\$0.314
Subtotal	\$89.797	\$43.798	\$20.278	\$22.961	\$18.514	\$8.263	\$23.723	\$27.405	\$0.745	\$0.186	\$255.668
Wells											
Well Master Plan Wells	\$4.160	\$15.280	\$9.080	\$16.450	\$2.800	\$7.180	\$1.770	\$2.390	\$8.370	\$2.000	\$69.480
Subtotal	\$4.160	\$15.280	\$9.080	\$16.450	\$2.800	\$7.180	\$1.770	\$2.390	\$8.370	\$2.000	\$69.480
Total	\$114.011	\$74.601	\$45.015	\$53.655	\$36.100	\$41.161	\$39.920	\$43.727	\$23.064	\$16.065	\$487.319
In 2007 Dollars:	\$109.626	\$68.973	\$40.018	\$45.865	\$27.672	\$32.530	\$30.336	\$31.951	\$16.204	\$10.853	\$416.027

E.3 Flood Protection System

ES.3.1 Overview

This section identifies the specific goals and proposed appropriations for Flood Protection over the next five years starting with FY 2008/09. The primary goal of Flood Protection is to provide flood protection to the Livermore-Amador Valley communities, while accomplishing this in an environmentally manner.

To optimally address community interest, current federal and state regulatory requirements, and environmental concerns, Zone 7 has developed a Stream Management Master Plan (SMMP) and Master Environmental Impact Report (MEIR) (adopted by the Zone 7 Board of Directors on August 16, 2006), which serves as an update to the original 1966 Flood Control Master Plan. The SMMP focuses on providing a general plan for potential projects within flood control rights-of way that, if fully implemented by all stakeholders, could provide multi-use benefits in the areas of: 1) flood protection, 2) erosion and sedimentation control, 3) water supply, 4) water quality, 5) environment and habitat preservation, and 6) trails, recreation, and public education, all key areas identified by stakeholders during the development of the SMMP. A comprehensive action and implementation plan, called the StreamWISE (Waterway Improvements Supporting the Environment) Program is currently being developed to prioritize and sequence capital improvements, identify financial partners and a financial strategy, and establish maintenance plans for the new Program, which will implement the SMMP. The StreamWISE implementation plan process is incorporating direct involvement from key stakeholder groups to ensure that Zone 7 meets the needs of its constituents and partners. Through this process a five-year and ten-year outlook for the CIP will be created by prioritizing and sequencing the SMMP projects. Because this process is still underway, this CIP document (FY 2008/09) does not include any of the currently-proposed SMMP projects. The 45 initially-proposed SMMP projects have been estimated to total \$727 million (in 2005 dollars); however, a revised cost estimate will be provided with the implementation plan. Those projects falling within the ten-year CIP planning horizon will be added to the CIP document after the implementation plan is finalized. The anticipated date of finalization is April 2008.

With the StreamWISE funding plan and detailed long-term project schedule still to be developed, this year's Flood Protection System CIP planning analysis, as follows in this report section, is in a transitional format. The format used in prior years' reports has thus been modified to conform to this transitional stage of Zone 7's Flood Protection System planning.

A copy of the SMMP Executive Summary is attached for reference as Appendix B.

ES.3.2 System Overview & Funding Analysis

Flood Protection is currently funded by two sources, property taxes and developer-based fees. The sources of revenue provide funding for three funds: 1) Fund 50 - Flood Protection/General Fund; 2) Fund 71 - SDA (Special Drainage Area) 7-1 Administration & Engineering; and 3) Fund 90 - SDA 7-1 Reimbursements. By April 2008, a new funding plan will be developed for the prioritized StreamWISE projects. This funding plan is expected to include the existing funding sources, as well as additional sources, to fund the prioritized projects under the new cost estimate total. This funding plan is being developed through coordination with the program stakeholders and is expected to include efforts to obtain both State (e.g., Proposition 50) and Federal funding.

Listed below are descriptions of the current funding sources for the Flood Protection System:

Fund 50 – Flood Protection/General Fund

Funds projects, or portions thereof, that relate to the replacement or improvement of existing flood protection facilities owned by Zone 7. Revenues are generated from property taxes collected within Zone 7's service area. Fund 50 pays for both on-going capital expenditures and operating expenditures. Capital expenditures are for projects that fall under either the Renewal/Replacement or System-Wide Improvements Strategies. Operating expenditures are comprised of a comprehensive year-round maintenance program that includes repairing slides and erosion issues, refurbishing access roads and associated drainage ditches, installing and repairing gates and fences, and maintaining vegetation growth. Table ES-3 delineates the proposed near-term funding outlook.

TABLE ES-3
Fund 50 (Property Taxes)
NEAR-TERM FUNDING
(\$ Millions)

Fiscal year (FY)	08/09	09/10	10/11	11/12	12/13
Beg. Balance	6.658	5.639	4.695	3.487	2.403
Property Tax Revenue*	5.715	6.001	6.301	6.616	6.946
Capital Expenditures/Encumbrances	1.447	1.499	1.901	1.924	1.566
Operating Expenditures	5.211	5.367	5.528	5.694	5.864
Building Sinking Fund	0.076	0.078	0.080	0.082	0.084
End. Balance	5.639	4.695	3.487	2.403	1.835

* Since property tax revenue is based on the assessed property value, which fluctuates over time, Zone 7 has based the revenue estimates on historic experience. A five percent annual increase is conservatively estimated to account for growth in assessed property valuation.

Fund 71 – SDA 7-1 Administration, Engineering, & Construction

Funds the administration of the SDA 7-1 Program and the engineering, construction, and land acquisition of new Flood Protection facilities by Zone 7. Revenue is derived from the collection of SDA 7-1 drainage fees from developments creating new impervious areas within Zone 7's service area. Historically, drainage fees collected have been equally allocated to Funds 71 and Fund 90 per District Ordinance 0-2002-24; however, with the implementation of the new StreamWISE program, Zone 7 is considering the adoption of a new fee structure that would replace the SDA 7-1 drainage fees. Presently, SDA 7-1 fees amount to roughly \$2-\$3 million per year in revenue. Expenditures are not listed herein because, as mentioned above, Flood Protection is in a transitional state, with the new StreamWISE implementation plan anticipated to be complete in April 2008.

Fund 90 – SDA 7-1 Reimbursements

If the funding plan for the StreamWISE Program determines that reimbursement will continue, then Fund 90 will be used for the reimbursement of construction improvements and right-of-way acquisition performed and provided by private development to Zone 7. As stated above, revenue is derived from the collection of SDA 7-1 drainage fees, which are equally allocated to Fund 71 and Fund 90. Private developers developing adjacent to creeks/streams, have the option to receive reimbursement for improving a section of channel to Zone 7 standards. In order to qualify for reimbursement, a developer must enter into an SDA 7-1 Agreement with Zone 7. As part of the Agreement, the developer improves the section of channel to Zone 7 standards and dedicates the right-of-way to Zone 7 to maintain and operate. Upon completion, developers are reimbursed up to a pre-determined amount for actual construction and right-of-way costs through Fund 90. As with Fund 71, it is anticipated that roughly \$2-\$3 million per year in fee revenue will be available for improvements over the current five-year planning period. Based on recent experience, it is also estimated that approximately \$1 million per year will be expended/encumbered each year during the five-year planning period, unless superseded by a new funding mechanism. Because the program is in transition, requests for reimbursements are being evaluated on a case-by-case basis.

Appropriation Summary

The appropriation summary below identifies the ten-year appropriations for each project included in the Ten-Year CIP for the Flood Protection System.

**Flood Protection System
Capital Improvement Program
Fund 50 Project Summary by Program**
(Appropriations shown in \$Millions)

Programs	Appropriations (\$Millions)					Total
	FY 2008/09	FY 2009/10	FY 2010/11	FY 2011/12	FY 2012/13	
Building & Grounds						
Administrative & Engineering Building (Flood Protection)	\$0.107	\$0.109	\$0.111	\$0.114	\$0.116	\$0.557
Administrative and Engineering Building - Sinking Fund (Flood Protection)	\$0.078	\$0.080	\$0.082	\$0.084	\$0.086	\$0.410
Subtotal	\$0.185	\$0.189	\$0.193	\$0.198	\$0.202	\$0.967
Flood Control Facilities						
Construction and Rehabilitation of Maintenance Roads	\$0.130	\$0.140	\$0.140	\$0.170	\$0.140	\$0.720
District-wide F. C. Channel Desilting Program	\$0.200	\$0.330	\$0.340	\$0.190	\$0.190	\$1.250
Fences & Gates Installation & Replacement	\$0.040	\$0.040	\$0.040	\$0.050	\$0.050	\$0.220
Landscaping & Hydroseeding Channel Embankments	\$0.070	\$0.070	\$0.080	\$0.080	\$0.080	\$0.380
Rehabilitation of F. C. Channel Embankments	\$0.530	\$0.540	\$0.560	\$0.590	\$0.610	\$2.830
System-wide Asphalt Paving F.C. Facility Driveway	\$0.080	\$0.050	\$0.050	\$0.050	\$0.050	\$0.280
System-wide Construction of Concrete V-ditches	\$0.050	\$0.050	\$0.050	\$0.060	\$0.060	\$0.270
System-wide Construction of Drain Structures	\$0.060	\$0.060	\$0.070	\$0.110	\$0.130	\$0.430
System-wide Vegetation Abatement	\$0.240	\$0.240	\$0.240	\$0.240	\$0.060	\$1.020
Subtotal	\$1.400	\$1.520	\$1.570	\$1.540	\$1.370	\$7.400
Program Management						
Capital Improvement Program Management	\$0.006	\$0.006	\$0.006	\$0.006	\$0.006	\$0.058
Subtotal	\$0.006	\$0.006	\$0.006	\$0.006	\$0.006	\$0.058
Total	\$1.591	\$1.715	\$1.769	\$1.744	\$1.578	\$8.397
In 2007 Dollars:	\$1.530	\$1.586	\$1.573	\$1.491	\$1.297	\$7.476

Chapter 1 – INTRODUCTION

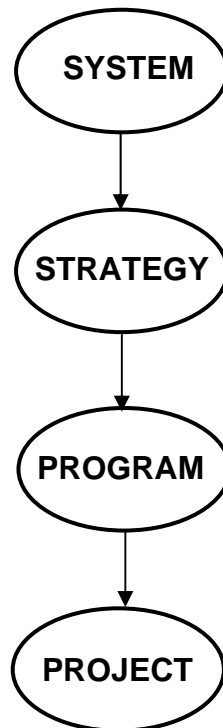
1.1 Purpose

Zone 7's FY 2008/09 CIP communicates to the public, Zone 7 Board of Directors, Retailers and staff the projects, costs, schedules and priorities of its capital improvement program for both the Flood Protection and Water Systems during the next five to ten years, respectively. This document includes:

- A description of the CIP and the process used to develop the plan.
- A summary of the capital systems, strategies, and programs highlighting key projects, expected costs over the next ten years (five years for the Flood Protection System), and comparison to the previous fiscal year and identification of the major changes and status of major capital projects.
- A description of each capital improvement project, including planned goals, justification, priority, impact on the operations budget, responsible section, in-service date, project costs, source of funds, cash flow.

1.2 CIP Structure

The CIP consists of four primary levels. In descending order, these levels are:



The highest level of capital improvement activities is a System. A System is identified as a primary service that Zone 7 is responsible for providing to its community. Currently, the CIP has identified the following Systems:

- **Water System** – pertains to the acquisition, conveyance, land acquisition and construction of water supply facilities, treatment (for Municipal and Industrial customers), maintenance of water supply facilities, and distribution of water. This system also includes management of the groundwater basin.
- **Flood Protection System** – provides for the management, engineering, land acquisition, construction, operation and maintenance of flood protection facilities and the protection of watercourses, watersheds, public highways, life and property from damage or destruction from flooding. Also provides community (e.g., recreational) and environmentally sensitive uses of the Valley's streams.

The second level in the CIP structure is a Strategy. A Strategy is a grouping of several programs, which embody Zone 7's Mission Statement, policies and goals. There are three capital program strategies, which are common to both systems:

- **Renewal/Replacement** focuses on existing facilities that have deteriorated or are in need of rehabilitation to maintain the established level of service to existing Zone 7 customers.
- **System-Wide Improvements** addresses new regulatory requirements and enhancements to existing facilities that will improve operation and maintenance safety, flexibility, cost-effectiveness or optimize performance as necessary for existing Zone 7 customers.
- **Expansion** identifies the capital projects needed to meet the needs of new customers as approved by the appropriate local governmental agencies within Zone 7's service area.

The third level in the CIP structure is a Program. Programs represent a group of related projects combined to facilitate decision-making. There are currently twelve capital programs:

- **Buildings & Grounds** addresses structures and support facilities not directly involved in the supply, treatment, transmission or storage of water or flood protection.
- **Emergency Preparedness** addresses Zone 7's goals and desired capability for emergency response.
- **Flood Protection Facilities** are capital projects that focus on the rehabilitation, improvement or annual major maintenance of the existing flood protection facilities that are planned and funded by Zone 7.
- **Groundwater Basin Management** focuses on Zone 7's responsibility to manage the local groundwater basin, which includes stabilizing and reducing the buildup of total dissolved solids and hardness, and delivering high quality water to its customers.

- **Program Management** accounts for staff time and related costs associated with managing capital programs.
- **Regulatory Compliance** ensures compliance with a range of existing and future regulatory and/or permitting requirements.
- **Special Drainage Area (SDA) 7-1 Administration, Engineering, & Construction** is the ongoing cost for administration, engineering and construction of new flood protection improvements needed because of increased runoff due to an increase in impervious surface area resulting from new development. **Note:** This program may be modified in the future following the development of the StreamWISE (Waterway Improvements Supporting the Environment) Program.
- **SDA 7-1 Reimbursement** addresses the reimbursement of right-of-way and construction costs to developers of new flood protection facilities designed to Zone 7 standards, and transmitted to Zone 7 along with associated R/W and property deeded to the Alameda County Flood Control and Water Conservation District. **Note:** This program may be modified in the future following the development of the StreamWISE (Waterway Improvements Supporting the Environment) Program.
- **Transmission & Distribution** consists of projects that are required for the transmission of treated water to Zone 7 Retailers.
- **Water Supply & Conveyance** focuses on the planning and purchase of new water supplies, and implementation of improvements required to convey raw water to Zone 7's surface water treatment plants, to local streams for recharge and to Zone 7's agricultural customers for their irrigation needs.
- **Water Treatment Facilities** addresses existing and proposed surface water treatment facilities and groundwater demineralization facilities.
- **Wells** identifies facilities required to reliably maintain the production of treated water deliveries during drought periods and peak demand periods, during planned and unplanned outages of surface water treatment plants, and to optimize conjunctive use and facilitate groundwater basin management.

The fourth level in the CIP structure is a Project. A Project is a discrete set of capital improvement tasks with a dedicated Project Manager assigned to it. Prioritization, appropriation requests and projected spending (cash flow) are authorized at this level. The FY 2008/09 CIP has sixty-four water system projects and twelve flood protection projects. Discussions of capital projects associated with the Water System and Flood Protection System are located at the ends of Chapters 2 and 3, respectively.

1.3 Prioritization Criteria

Prioritizing projects is an important part of the CIP planning process. The project Prioritization Criteria provide a method to rank or rate the relative importance of a project based upon factors such as protection of health and safety, legal requirements and ability to provide and maintain levels of service to existing and future customers. These criteria provide a basis for decision-making regarding which projects will be implemented in any given year. In addition, they provide a basis for scheduling projects over the five-to ten-year span of the CIP.

The following three categories reflect a range of priorities from high to low:

Priority 1, Mandatory Projects – These are critical projects representing the highest priority of all capital projects. These projects meet one or more of the following criteria:

- **Essential** for providing reliable water supply to meet projected demands
- **Essential** to meet Zone 7's Mission Statement and Board Policies or Level of Service Goals
- **Required** by legislation, regulation, and/or for protecting public health and safety
- Projects already under construction
- Funded by non-Zone 7 Agency sources such as grants, developers, contractors, or Retailers

Priority 2, Necessary Projects – These are projects that must be completed, but Zone 7 has a *moderate* level of control as to when they should be performed.

- Increase water supply reliability and delivered water quality
- Maintain or increase level of service goals and/or operating efficiencies with short-term paybacks (within 5 years)

Priority 3, Discretionary Projects – These are projects that should be implemented to increase level of service goals, but Zone 7 has a *significant* level of control as to when they should be performed.

1.4 CIP Preparation

The Ten-year CIP document is prepared as a part of Zone 7's overall capital budgeting process. The responsibilities for preparing and managing the CIP during the fiscal year are shared among three primary groups:

Program Management consists of Section Heads and Project Managers working together to meet the needs of the annual CIP process and executing specific programs and projects during the fiscal year.

Project Managers are responsible for identifying new and updating current capital projects, their appropriations and cash flows. The Section Heads review and confirm proposed appropriations and cash flows within their programs as well as identifying resource constraints or conflicts.

The criteria used to develop the FY 2008/09 Ten-Year CIP are:

- The Ten-Year CIP is a dynamic capital planning document that will be reviewed and revised annually.
- Zone 7's Board of Directors, as a part of the annual budget process, will authorize appropriations for capital improvements.
- Utilize the latest Development Impact Fee Reports and Asset Management Program updates in the development of the CIP.
- Justify proposed appropriation requests or additions thereto, and identify the resources allocated.
- Project costs, proposed appropriations and cash flow are based on actual dollars.
- Designate appropriations by phase (e.g., planning, design, construction, or "other" which encompasses items such as land acquisition, permitting, and legal fees).

CIP Manager is responsible for the overall management of the CIP during the capital budget process and throughout the fiscal year. Specific responsibilities include:

- Managing the CIP budget and planning systems and producing the CIP document.
- Ensuring Section Heads and Project Managers meet, review documents, coordinate efforts and resolve conflicts, accordingly.
- Providing staff support to and coordinating the transfer of information between the Capital Review Group, Section Heads and Project Managers.
- Ensuring Capital Review Group decisions are reflected in the CIP.

- Reviewing the adequacy of Zone 7 resources to complete proposed projects, proposed spending amounts and availability of funds, provision of appropriate project justification, confirmation of priorities, and list of individual projects to be presented to the Capital Review Group.

Capital Review Group is an internal agency group that is responsible for ensuring that the CIP meets the goals and objectives of Zone 7's Mission Statement and policies. The committee is comprised of the General Manager, Assistant General Managers – Engineering and Administrative Services Division, Production Manager, CIP Manager, key Section Heads, Project Managers and Staff Analysts for Engineering and Administration. The responsibilities of the groups include:

- Serves as an advisory group to Section Heads, Project Managers and the CIP Manager during the CIP document development process and throughout the year.
- Reviewing the CIP document during its development for redundancies, cost-effectiveness, schedule and opportunities to add/delete/combine programs and projects.
- Confirming the adequacy of Zone 7 resources to complete proposed projects.
- Confirming proposed spending amounts for projects and programs and ensuring appropriate justification is provided.
- Confirming priorities and finalizing lists of individual projects to be presented within the CIP document to the General Manager and Board of Directors based on resources, available funding and project justifications.
- Regularly reviewing the status of the CIP.
- Recommending necessary changes to project scope, schedule and budget that are within staff's administrative authority.

1.5 Sources of Funding

Funding for Zone 7's CIP is financed primarily from Municipal & Industrial (M&I) Connection Fees, Water Rates, Property Taxes and SDA 7-1 Fees. Rates and fees are reviewed and, if necessary, adjusted annually. Property taxes are based on a property's assessed value. For properties within Alameda County, the assessed value is increased annually by a maximum of two percent (2%) or upon resale of the property.

When determining the funding source for each project, the relative benefit to existing and future customers is evaluated carefully. For general reference, a description of each Zone 7 fund is provided below. Funding analyses specific to the appropriate System are located in Section 2.5 of Chapter 2 (Water System) and Section 3.2 of Chapter 3 (Flood Protection).

Fund 50 – Flood Protection/General Fund

Funds a project, or portion thereof, that relates to the replacement or improvement of existing flood protection facilities, and which benefits existing customers. Revenue is generated from a portion of the ad valorem taxes levied based on one percent (1%) of the assessed value of all properties within Zone 7.

Fund 71 – Special Drainage Area (SDA) 7-1 Administration, Engineering, & Construction

Funds a project, or portion thereof, that relates to the operation, engineering, construction of flood protection facilities, and collection of drainage fees from developers associated with the increase of impervious surface area within Zone 7's service area caused by new development (in accordance with Resolution No. 6922). The current fee is \$0.706 per square feet of impervious surface area. Specifically, funds are expended on planning, design, construction, land acquisition, repair, maintenance and operation of local drainage facility projects. In accordance with Ordinance 0-2002-24, up to fifty percent (50%) of the fees collected are identified as revenue for this fund.

Fund 90 – SDA 7-1 Reimbursements

Funds a project, or portion thereof, that relates to the reimbursement of SDA 7-1 drainage fees paid to property developers who build new flood protection facilities to Zone 7 standards, including reimbursement for associated property deeded to the Alameda County Flood Control and Water Conservation District. In accordance with Ordinance 0-2002-24, up to fifty percent (50%) of the fees collected are identified as revenue for this fund.

Fund 72 – Renewal/Replacement and System-Wide Improvements

Funds a project, or portion thereof, that relates to the replacement or improvement of existing water facilities, and which benefits existing customers. Funds are generated through water rates charged for the sale of water to current Zone 7 customers. Water rates are established based on the revenue required to operate and maintain the existing Water System, including an allowance for Renewal/Replacement & System-Wide Improvements projects.

Another source of revenue for Fund 72 is the Dougherty Valley facility use fees, which are charged to Dougherty Valley development. Per Amendment No. 1 of the Zone 7 and Dublin San Ramon Services District (DSRSD) Water Supply Contract, 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. Currently, the facility use fee is \$2,460 per new equivalent connection, based on a 5/8" meter.

Fund 73 – Expansion

Funds a project, or portion thereof, that relates to additional demands on the existing Water System, which includes all water purchases; conveyance, treatment and transmission facilities; and associated costs (e.g., planning, design, construction, legal, administration, property acquisition, permitting). Revenue is generated from the collection of water connection fees for new water services. Connection fees are developed and adjusted with respect to the capital improvements required to meet future demands on the water system. Connection fees are paid when securing permits for development. As of January 2008, the Zone 7 connection fee will be \$20,270 per equivalent connection. A separate connection fee of \$18,770 per equivalent connection is assessed to the Dougherty Valley area in San Ramon, which DSRSD serves per Amendment No. 1 of the Zone 7 and DSRSD Water Supply Contract. The revenue generated from connection fees provides funding for the implementation of all expansion projects. Figures 1 and 2 show the Zone 7's water service area and current & proposed water facilities, respectively.

Figure 1
Zone 7 Service Area

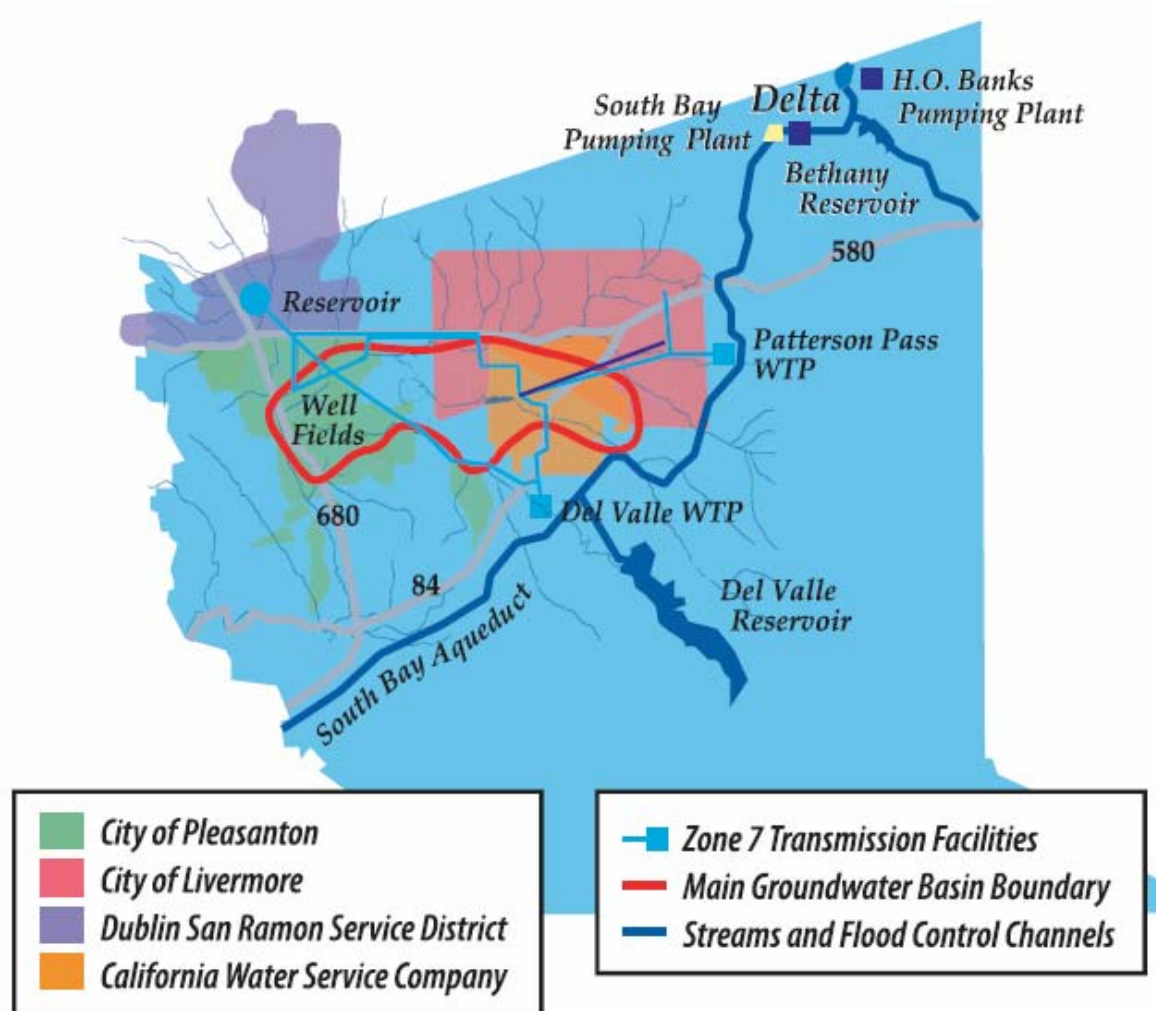


Figure 2
Zone 7 Water Facilities Map

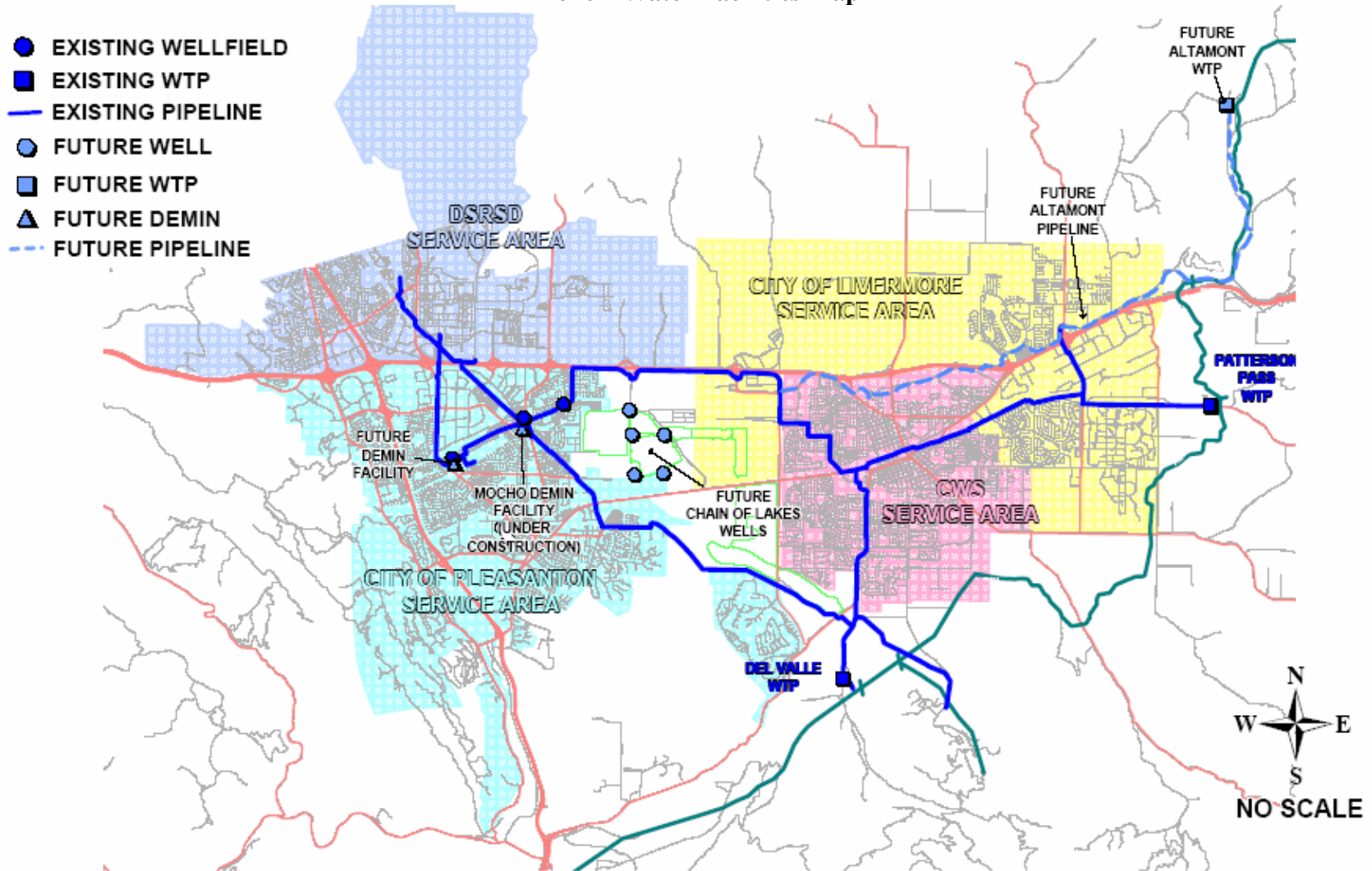


Figure 3.
Zone 7 Service Area and SMMP Study Area



Figure 4
Stream Channels and Ownership, SMMP Study Area



Chapter 2 – WATER SYSTEM

2.1 Introduction

This chapter identifies the specific goals and proposed appropriations for the individual Strategies and Programs associated with the Water System over the next ten years starting with FY 2008/09.

Section 2.3 contains an expanded discussion and breakdown of each Strategy, and the Programs for upcoming FY 2008/09. Some Programs represent more than one Strategy. Section 2.4 discusses the Ten-Year Plan with respect to the Strategies and Programs.

2.2 Water System Goals

To ensure that the needs of Zone 7 customers are met, Zone 7's Water System goals, as defined explicitly and implicitly by adopted Board policies, are outlined below. The associated Board resolutions for each policy can be found in Appendix A.

Water Supply and Reliability

Reliability Policy for Municipal and Industrial (M&I) Water Supplies (Resolution No. 04-2662)

Goal 1: Meet 100% of its treated water customers' water supply needs in accordance with Zone 7's most current contracts for M&I Water Supply, including existing and projected demands for the next twenty (20) years as specified in Zone 7's Urban Water Management Plan (UWMP), which will be coordinated with Zone 7's M&I water contractors. Zone 7 will endeavor to meet this goal during an average water year¹, a single dry water year², and multiple dry water years³.

Goal 2: Provide sufficient treated water production capacity and infrastructure to meet at least 75% of the maximum daily M&I contractual demands should any one of Zone 7's major supply, production or transmission facilities experience an extended unplanned outage.

Note that in addition to the goals stated above, Zone 7 has a number of planning and operational criteria, which are associated with this Board resolution and are as follows:

¹ Average water year – the statistical average quantity of water from all of the water supplies available to Zone 7 on a contractual or legal basis (e.g., surface water runoff to Del Valle reservoir), based on the historical hydrologic records available to Zone 7.

² Single dry water year – for the purposes of meeting the requirements of the UWMP, Zone 7 staff will identify and justify the selection of a calendar year from the historic record that represents the lowest yield from all normally contracted or legally available supplies.

³ Multiple dry water years – for the purposes of meeting the requirements of the UWMP, Zone 7 staff will identify and justify the selection of three or more consecutive dry years from the historic record that represent the lowest yields from all normally contracted or legally available supplies.

1. Provide surface water treatment design capacity to meet 85% of the Zone 7 maximum day demand for reliability and operational flexibility.
2. Operate water supplies so that the groundwater basin levels do not drop below historic lows.

Water Quality

Groundwater Management Plan (Resolution No. 06--2796)

Purpose: Zone 7's Groundwater Management Plan is a compendium of Zone 7 Water Agency's pre-existing groundwater management policies and programs. One of these is the May 2004 Salt Management Plan (SMP), which was approved by the State of California Regional Water Quality Control Board on September 24, 2004 as satisfying the requirements of Provision D.1.c.ii of the regional "Master Water Recycling Permit" order No. 93-159. This permit was issued to the Dublin San Ramon Services District (DSRSD), the City of Livermore and Zone 7 and authorizes the production and distribution of recycled water. The SMP sets forth a plan to facilitate recycling without degrading local water quality. In addition, the SMP goals are to maintain or improve groundwater mineral quality and delivered water quality through the following:

- Providing a mechanism for mitigation of all salt loading associated with recycled water use;
- Offsetting the then-current (*original Salt Management policy adopted in 1999*) 2200 tons per year of salt loading plus approximately 200 tons per year projected annual increase;
- Maintaining or improve groundwater mineral quality;
- Maintaining or improve delivered water quality;
- Providing comparable delivered water quality to all retailers; and
- Minimizing total operational and maintenance costs through an adaptive management process.

Note: These numbers have changed since this resolution was passed in 1999. As of 2004, the salt load is approximately 5,000 tons per year plus approximately 50-100 tons per year projected annual increase.

Water Quality Policy for Potable and Non-Potable Water (Resolution No. 03-2494)

Goal 1: Zone 7 shall continue to meet all state and federal primary Maximum Contaminant Levels⁴ (MCLs) for potable water delivered to the M&I Contractors' turnouts, in accordance with existing water supply agreements.

⁴ 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.

Goal 2: Zone 7 shall meet all state and federal secondary MCLs⁴ in the potable water delivered to its M&I Contractors' turnouts. In addition, Zone 7 shall, within technical and fiscal constraints, proactively mitigate earthy-musty taste and odor events from surface water supplies and reduce hardness levels to "moderately hard", defined as 75 to 150 mg/L as CaCO₃. Also, Zone 7 shall optimize its treatment processes to minimize chlorinous odors by maintaining consistent disinfectant dosage and residual.

Goal 3: Zone 7 shall endeavor to deliver to its non-potable Contractor turnouts, from a variety of sources, water of a quality that meets the irrigation needs of its Contractors and does not negatively impact vegetation, crops, or soils.

Goal 4: In order to achieve Goals 1 through 3, Zone 7 shall continue to work to improve the quality of its source waters. This may be achieved through Zone 7's Salt Management Plan, which will maintain or improve the water quality in the groundwater basin, and through advocacy of improvements in the State Water Project, its facilities and their operations, which may improve the source water of Zone 7's surface water supplies. In addition, Zone 7 will encourage the retailers to take similar steps as those outlined in this policy to improve the quality of the retail customers' water.

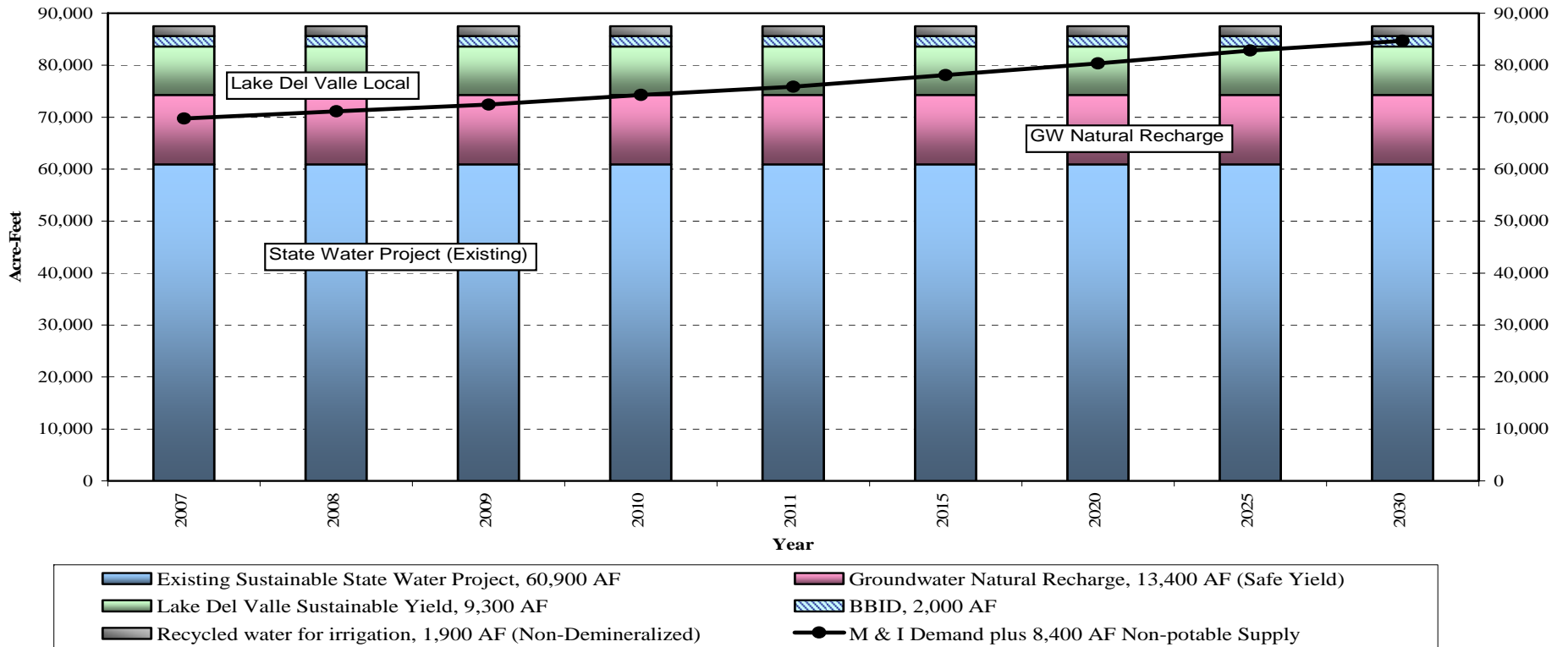
Policy Principles and Joint Resolution of the City Council of the City of Pleasanton, the Board of Directors of the Dublin San Ramon Services District and the Board of Directors of the Zone 7 Water Agency Regarding Water Quality (Resolution 06-2783).

This resolution establishes policy principles which will guide all three agencies in developing programs and operational guidelines relating to improving water quality. ***A copy of this resolution can be found in Appendix A.***

The following sections graphically identify the key projects that are required to meet their respective goals. In addition, a table is included which provides a brief breakdown of the projects proposed as a part of this Ten-Year Water System Plan.

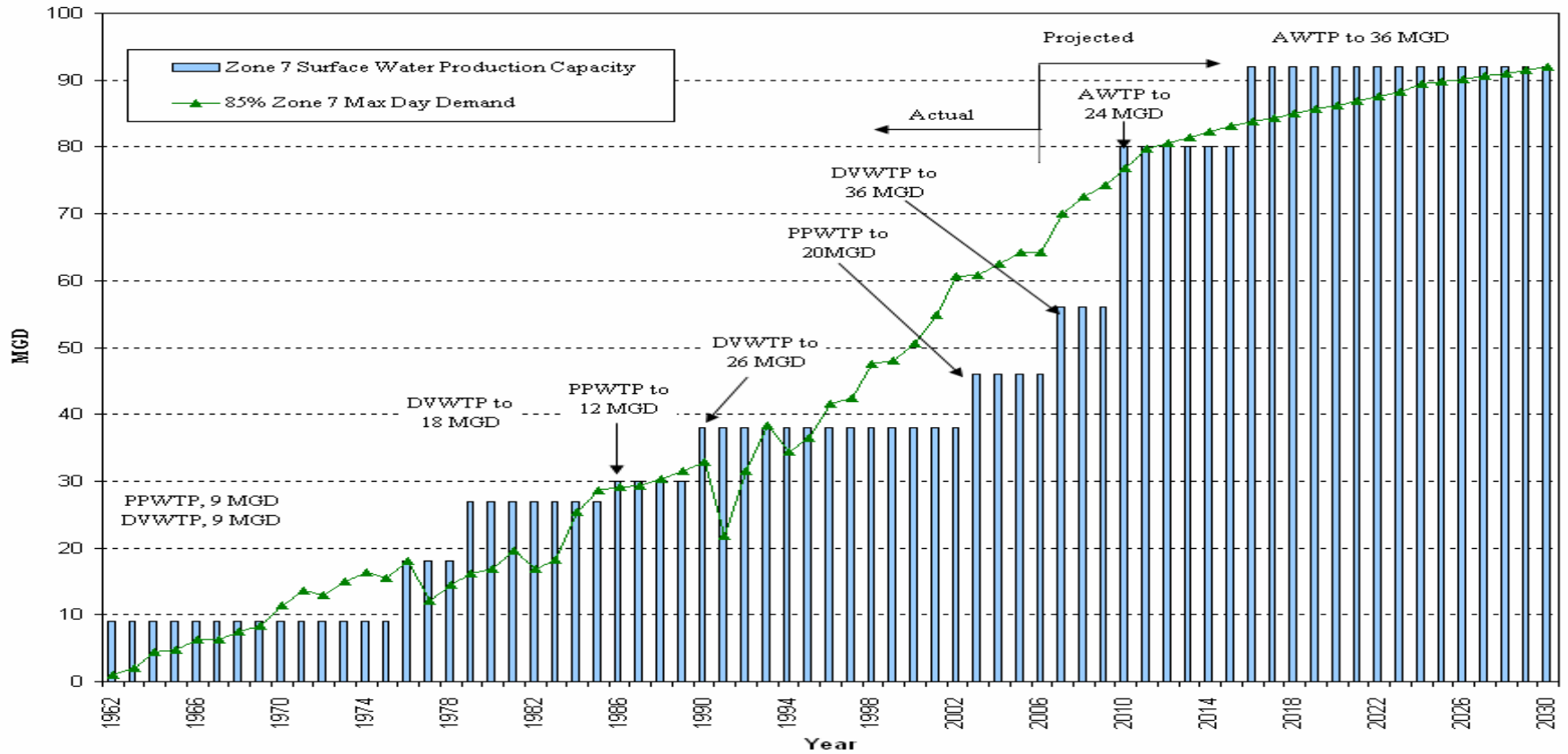
2.2.1 Water Supply for Future Customers – Normal Year Demands

Figure 5
Projected Livermore-Amador Valley Demand and Existing Sustainable Water Supply



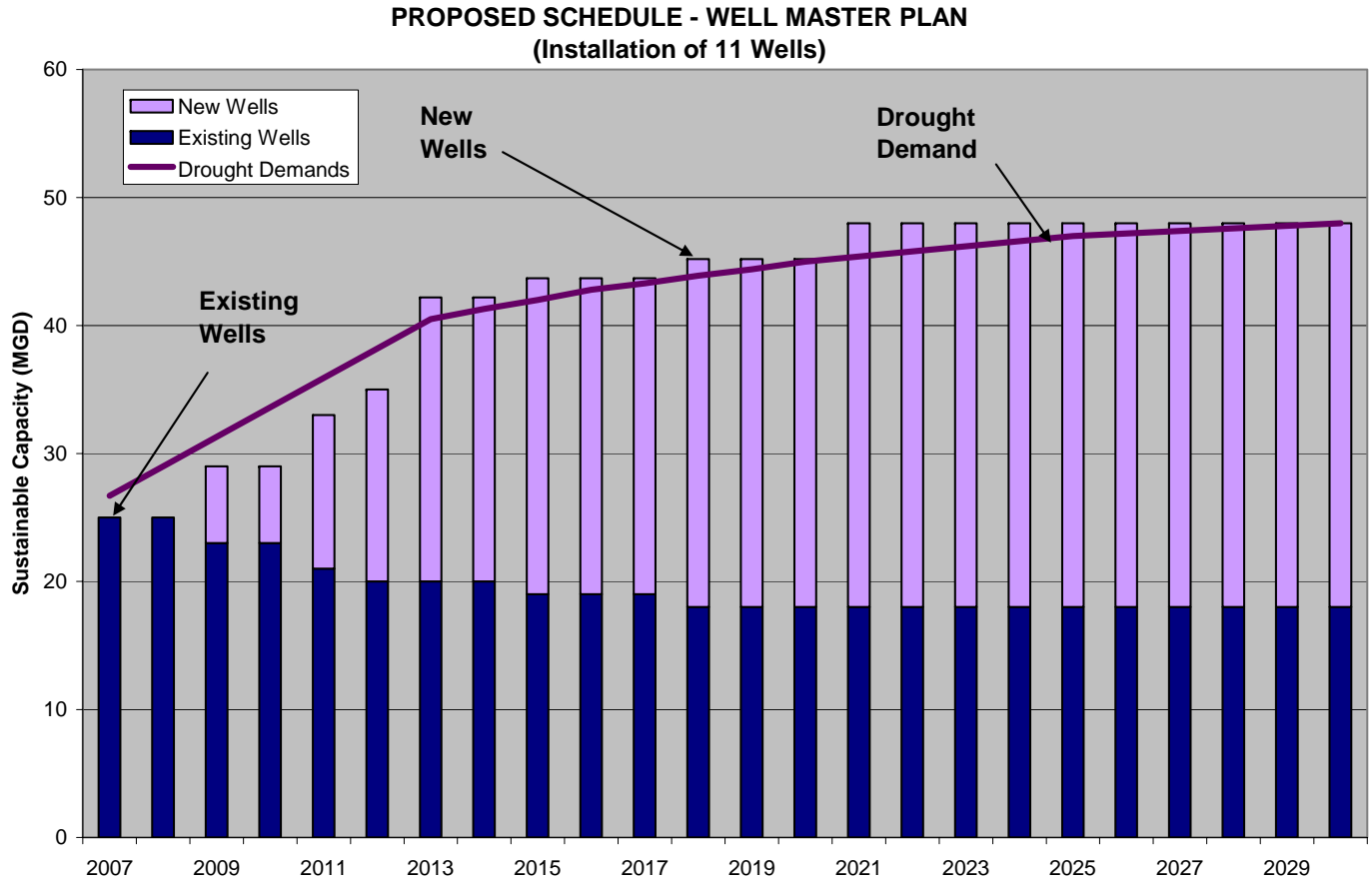
2.2.2 Treatment Plant Production Capacity - 85% of Zone 7 Max Day M&I Demand

Figure 6
Surface Water Production Capacity vs. 85% Zone 7 Max Day M&I Demand
1962 - 2030



2.2.3 System Reliability - Goal 1: Provide Drought Protection to Meet Zone 7's 100% Reliability Goal

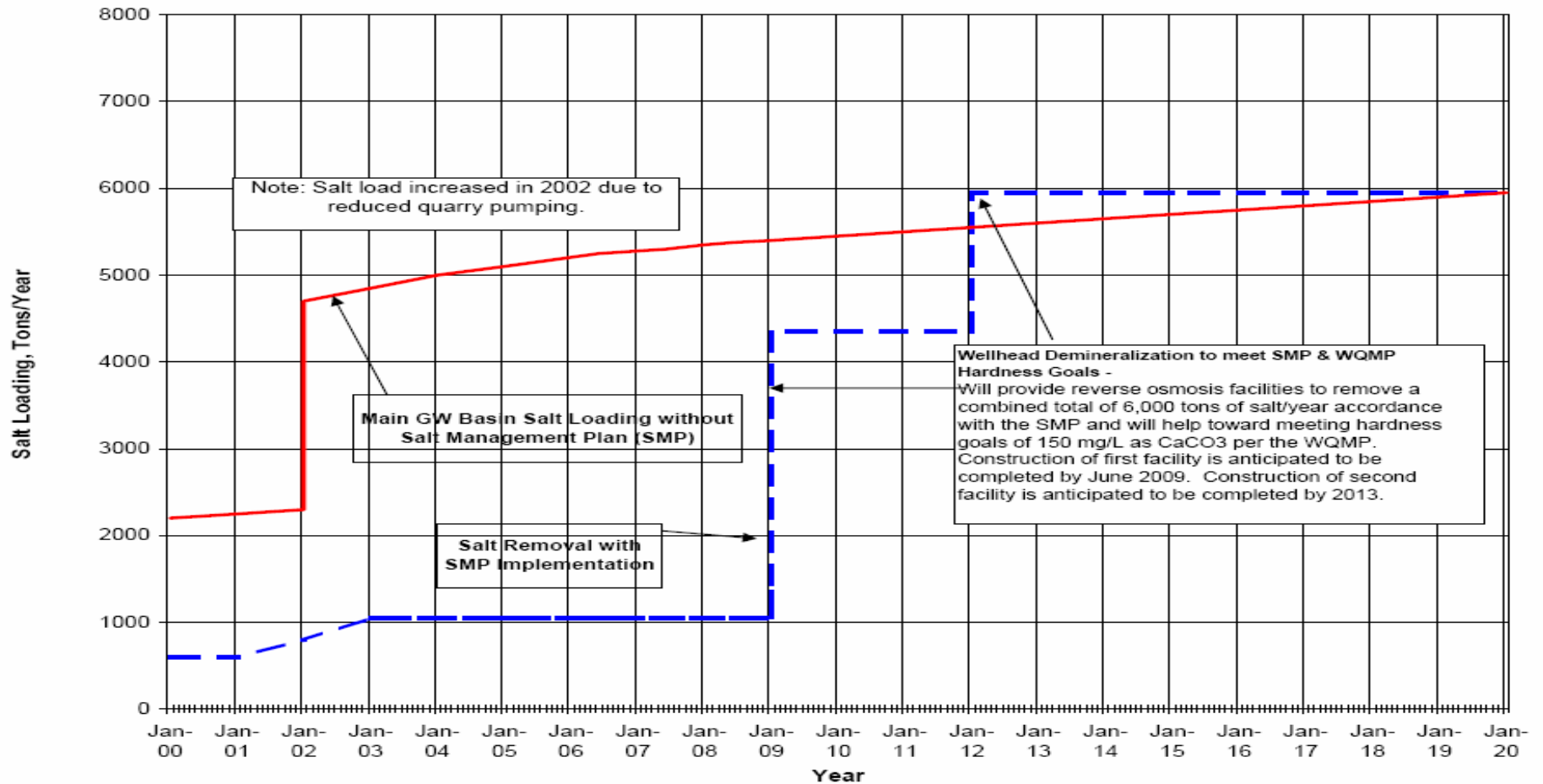
**Figure 7 - Zone 7 Well Capacity for Drought Protection
(2007-2030)**



revised: 08/14/07

2.2.4 Water Quality - Minimize degradation of the groundwater basin's water quality & improve the hardness in the delivered water quality.

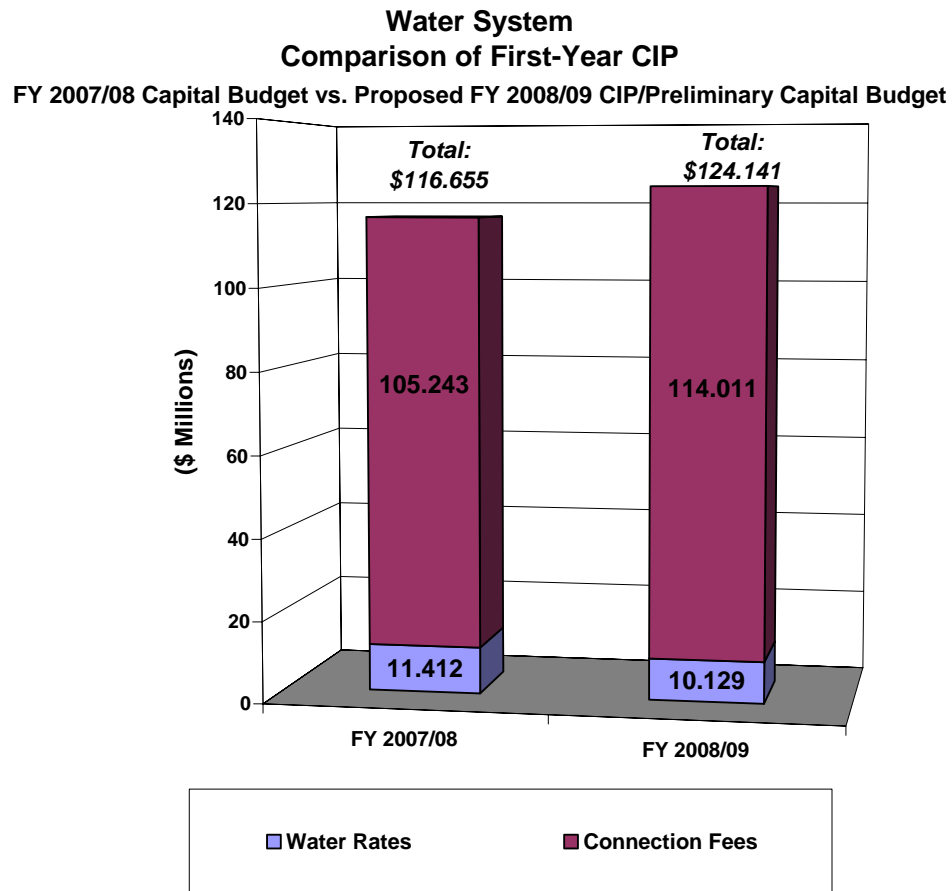
Figure 8 - Increased Groundwater Usage for TDS & Hardness Removal



2.3 Fiscal Year (FY) 2008/09

2.3.1 System Overview

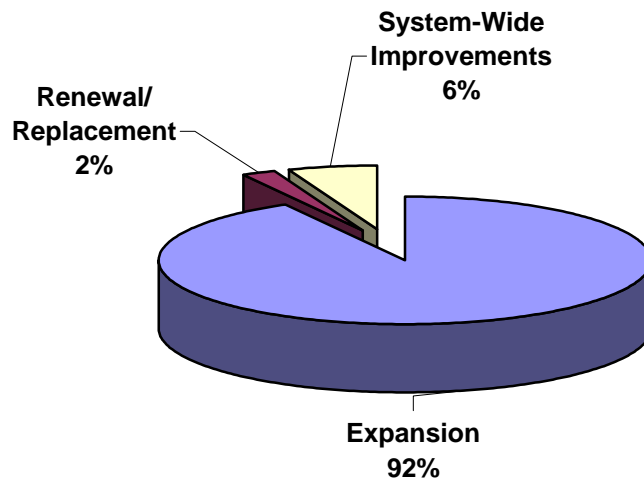
The first year of Zone 7's FY 2008/09 proposed CIP identifies projects funded as follows: \$10.129 million funded by Water Rates and \$114.011 million funded by Connection Fees for a total of \$124.141 million in project appropriations. This reflects an 11% decrease in Water Rate funded capital projects and an 8% increase in Connection Fee funded capital projects above the FY 2007/08 adopted Capital Budget which is \$116.655 million as compared to \$124.141 million in FY 2008/09, an overall increase of 6.4%. This comparison is used to show the difference between the current fiscal year's Capital Budget (FY 2007/08) and the first year of FY 2008/09 CIP which is also serves as the preliminary FY 2008/09 Capital Budget.



2.3.2 Strategy Summary

This section provides a discussion and fiscal breakdown for each Strategy and its related Programs. Some Programs are mentioned in more than one Strategy because their specific projects may benefit existing or future customers and possibly a combination of both. The following graph and table show a breakdown of the first year capital appropriations by Strategy for the first year of the Ten-Year CIP.

**Water System
FY 2008/09
Strategy Breakdown**



Note:

- Connection (development) Fees fund Expansion projects.
- Renewal/Replacement and System-Wide Improvement projects are funded by Water Rates.

Strategy	FY 2008/09 (\$Millions)	Percentage
Expansion	114.011	92%
Renewal/Replacement	2.813	2%
System-Wide Improvements	7.316	6%
Total	124.141	100%

Expansion Strategy

Cities within Zone 7's service area and Alameda County are responsible for overseeing and managing land use. General and Specific Plans prepared by these agencies identify future development which in turn increases the demand for additional untreated water supplies. On March 17, 1999 Zone 7 adopted the Financial Management Policy formalizing financial practices and directed the use of connection fees to pay for the expansion of the Water System.

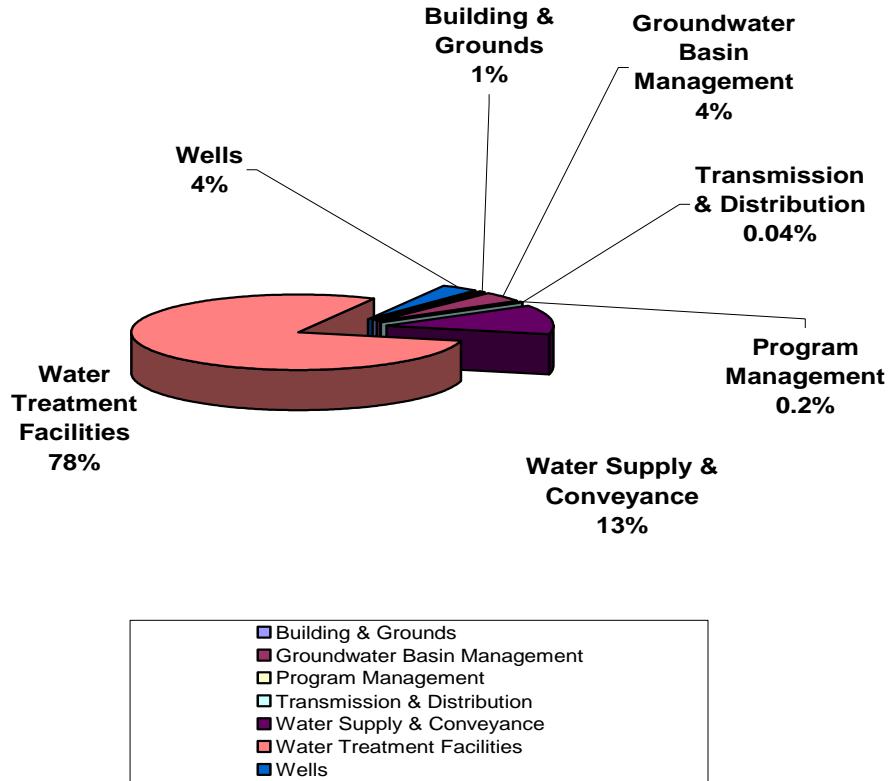
The specific projects that comprise the Expansion Strategy are listed below with respect to their associated programs. The first year appropriation requirement is \$114 million.

Expansion Strategy Breakdown (\$ Millions)

Programs	Appropriations FY 2008/09
Building & Grounds	
Administrative & Engineering Building Lease (Water System)	\$0.376
Administrative & Engineering Building - Sinking Fund (Water System)	\$0.275
Subtotal	\$0.650
Groundwater Basin Management	
Mocho Groundwater Demineralization Plant	\$4.692
Subtotal	\$4.692
Program Management	
Capital Improvement Program Management	\$0.107
Expansion Program Management	\$0.150
Subtotal	\$0.257
Transmission & Distribution	
Transmission System Master Planning	\$0.050
Subtotal	\$0.050
Water Supply & Conveyance	
Arroyo Mocho Low Flow Crossings	\$0.350
Arroyo Mocho/Lake H Diversion Structure	\$0.230
CAL-FED Project Proportional Local Share	\$0.090
Cawelo Groundwater Banking Program	\$1.295
Chain of Lakes Facilities and Improvements	\$1.250
Chain of Lakes Master Plan	\$1.250
CUWA Membership	\$0.110
Delta Conservation Plan	\$0.130
Delta Outreach Program	\$0.026
Fixed Cost of Water Entitlement	\$0.139
Future Contractor's Share of the SBA	\$0.726
Future Contractor's Share of the SBA - Sinking Fund	\$0.196
High-Efficiency Washing Machine Rebate Program	\$0.019
Semitropic Stored Water Recovery Unit	\$0.048
South Bay Aqueduct Improvement & Enlargement Project	\$6.702
South Bay Aqueduct Improvement & Enlargement Project - Sinking Fund	\$1.500
SWP Peaking Payment (Lost Hills & Belridge Water Districts)	\$0.270
Ultra Low Flush/High Efficiency Toilet Rebate Program	\$0.013
Water Conservation Best Management Practices	\$0.063
Subtotal	\$14.406
Water Treatment Facilities	
Altamont Water Treatment Plant Operational Training	\$0.200
Altamont Water Treatment Plant Phase 1 (24 MGD) & Altamont Pipeline	\$89.571
Water Quality Management Program	\$0.026
Subtotal	\$89.797
Wells	
Well Master Plan Wells	\$4.160
Subtotal	\$4.160
Total	\$114.011

A breakdown by program is shown below for FY 2008/09.

**Water System
Expansion Strategy
FY 2008/09**



Note: Connection (development) fees fund Expansion projects.

Program	FY 2008/09 (\$Millions)	Percentage
Building & Grounds	0.650	1%
Emergency Preparedness	0.000	0%
Groundwater Basin Management	4.692	4.11%
Program Management	0.257	0.23%
Transmission & Distribution	0.050	0%
Water Supply & Conveyance	14.406	13%
Water Treatment Facilities	89.797	79%
Wells	4.160	4%
Total	114.011	100%

Renewal/ Replacement Strategy

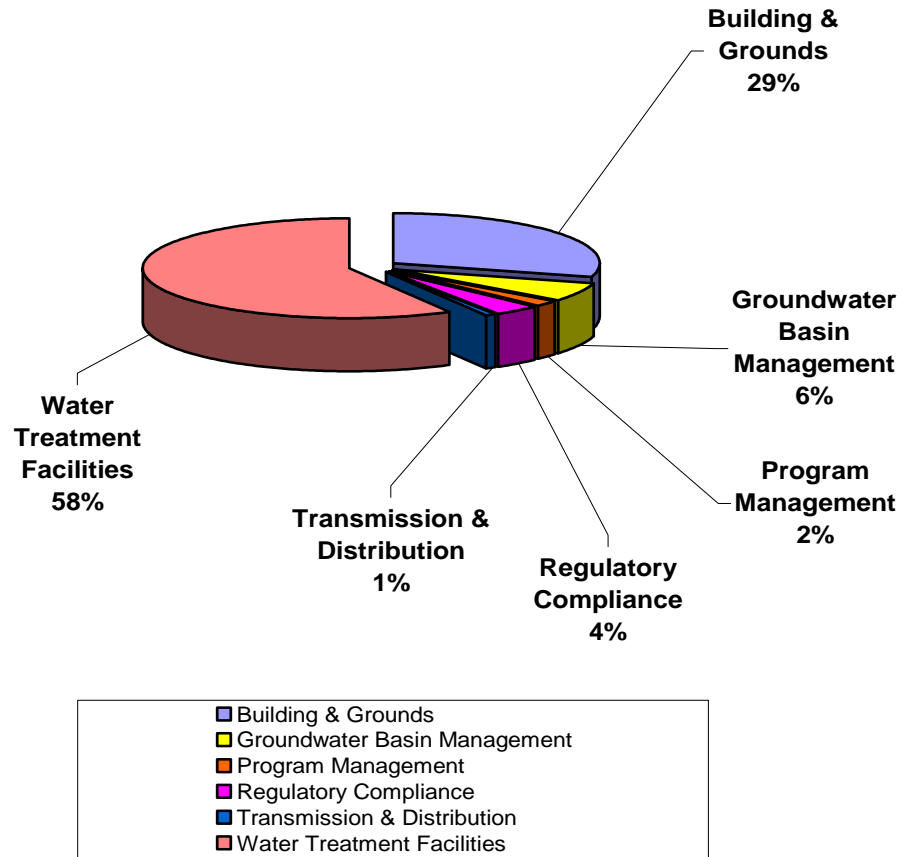
This Strategy was formally developed after the completion of a 1994 Brown and Caldwell Report, which identified the funds needed for the future renewal and replacement of Zone 7's Water System fixed assets.

The specific projects that comprise the Renewal/ Replacement Strategy are listed below with respect to their associated programs. The first year appropriation requirement is \$2.853 million. A breakdown by program for FY 2008/09 is shown on the below and on the following page.

Renewal/Replacement Strategy Breakdown (\$ Millions)

Programs	Appropriations FY 2008/09
Building & Grounds	
Administrative & Engineering Building - Sinking Fund (Water System)	\$0.349
Administrative & Engineering Building (Water System)	\$0.478
Subtotal	\$0.828
Groundwater Basin Management	
Monitoring Well Replacements	\$0.090
Stream Gage Replacement	\$0.120
Subtotal	\$0.210
Program Management	
Capital Improvement Program Management	\$0.036
System-Wide Improvement, Renewal/Replacement Program Management	\$0.025
Subtotal	\$0.061
Regulatory Compliance	
Laboratory Equipment Replacement	\$0.100
Subtotal	\$0.100
Transmission & Distribution	
Transmission System Master Planning	\$0.025
Subtotal	\$0.025
Water Treatment Facilities	
DWWTP Chemical Feed System Replacement	\$0.330
Minor Renewal/Replacement Projects	\$0.200
PPWTP Ultrafiltration Membrane Replacement	\$0.320
SCADA Enhancements	\$0.780
Subtotal	\$1.630
Total	\$2.853

**Water System
Renewal/Replacement Strategy
FY 2008/09**



Program	FY 2008/09 (\$Millions)	Percentage
Building & Grounds	0.828	29%
Groundwater Basin Management	0.170	6%
Program Management	0.061	2%
Regulatory Compliance	0.100	4%
Transmission & Distribution	0.025	1%
Water Treatment Facilities	1.630	58%
Total	2.813	100%

System-Wide Improvements Strategy

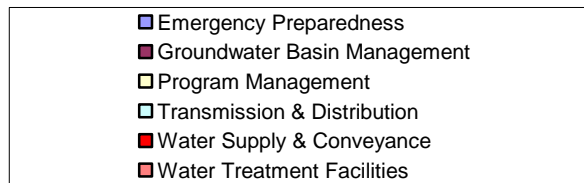
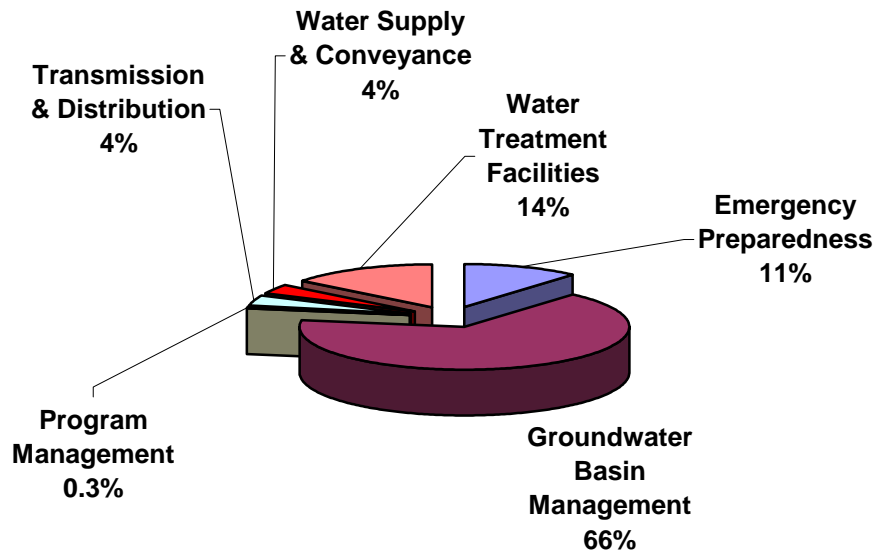
This Strategy addresses enhancements to existing facilities that will improve water quality, safety, reliability, operational flexibility, and efficiency and/or a decrease in costs.

The specific projects that comprise the System-Wide Improvement Strategy are listed below with respect to their associated programs. The first year appropriation requirement is \$7.316 million. A breakdown by program for FY 2008/09 is below and on the following page.

System-Wide Improvements Strategy Breakdown (\$ Millions)

Programs	Appropriations FY 2008/09
Emergency Preparedness	
Security Improvements at Existing Facilities	\$0.835
Subtotal	\$0.835
Groundwater Basin Management	
Mocho Groundwater Demineralization Plant	\$4.692
New Monitoring Wells	\$0.150
Subtotal	\$4.842
Program Management	
System-Wide Improvement, Renewal/Replacement Program Management	\$0.025
Subtotal	\$0.025
Transmission & Distribution	
Corrosion Master Plan	\$0.210
System-Wide Installation of Line Valves	\$0.050
Transmission System Master Planning	\$0.025
Subtotal	\$0.285
Water Supply & Conveyance	
High-Efficiency Washing Machine Rebate Program	\$0.056
Ultra Low Flush/High Efficiency Toilet Rebate Program	\$0.038
Water Conservation Best Management Practices	\$0.188
Subtotal	\$0.281
Water Treatment Facilities	
DVWTP Caustic Soda Chemical Storage Upgrade	\$0.510
DVWTP Recovery Ponds Solids Extraction System	\$0.100
PPWTP UF HVAC Improvements	\$0.070
PPWTP UF Work Facility Addition	\$0.090
Water Quality - DVWTP Taste and Odor Treatment	\$0.100
Water Quality - PPWTP Taste and Odor Treatment	\$0.100
Water Quality Management Program	\$0.078
Subtotal	\$1.048
Total	\$7.316

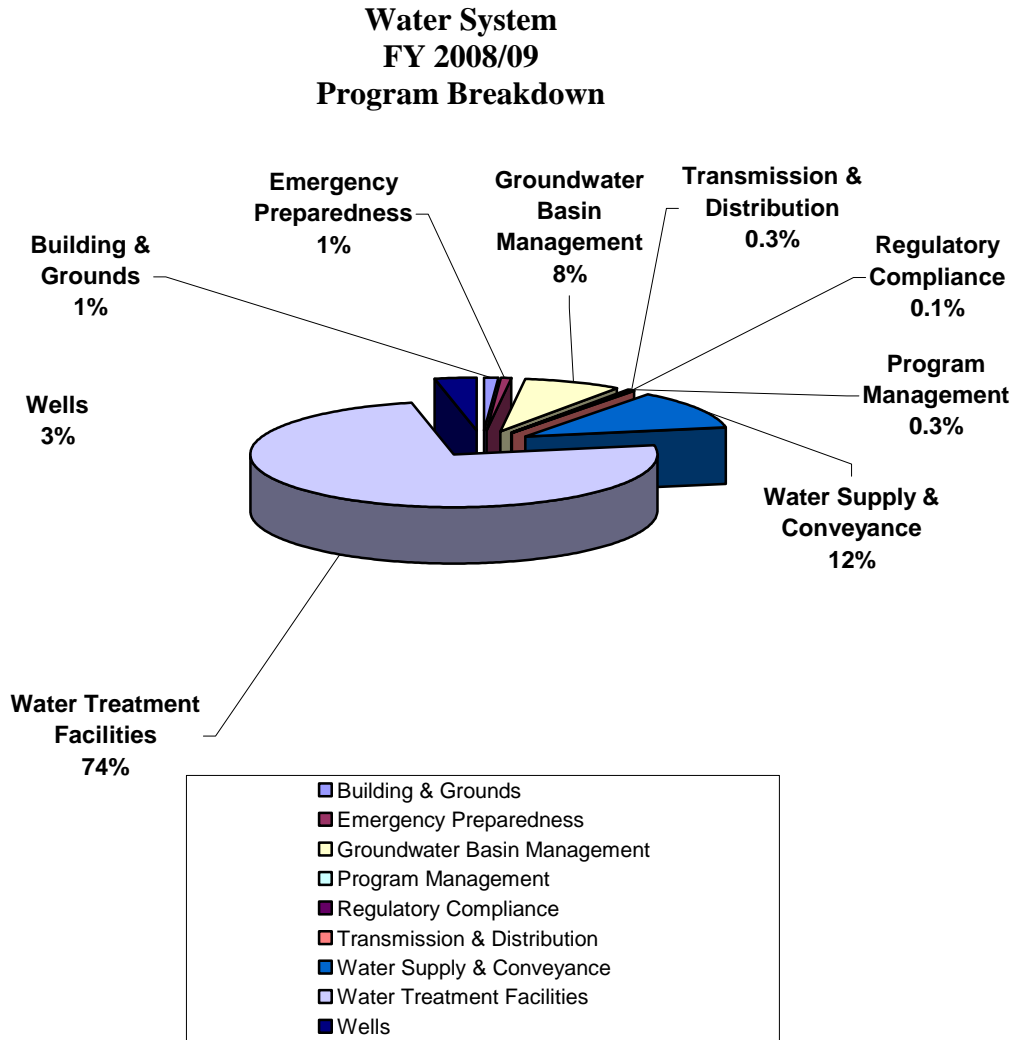
**Water System
System-Wide Improvements Strategy
FY 2008/09**



Program	FY 2008/09 (\$Millions)	Percentage
Emergency Preparedness	0.835	11%
Groundwater Basin Management	4.842	66%
Program Management	0.025	0.3%
Transmission & Distribution	0.285	4%
Water Supply & Conveyance	0.281	4%
Water Treatment Facilities	1.048	14%
Total	7.316	100%

2.3.3 Program Summary

This section provides a discussion and fiscal breakdown for each Program and its related projects regardless of Strategy. The following charts and tables identify the individual programs for the first year of the CIP (FY 2008/09).



Program	FY 2008/09 (\$Millions)	Percentage
Building & Grounds	1.478	1%
Emergency Preparedness	0.835	1%
Groundwater Basin Management	9.703	8%
Program Management	0.343	0.3%
Regulatory Compliance	0.100	0.1%
Transmission & Distribution	0.360	0.3%
Water Supply & Conveyance	14.687	12%
Water Treatment Facilities	92.475	74%
Wells	4.160	3%
Total	124.141	100%

Buildings & Grounds Program

This program addresses structures and support facilities not directly involved in the supply, treatment, transmission or storage of water. This program represents 1% of the FY 2008/09 appropriations. Details of the projects listed are available in Section 2.6.

Programs	Appropriations FY 2008/09
Building & Grounds	
Administrative & Engineering Building Lease (Water System)	\$0.854
Administrative & Engineering Building - Sinking Fund (Water)	\$0.624
Total	\$1.478

Water Rates and Connection Fees will fund the \$1.478 million shown at 45% and 35% respectively. An additional 20% is funded by the Flood Protection System (property taxes and drainage fees).

Emergency Preparedness Program

This program addresses Zone 7's goals and desired capability for emergency response. This program represents less than 1% of the FY 2008/09 appropriations. Details of this project listed are available in Section 2.6.

Programs	Appropriations FY 2008/09
Emergency Preparedness	
Security Improvements at Existing Facilities	\$0.835
Total	\$0.835

Groundwater Basin Management Program

This program focuses on Zone 7's responsibility to manage the local groundwater basin, which includes reducing the impact of total dissolved solids and producing high quality water to customers. This program represents 8% of the FY 2008/09 appropriations. Details of the projects listed are available in Section 2.6.

Programs	Appropriations FY 2008/09
Groundwater Basin Management	
Mocho Groundwater Demineralization Plant	\$9.383
Monitoring Well Replacements	\$0.050
New Monitoring Wells	\$0.150
Stream Gage Replacement	\$0.120
Total	\$9.703

Program Management

This program is designed to account for staff time and related costs associated with managing capital programs. This program represents less than 1% of the FY 2008/09 appropriations. Details of the projects listed are available in Section 2.6.

Programs	Appropriations FY 2008/09
Program Management	
Capital Improvement Program Management	\$0.143
Expansion Program Management	\$0.150
System-Wide Improvement, Renewal/Replacement Program	\$0.050
Total	\$0.343

Regulatory Compliance Program

This program ensures compliance with a range of new as well as existing regulatory and permit requirements (e.g., major projects associated with Risk Management Prevention Planning, and Process Safety Planning). This program represents less than 1% of the FY 2008/09 appropriations. Details of projects listed are available in Section 2.6.

Programs	Appropriations FY 2008/09
Regulatory Compliance	
Laboratory Equipment Replacement	\$0.100
Total	\$0.100

Transmission & Distribution Program

This program consists of projects that are required to convey and distribute treated water to Zone 7 retailers. This program represents less than 1% of the FY 2008/09 appropriations. Details of the projects listed are available in Section 2.6.

Programs	Appropriations FY 2008/09
Transmission & Distribution	
Corrosion Master Plan	\$0.210
System-Wide Installation of Line Valves	\$0.050
Transmission System Master Planning	\$0.100
Total	\$0.360

Water Supply & Conveyance Program

This program focuses on the planning and purchase of new water supplies, and implementation of improvements required to convey the raw water to Zone 7 agricultural customers and treatment facilities. This program represents 12% of the FY 2008/09 appropriations. Details of the projects listed are available in Section 2.6.

Programs	Appropriations FY 2008/09
Water Supply & Conveyance	
Arroyo Mocho Low Flow Crossings	\$0.350
Arroyo Mocho/Lake H Diversion Structure	\$0.230
CAL-FED Project Proportional Local Share	\$0.090
Cawelo Groundwater Banking Program	\$1.295
Chain of Lakes Facilities and Improvements	\$1.250
Chain of Lakes Master Plan	\$1.250
CUWA Membership	\$0.110
Delta Conservation Plan	\$0.130
Delta Outreach Program	\$0.026
Fixed Cost of Water Entitlement	\$0.139
Future Contractor's Share of the SBA	\$0.726
Future Contractor's Share of the SBA - Sinking Fund	\$0.196
High-Efficiency Washing Machine Rebate Program	\$0.075
Semitropic Stored Water Recovery Unit	\$0.048
South Bay Aqueduct Improvement & Enlargement Project	\$6.702
South Bay Aqueduct Improvement & Enlargement Project - Sinking	\$1.500
SWP Peaking Payment (Lost Hills & Belridge Water Districts)	\$0.270
Ultra Low Flush/High Efficiency Toilet Rebate Program	\$0.050
Water Conservation Best Management Practices	\$0.250
Total	\$14.687

Water Treatment Facilities Program

This program addresses the existing and proposed facilities used in the treatment of raw water from the South Bay Aqueduct for distribution to Zone 7's retailers. This program represents 74% of the FY 2008/09 appropriations. Details of the projects listed are available in Section 2.6.

Programs	Appropriations FY 2008/09
Water Treatment Facilities	
Altamont Water Treatment Plant Operational Training	\$0.200
Altamont Water Treatment Plant Phase 1 (24 MGD) & Altamont	\$89.571
DVWTP Caustic Soda Chemical Storage Upgrade	\$0.510
DVWTP Chemical Feed System Replacement	\$0.330
DVWTP Recovery Ponds Solids Extraction System	\$0.100
Minor Renewal/Replacement Projects	\$0.200
PPWTP UF HVAC Improvements	\$0.070
PPWTP UF Work Facility Addition	\$0.090
PPWTP Ultrafiltration Membrane Replacement	\$0.320
SCADA Enhancements	\$0.780
Water Quality - DVWTP Taste and Odor Treatment	\$0.100
Water Quality - PPWTP Taste and Odor Treatment	\$0.100
Water Quality Management Program	\$0.104
Total	\$92.475

Wells Program

This program identifies the facilities required to reliably maintain the production of raw and treated water during peak demands, planned and unplanned outage of treatment plants, optimize conjunctive use and facilitate groundwater basin management. This program represents 3% of the FY 2008/09 appropriations. Details of the projects listed are available in Section 2.6.

Programs	Appropriations FY 2008/09
Wells	
Well Master Plan Wells	\$4.160
Total	\$4.160

2.4 Ten-Year CIP Summary (FY 2008/09 – FY 2017/18)

2.4.1 System Overview

Both the latest Asset Management Program and Development Impact Fee reports provide input into the Ten-Year CIP for the Renewal/Replacement of existing facilities, System-Wide Improvements, and new capital facilities required to meet growth demands. The planned FY 2008/09 Ten-Year CIP appropriations total \$565.187 million. The FY 2008/09 Ten-Year CIP appropriations have increased by approximately 34% since the FY 2007/08 Ten-Year CIP, which had a ten-year appropriation of \$433.933. This difference is due to increased project costs, timing of expenditures and inflation. A summary of major changes since the FY 2007/08 Ten-Year CIP are summarized below.

- An increase in the cost estimate for the Well Master Plan project. This project involves the planning, design and construction of 11 municipal wells within the Zone 7 service area which are required to maintain sufficient well capacity to meet 100% of Zone 7's Municipal and Industrial (M&I) drought reliability goal through build-out. Several changes have occurred since the FY 2007/08 CIP in terms of cost, scheduling and project scope. The project cost has increased from approximately \$40 million to about \$82.5 million (2007 dollars) or \$98 million adjusted for inflation. The following factors have contributed to the cost increase:
 - Originally it was anticipated that 7-8 wells would meet the Zone 7 drought reliability goal but due to the lower than anticipated yields found in the Chain of Lakes and Gravel Pits wellfields, the estimate has been revised to 11 new wells needed to meet the same goal.
 - In the Chain of Lakes area, the addition of approximately 3,000 feet of 36-inch pipeline to complete a looped system between the Vineyard and Cross Valley Pipelines, and about 6,000 feet more 18 to 24-inch pipe to facilitate a single centralized well water treatment facility for the Chain of Lakes wellfield design. The original Chain of Lakes wellfield design concept included shorter 18-inch pipeline runs to multiple satellite well water treatment facilities.
 - Additional factors include changes in the distribution system to accommodate the new wells, higher-than-anticipated prices on monitoring and test well bids as well as increased cost estimates for production wells and well facilities, site work, pipeline estimates and design fees.
- To accommodate the increased cost estimate of the Well Master Plan project, the Delta Water Storage Program has been deferred to FY 2013/14 due to near-term funding challenges.
- For planning purposes and to accurately account for the capital project inflation estimates, project appropriations have been adjusted by an inflation factor of 4% annually. In some cases, project appropriations such as lease payments and water supply and conveyance projects that are financed through other entities (e.g., Cawelo Groundwater Banking

Program, South Bay Aqueduct Improvement and Enlargement Project) already have an interest component and have not been further adjusted by 4% inflation. For comparative purposes, total project costs are shown with and without inflation in the project summary reports (Section 2.6.3. of Chapter 2), as applicable. Note: This change has significant impact as staff has previously included inflation adjustments in financial planning models. The most important change is that the inflation adjustments are explicit rather than embedded in the financial planning model.

- Rather than appropriating \$200K biennially for laboratory equipment replacement, \$100K will be appropriated annually. This budgeting adjustment will provide consistency in funding and coverage for unforeseen equipment failures.
- PPWTP Sludge Handling Improvements project has been appropriately shifted from Fund 73 to Fund 72 – RR/SWI and is being deferred three years due to inadequate short-term capital funding. In the interim, rental equipment will continue to process sludge at PPWTP.
- The Recycled Water Storage Program has been removed from the Ten-Year CIP, pending identification of a possible future project compatible with the future Chain of Lakes Master Plan.
- The total project cost of the South Bay Aqueduct Improvement and Enlargement project has increased from \$172 million (or \$99 M in 2007 dollars) to \$230 million (or \$132 M in 2007 dollars) due to project delays and permitting issues. This project is debt-financed through the Department of Water Resources whereby Zone 7 makes annual payments until FY 2035/36 to cover its share of the improvements and enlargement.
- Increased engineering estimate for the Altamont Water Treatment Plant and Pipeline Project from \$160 million to \$195 million due to increased cost estimates for electrical, instrumentation and control infrastructure as well as added infrastructure costs as a result of site constraints (i.e. site accessibility during construction, costs for campus style set up to meet aesthetic requirements). Construction on the Altamont Pipeline and Altamont Treatment Plant are planned to commence in 2008. The treatment plant is intended to be operational in Summer 2010.
- Altamont Water Treatment Plant, “Phase 1A”, totaling \$6.4 million has been added to the Expansion Fund. This project involves increasing clearwell storage and emergency generator capacity to increase reliability. Also, an Altamont Water Treatment Plant Membrane Module project has been added in anticipation of the periodic need to replace membrane modules.
- The addition of two new emergency preparedness projects. These are Upgrade PPTWP Emergency and Safety Services Building and Vulnerability Assessment Review & Update totaling \$300,000. Also, the Security Improvements at Existing Facilities project has been added. This project involves security improvements to Zone 7’s water facilities (water treatment plants, wells and pump stations) including the addition of security cameras, intrusion alarms, and motion detectors. Planning and design of this project began in FY 2006/07 and construction will take place during FY 2007/08 and FY 2008/09.

Update of Major Projects

Mocho Groundwater Demineralization Plant

The Mocho Groundwater Demineralization Plant will be constructed on the vacant portion of the Mocho Well No. 4 site on the northwest corner of Santa Rita Road and Stoneridge Drive in Pleasanton. The new plant will use reverse osmosis (RO) membrane technology to treat up to 7.7 MGD of groundwater pumped from Zone 7's existing Mocho wells to produce 6.1 mgd of demineralized water. In April 2007, three construction bids were received for the Mocho Groundwater Demineralization Facility. The construction contract was awarded to GSE Construction in the amount of \$23.9 million. Construction of the facility will begin in July 2007 and will be completed in June 2009. In addition, the \$36 million estimated cost of this project will be partially offset by an estimated \$730,000 in Proposition 50 grant funding awarded to Zone 7 for this project.

DVWTP Dissolved Air Flotation (DAF) Facility

The new Dissolved Air Flotation (DAF) Facility is located at the Del Valle Water Treatment Plant (DVWTP), and will provide an additional 10 MGD to firm plant capacity of 36 MGD and year-round, reliable clarification by operating in parallel with the existing superpulsator clarifiers. Achieving these objectives will be particularly critical as system-wide demand continues to grow over the next decade. Furthermore, maximizing treatment plant capacity is important to maintaining and improving delivered water quality to Zone 7 customers. In August 2005, the Zone 7 Board awarded the construction contract for the DAF Project to RGW Construction, Inc. for \$9,095,000. Construction commenced in Fall 2005 with substantial completion in Spring 2007. As of July 2007, the startup and testing phase is in progress, and the facility is anticipated to be in service September 2007.

Well Master Plan Wells

The Well Master Plan (WMP) project involves the construction of up to eleven municipal water supply wells over the next 15 years to meet Zone 7's potable water drought reliability goal. As an additional benefit, these wells will provide Zone 7 with an improved ability to manage groundwater levels, groundwater flow, dissolved salt build-up/removal, delivered water quality blending, and peak-day demands. The WMP was completed by CH2M Hill in 2003, and an Environmental Impact Report (EIR) was certified by the Zone 7 Board in August 2005. Since then, several test wells have been installed in and around the Chain of Lakes area resulting in the identification of five potential new well locations. In 2006, ECO:LOGIC was contracted by Zone 7 to further develop the project concepts and complete the project design(s). Progress is being made on all fronts, including property acquisition. The preliminary schedule depicts a completion date for the first two wells by summer 2009.

South Bay Aqueduct Improvement and Enlargement

The South Bay Aqueduct (SBA) Improvement and Enlargement Project will provide an additional 130 cubic feet per second (cfs) or approximately 84 million gallons per day (MGD) of conveyance capacity in the SBA for Zone 7, meeting Zone 7's long-term raw water conveyance capacity requirements as delineated in the Water Conveyance Study (2001). In addition, as part of the overall project, a 425 acre-foot or 138 million gallon (active storage) raw water reservoir (Dyer Reservoir) will be constructed, which will add increased reliability to Zone 7 during periods when the SBA is shut down for short periods of time, and will allow for more energy

efficient operations through time-of-use pumping, it will also provide water treatment benefits at Zone 7's future Altamont Water Treatment Plant by minimizing fluctuations in influent water quality. This project is estimated to cost approximately \$230 (sum of payments to DWR through FY 2035/36) million and be completed in late 2009. Between the "Enlargement" portion of the project, which is 100% for Zone 7, and the "Improvement" portion, which benefits Zone 7, Alameda County Water District and Santa Clara Valley Water District, Zone 7's total proportion of the project costs is roughly 75%.

As of July 2007, construction has started on the "South Bay Pumping Plant – Initial" construction contract and the "Discharge Line & Brushy Creek Pipeline No. 3" construction contract. The other three major construction contracts ("South Bay Pumping Plant – Completion", "Dyer Reservoir" and "Canal Modifications") are expected to be advertised later in Summer 2007. The actual dates of advertisement will be dependent upon receiving final environmental clearance, which is expected to be in time for Summer 2007 advertisement.

Altamont Water Treatment Plant and Pipeline Project

The Altamont Water Treatment Plant (AWTP) will be constructed on a 31-acre parcel located off Dyer Road, approximately 1.5 miles north of the Dyer Road-Altamont Pass Road intersection. This is an expansion project in order to have adequate treated water supply for current and future Zone 7 customers. The first phase of AWTP will have a capacity of 24 million gallons per day (MGD) of treated water with a second phase adding an additional 12-16 MGD. The project includes a raw water pump station conveying water from the South Bay Aqueduct and/or the future Dyer Reservoir to AWTP. The primary treatment processes at AWTP will be an immersed ultrafiltration membrane system with ozone and/or chloramine disinfection and a biologically activated carbon system.

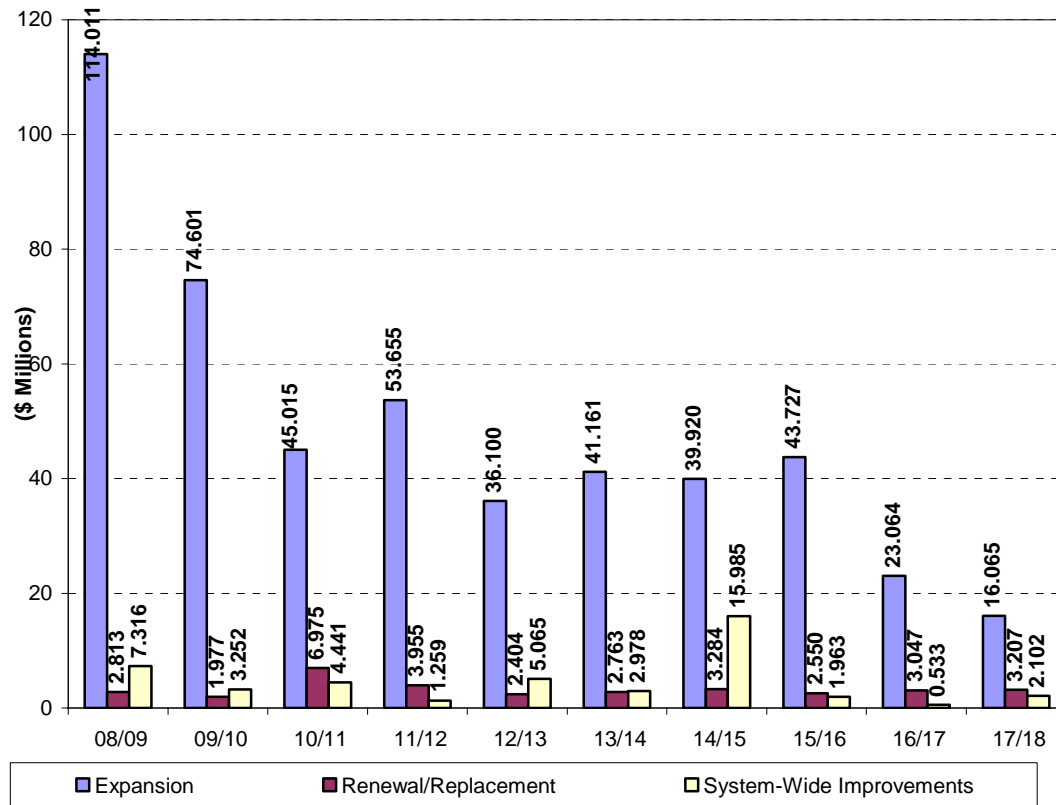
The anticipated AWTP construction cost is \$99 million. This includes the treatment process components, sludge handling facilities, offices, chemical storage facilities, standby power facilities, the off-site raw water pump station, approximately 6,500 feet of 48-inch diameter raw water and treated water pipeline, and the reconstruction of approximately 1 mile of Dyer road. Due to the extended duration for design, environmental compliance, permitting, and property acquisition, actual AWTP construction is not anticipated to start until the Spring of 2008. This is mainly due to environmental permit restrictions in the winter time. Once the construction starts, environmental mitigation measures will be in place so that work can be performed in the winter season. While actual construction would start in the Spring of 2008, Zone 7 will be trying to award the contract in the Winter of 2008 to take advantage of the construction submittals process. Therefore, with this current plan, it is anticipated that the AWTP construction will be completed in June 2010.

The Altamont Pipeline (APL) will begin at the proposed AWTP site off Dyer Road, north of Livermore, and connect to Zone 7's existing 36-inch diameter Cross Valley Pipeline near Kittyhawk Road and I-580, in Livermore. There will also be a connection to Zone 7's 18-inch diameter Vasco Pipeline located near Vasco Road, in Livermore. This pipeline is approximately twelve miles in length and 48 to 42-inches in diameter. The anticipated construction cost is \$50 million. Assuming encroachment permits are obtained, the APL Project may include enough work outside of the outstanding environmental issue areas that it may be advertised in October

2007. Therefore, projecting an actual start construction date in the January 2008, it is anticipated that the APL construction will be completed in December 2009. The APL project is scheduled for earlier completion to take advantage of its use for startup and testing of the Altamont Water Treatment Plant.

The following charts and tables present the planned annual appropriations for the Ten-Year CIP by Strategy and Program.

**Water System
FY 2008/09 Ten-Year Capital Improvement Program
Planned Appropriations by Strategy
(\$ Millions)**

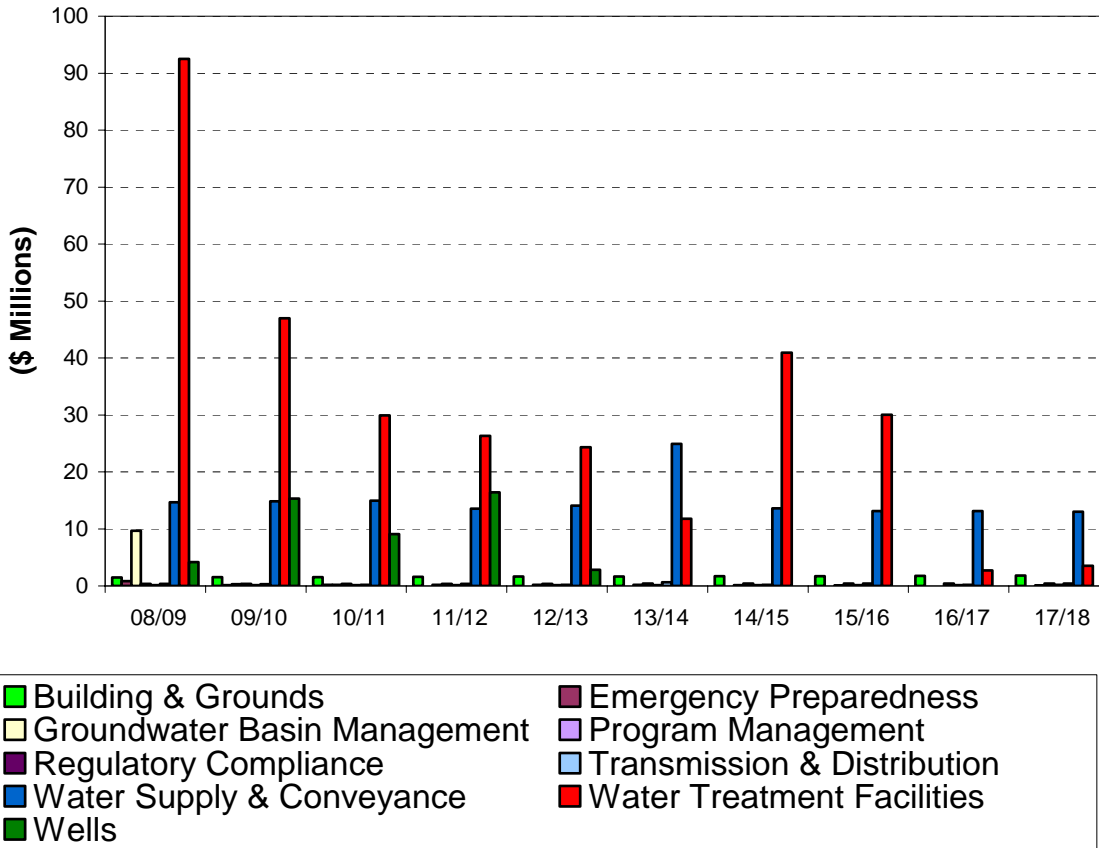


Note:

- Connection (development) Fees fund Expansion projects.
- Renewal/Replacement and System-Wide Improvement projects are funded by Water Rates.

Strategy (FY)	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	Total
Expansion	114.011	74.601	45.015	53.655	36.100	41.161	39.920	43.727	23.064	16.065	487.319
Renewal/Replacement	2.813	1.977	6.975	3.955	2.404	2.763	3.284	2.550	3.047	3.207	32.975
System-Wide Improvements	7.316	3.252	4.441	1.259	5.065	2.978	15.985	1.963	0.533	2.102	44.892
Total	124.141	79.830	56.432	58.870	43.570	46.901	59.189	48.239	26.643	21.374	565.187

**Water System
FY 2008/09 Ten-Year Capital Improvement Program
Planned Appropriation by Program
(\$ Millions)**

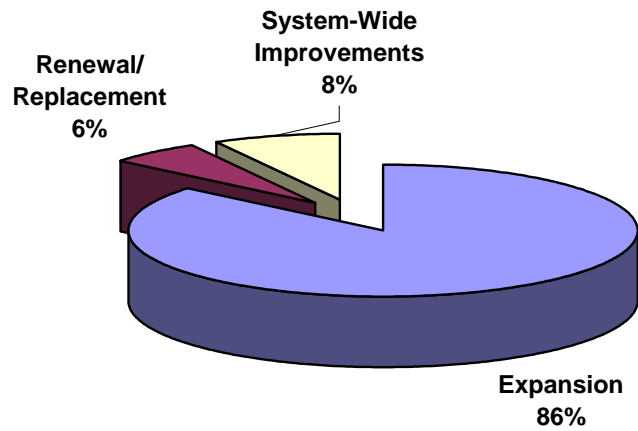


Program (FY)	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	Total
Building & Grounds	1.478	1.511	1.544	1.580	1.614	1.649	1.687	1.724	1.763	1.800	16.350
Emergency Preparedness	0.835	0.133	0.200	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.168
Groundwater Basin Management	9.703	0.310	0.150	0.200	0.160	0.200	0.130	0.060	0.000	0.060	10.973
Program Management	0.343	0.343	0.343	0.343	0.343	0.387	0.387	0.387	0.387	0.387	3.648
Regulatory Compliance	0.100	0.110	0.110	0.120	0.120	0.130	0.130	0.140	0.140	0.150	1.250
Transmission & Distribution	0.360	0.320	0.150	0.330	0.160	0.625	0.195	0.395	0.195	0.425	3.155
Water Supply & Conveyance	14.687	14.833	14.960	13.531	14.058	24.930	13.630	13.118	13.118	13.032	149.897
Water Treatment Facilities	92.475	46.990	29.895	26.316	24.315	11.800	40.930	30.025	2.670	3.520	308.936
Wells	4.160	15.280	9.080	16.450	2.800	7.180	2.100	2.390	8.370	2.000	69.810
Total	124.141	79.830	56.432	58.870	43.570	46.901	59.189	48.239	26.643	21.374	565.187

2.4.2 Strategy Summary

This section provides a discussion and fiscal breakdown for each Strategy and its related Programs. Some Programs are mentioned in more than one Strategy because their specific projects may benefit existing or future customers and possibly a combination of both. The following graphs show a breakdown of the FY 2008/09 Ten-Year CIP by Strategy and Program.

**Water System
FY 2008/09 Ten-Year Total
Strategy Breakdown**



Note:

- Connection (development) Fees fund Expansion projects.
- Renewal/Replacement and System-Wide Improvement projects are funded by Water Rates.

Strategy	Ten-Year Total (\$ Millions)	Percentage
Expansion	487.319	86%
Renewal/Replacement	32.975	6%
System-Wide Improvements	44.892	8%
Total	565.187	100%

Expansion Strategy

The specific projects that comprise the Expansion Strategy are described in the following sections and pages with respect to their associated programs. The ten-year total for this strategy is \$487 million, which is 86% of the \$565 million total estimated expenditures planned in this ten-year CIP. A breakdown by program for the ten-year plan is shown on the following pages.

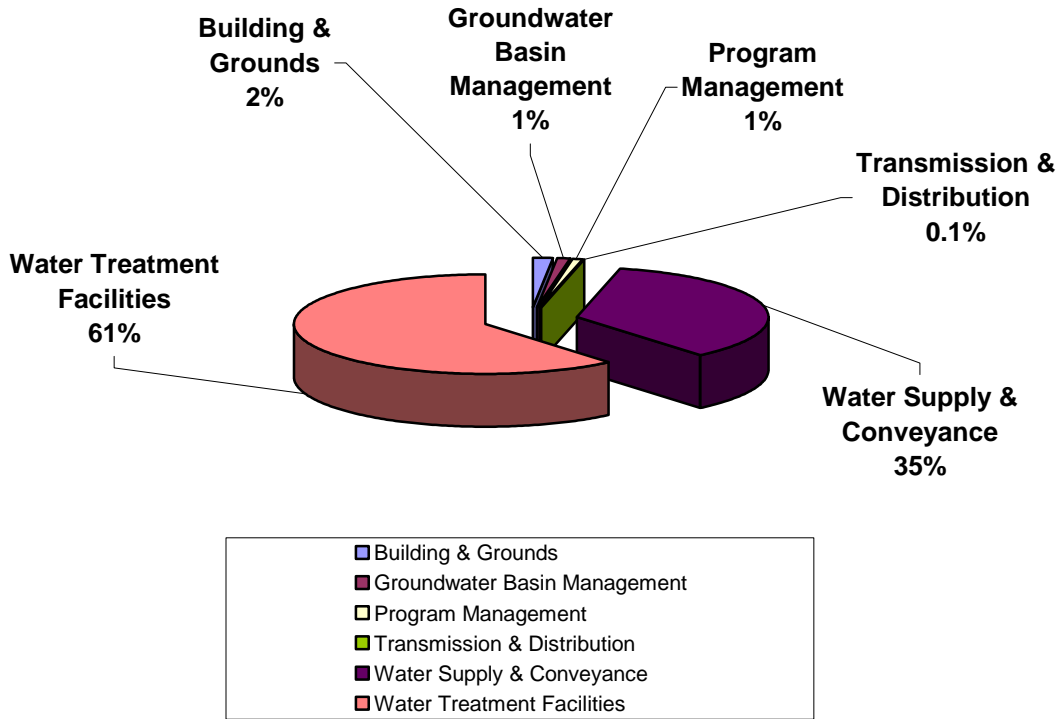
Expansion Strategy Breakdown

Programs	Appropriations (\$Millions)										Total
	FY08/09	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	
Building & Grounds											
Administrative & Engineering Building - Sinking Fund (Water System)	\$0.275	\$0.282	\$0.289	\$0.296	\$0.304	\$0.311	\$0.319	\$0.327	\$0.335	\$0.343	\$3.080
Administrative & Engineering Building (Water System)	\$0.376	\$0.383	\$0.391	\$0.399	\$0.407	\$0.415	\$0.423	\$0.432	\$0.440	\$0.449	\$4.114
Subtotal	\$0.650	\$0.665	\$0.679	\$0.695	\$0.710	\$0.726	\$0.742	\$0.759	\$0.776	\$0.792	\$7.194
Groundwater Basin Management											
Mocho Groundwater Demineralization Plant	\$4.692										\$4.692
Subtotal	\$4.692										\$4.692
Program Management											
Capital Improvement Program Management	\$0.107	\$0.107	\$0.107	\$0.107	\$0.107	\$0.114	\$0.114	\$0.114	\$0.114	\$0.114	\$1.104
Expansion Program Management	\$0.150	\$0.150	\$0.150	\$0.150	\$0.150	\$0.175	\$0.175	\$0.175	\$0.175	\$0.175	\$1.625
Subtotal	\$0.257	\$0.257	\$0.257	\$0.257	\$0.257	\$0.289	\$0.289	\$0.289	\$0.289	\$0.289	\$2.729
Transmission & Distribution											
Transmission System Master Planning	\$0.050	\$0.050	\$0.050	\$0.050	\$0.050	\$0.063	\$0.063	\$0.063	\$0.063	\$0.063	\$0.563
Subtotal	\$0.050	\$0.050	\$0.050	\$0.050	\$0.050	\$0.063	\$0.063	\$0.063	\$0.063	\$0.063	\$0.563
Water Supply & Conveyance											
Arroyo Mocho Low Flow Crossings	\$0.350										\$0.350
Arroyo Mocho/Lake H Diversion Structure	\$0.230	\$0.080									\$0.310
CAL-FED Project Proportional Local Share	\$0.090	\$0.090	\$0.090	\$0.090	\$0.090	\$0.090	\$0.090	\$0.090	\$0.090		\$0.810
Cawelo Groundwater Banking Program	\$1.295	\$1.295	\$1.293	\$1.296	\$1.293	\$1.294	\$1.295	\$1.295	\$1.294	\$1.297	\$12.947
Chain of Lakes Facilities and Improvements	\$1.250	\$0.790	\$1.340	\$0.400	\$0.940	\$0.820	\$0.510				\$6.050
Chain of Lakes Master Plan	\$1.250	\$0.580	\$0.340								\$2.170
CUWA Membership	\$0.110	\$0.110	\$0.110	\$0.110	\$0.110	\$0.110	\$0.110	\$0.110	\$0.110	\$0.110	\$1.100
Delta Conservation Plan	\$0.130	\$0.135									\$0.265
Delta Outreach Program	\$0.026	\$0.028									\$0.054
Delta Water Supply/Storage						\$11.000					\$11.000
Fixed Cost of Water Entitlement	\$0.139	\$0.068	\$0.033	\$0.022	\$0.011						\$0.273
Future 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
Future 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 Washing Machine Rebate Program	\$0.019	\$0.019	\$0.013	\$0.013	\$0.013	\$0.013	\$0.013				\$0.100
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 Project	\$6.702	\$8.548	\$8.629	\$8.491	\$8.491	\$8.494	\$8.492	\$8.491	\$8.494	\$8.492	\$83.324
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)	\$0.270	\$0.264	\$0.270	\$0.267	\$0.268	\$0.267	\$0.268	\$0.267	\$0.265	\$0.268	\$2.674
Ultra Low Flush/High Efficiency Toilet Rebate Program	\$0.013	\$0.013	\$0.015	\$0.015	\$0.015	\$0.015	\$0.018	\$0.018	\$0.018	\$0.018	\$0.155
Water Conservation Best Management Practices	\$0.063	\$0.063	\$0.069	\$0.069	\$0.069	\$0.069	\$0.069	\$0.081	\$0.081	\$0.081	\$0.713
Subtotal	\$14.406	\$14.552	\$14.671	\$13.242	\$13.769	\$24.641	\$13.334	\$12.822	\$12.822	\$12.736	\$146.995

Expansion Strategy Breakdown (Continued)

Programs	Appropriations (\$Millions)										
	FY08/09	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	Total
Water Treatment Facilities											
Altamont Water Treatment Plant Operational Training	\$0.200										\$0.200
Altamont Water Treatment Plant Phase 1 (24 MGD) & Altamont Pipeline	\$89.571	\$43.770	\$15.420								\$148.761
Altamont Water Treatment Plant Phase 1A			\$0.900	\$5.381							\$6.281
Altamont Water Treatment Plant Phase 2 (12-18 MGD)						\$3.800	\$23.690	\$27.370	\$0.710		\$55.570
Second Groundwater Demineralization Facility			\$3.930	\$17.550	\$18.250	\$4.430					\$44.160
Third Groundwater Demineralization Facility					\$0.234					\$0.148	\$0.382
Water Quality Management Program	\$0.026	\$0.028	\$0.028	\$0.030	\$0.030	\$0.033	\$0.033	\$0.035	\$0.035	\$0.038	\$0.314
Subtotal	\$89.797	\$43.798	\$20.278	\$22.961	\$18.514	\$8.263	\$23.723	\$27.405	\$0.745	\$0.186	\$255.668
Wells											
Well Master Plan Wells	\$4.160	\$15.280	\$9.080	\$16.450	\$2.800	\$7.180	\$1.770	\$2.390	\$8.370	\$2.000	\$69.480
Subtotal	\$4.160	\$15.280	\$9.080	\$16.450	\$2.800	\$7.180	\$1.770	\$2.390	\$8.370	\$2.000	\$69.480
Total	\$114.011	\$74.601	\$45.015	\$53.655	\$36.100	\$41.161	\$39.920	\$43.727	\$23.064	\$16.065	\$487.319
In 2007 Dollars:	\$109.626	\$68.973	\$40.018	\$45.865	\$27.672	\$32.530	\$30.336	\$31.951	\$16.204	\$10.853	\$416.027

Water System Expansion Strategy Ten-Year Total



Program	Ten-Year Total (\$ Millions)	Percentage
Building & Grounds	7.194	1%
Groundwater Basin Management	4.692	1%
Program Management	2.729	0.6%
Transmission & Distribution	0.563	0.1%
Water Supply & Conveyance	146.995	30%
Water Treatment Facilities	255.668	52%
Wells	69.480	14%
Total	487.319	100%

Renewal/ Replacement Strategy

This Strategy identifies the projects, funding and schedule needed for the future Renewal and Replacement of the capital assets of Zone 7's Water System. In order to minimize the burden to water rate payers of widely-varying annual costs, an annual funding goal of approximately of \$4 million (\$3 million for Renewal/Replacement plus a \$1 million allowance for System-Wide Improvements) was established in the 1990's. In the recent Asset Management Program (AMP) study (2004), it was determined that this \$4 million annual water rate contribution would no longer be adequate to fund the program, and that an appropriate long-term average funding level would be approximately \$10 million. In 2005, the Zone 7 Retailers expressed support for a gradual increase in the annual transfer of funds for the renewal and replacement 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 Renewal/Replacement and System-Wide improvement projects.

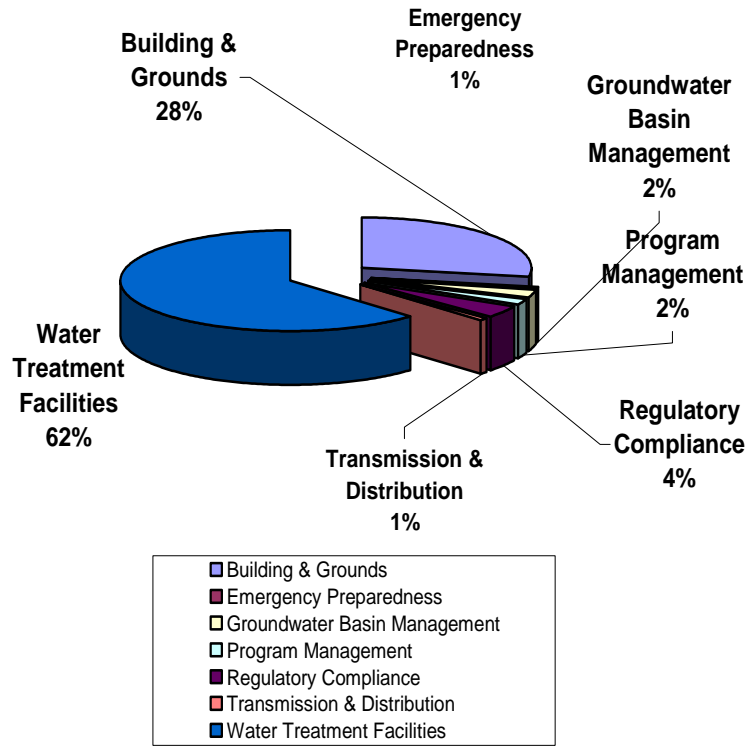
The AMP primarily includes the evaluation of Zone 7's inventory of capital assets, asset service life as determined through condition assessments, economic life of the asset, asset risk, criticality, and vulnerability, true replacement costs under current conditions, and the annual allowance necessary to adequately fund Renewal/Replacement and System-Wide Improvement projects. Through the development of this program, Zone 7 obtained a current asset valuation of its existing facilities and a recommended a long-term average annual allowance of \$10 million to adequately fund the program.

The specific projects that comprise the Renewal/Replacement Strategy are listed below with respect to their associated programs. The ten-year total for this strategy is \$32.975 million. A breakdown by program for the ten-year total is shown on the following pages.

Renewal/Replacement Strategy Breakdown

Programs	Appropriations (\$Millions)										Total
	FY08/09	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	
Building & Grounds											
Administrative & Engineering Building Lease (Water System)	\$0.478	\$0.488	\$0.497	\$0.508	\$0.517	\$0.528	\$0.539	\$0.549	\$0.561	\$0.571	\$5.237
Administrative & Engineering Building - Sinking Fund (Water System)	\$0.349	\$0.358	\$0.367	\$0.377	\$0.386	\$0.395	\$0.406	\$0.416	\$0.427	\$0.437	\$3.919
Subtotal	\$0.828	\$0.846	\$0.865	\$0.885	\$0.904	\$0.923	\$0.945	\$0.965	\$0.987	\$1.008	\$9.156
Emergency Preparedness											
Upgrade of PPTWP Emergency & Safety Services Building	\$0.000	\$0.025	\$0.200								\$0.225
Subtotal	\$0.000	\$0.025	\$0.200								\$0.225
Groundwater Basin Management											
Monitoring Well Replacements	\$0.050	\$0.050		\$0.040		\$0.060		\$0.060		\$0.060	\$0.320
Stream Gage Replacement	\$0.120	\$0.110				\$0.140	\$0.130				\$0.500
Subtotal	\$0.170	\$0.160		\$0.040		\$0.200	\$0.130	\$0.060		\$0.060	\$0.820
Program Management											
Capital Improvement Program Management	\$0.036	\$0.036	\$0.036	\$0.036	\$0.036	\$0.038	\$0.038	\$0.038	\$0.038	\$0.038	\$0.368
System-Wide Improvement, Renewal/Replacement Program Management	\$0.025	\$0.025	\$0.025	\$0.025	\$0.025	\$0.030	\$0.030	\$0.030	\$0.030	\$0.030	\$0.275
Subtotal	\$0.061	\$0.061	\$0.061	\$0.061	\$0.061	\$0.068	\$0.068	\$0.068	\$0.068	\$0.068	\$0.643
Regulatory Compliance											
Laboratory Equipment Replacement	\$0.100	\$0.110	\$0.110	\$0.120	\$0.120	\$0.130	\$0.130	\$0.140	\$0.140	\$0.150	\$1.250
Subtotal	\$0.100	\$0.110	\$0.110	\$0.120	\$0.120	\$0.130	\$0.130	\$0.140	\$0.140	\$0.150	\$1.250
Transmission & Distribution											
Transmission System Master Planning	\$0.025	\$0.025	\$0.025	\$0.025	\$0.025	\$0.031	\$0.031	\$0.031	\$0.031	\$0.031	\$0.281
Subtotal	\$0.025	\$0.025	\$0.025	\$0.025	\$0.025	\$0.031	\$0.031	\$0.031	\$0.031	\$0.031	\$0.281
Water Treatment Facilities											
Altamont Water Treatment Plant Membrane Module Replacement								\$0.685	\$0.710	\$0.740	\$2.135
DVWTP Access Road Maintenance Project			\$0.040								\$0.040
DVWTP Aqueous Ammonia System			\$2.690								\$2.690
DVWTP Chemical Feed System Replacement	\$0.330										\$0.330
DVWTP Filter Valves Replacement		\$0.270									\$0.270
DVWTP Instrumentation Upgrades			\$0.110	\$0.290							\$0.400
Minor Renewal/Replacement Projects	\$0.200	\$0.200	\$0.225	\$0.225	\$0.225	\$0.250	\$0.250	\$0.250	\$0.250	\$0.250	\$2.325
PPWTP Ammonia Facility Replacement			\$2.020								\$2.020
PPWTP Instrumentation Upgrades				\$0.120	\$0.360						\$0.480
PPWTP Rehabilitation of Clarifier and Replacement of Motor				\$1.520							\$1.520
PPWTP Ultrafiltration Membrane Replacement	\$0.320	\$0.010	\$0.350	\$0.370	\$0.410	\$0.840	\$0.480		\$0.510	\$0.530	\$3.820
SCADA Enhancements	\$0.780	\$0.270	\$0.280	\$0.300	\$0.300	\$0.320	\$1.250	\$0.350	\$0.350	\$0.370	\$4.570
Subtotal	\$1.630	\$0.750	\$5.715	\$2.825	\$1.295	\$1.410	\$1.980	\$1.285	\$1.820	\$1.890	\$20.600
Total	\$2.813	\$1.977	\$6.975	\$3.955	\$2.404	\$2.763	\$3.284	\$2.550	\$3.047	\$3.207	\$32.975
In 2007 Dollars:	\$2.705	\$1.828	\$6.201	\$3.381	\$1.976	\$2.184	\$2.496	\$1.863	\$2.141	\$2.167	\$26.940

Water System Renewal/Replacement Strategy Ten-Year Total



Program	Ten-Year Total (\$ Millions)	Percentage
Building & Grounds	9.156	28%
Emergency Preparedness	0.225	1%
Groundwater Basin Management	0.820	2%
Program Management	0.643	2%
Regulatory Compliance	1.250	4%
Transmission & Distribution	0.281	1%
Water Treatment Facilities	20.600	62%
Total	32.975	100%

System-Wide Improvements Strategy

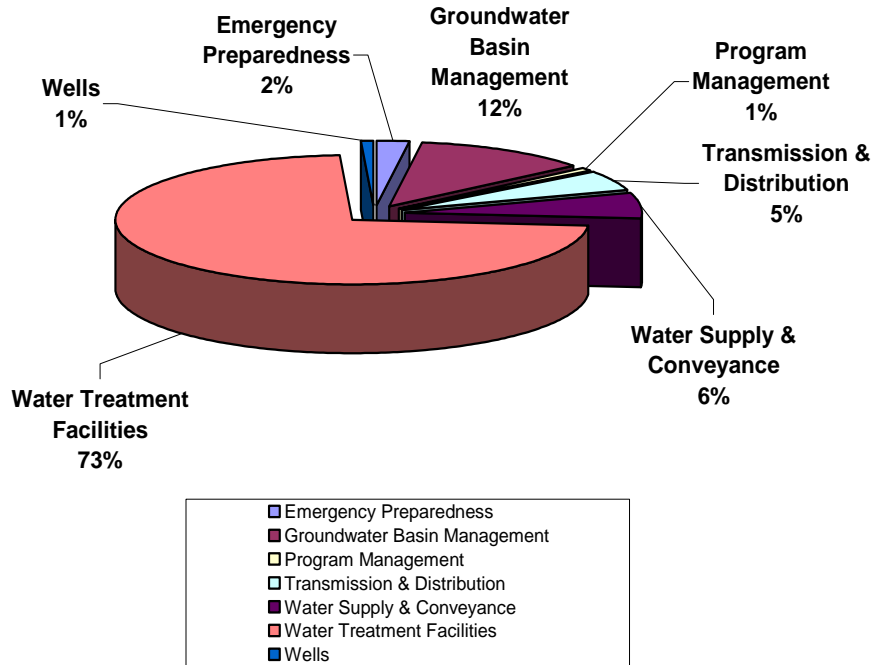
This Strategy addresses enhancements to existing facilities that will improve water quality, safety, reliability, efficiency, operational flexibility, and/or decrease costs.

The specific projects that comprise the System-Wide Improvements Strategy are listed below with respect to their associated programs. The first year appropriation requirement is \$7.316 million and the ten-year total for this strategy is \$44.892 million. A breakdown of the related programs for the ten-year total is shown on the following pages.

System-Wide Improvements Strategy Breakdown

Programs	Appropriations (\$Millions)										Total	
	FY 08/09	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		
Emergency Preparedness												
Security Improvements at Existing Facilities	\$0.835											\$0.835
Vulnerability Assessment Review & Update		\$0.108										\$0.108
Subtotal	\$0.835	\$0.108										\$0.943
Groundwater Basin Management												
Mocho Groundwater Demineralization Plant	\$4.692											\$4.692
New Monitoring Wells	\$0.150	\$0.150	\$0.150	\$0.160	\$0.160							\$0.770
Subtotal	\$4.842	\$0.150	\$0.150	\$0.160	\$0.160							\$5.462
Program Management												
System-Wide Improvement, Renewal/Replacement Program Management	\$0.025	\$0.025	\$0.025	\$0.025	\$0.025	\$0.030	\$0.030	\$0.030	\$0.030	\$0.030	\$0.030	\$0.275
Subtotal	\$0.025	\$0.025	\$0.025	\$0.025	\$0.025	\$0.030	\$0.030	\$0.030	\$0.030	\$0.030	\$0.030	\$0.275
Transmission & Distribution												
Corrosion Master Plan	\$0.210					\$0.250						\$0.460
System-Wide Installation of Line Valves	\$0.050	\$0.220	\$0.050	\$0.230	\$0.060	\$0.250	\$0.070	\$0.270	\$0.070	\$0.300		\$1.570
Transmission System Master Planning	\$0.025	\$0.025	\$0.025	\$0.025	\$0.025	\$0.031	\$0.031	\$0.031	\$0.031	\$0.031		\$0.281
Subtotal	\$0.285	\$0.245	\$0.075	\$0.255	\$0.085	\$0.531	\$0.101	\$0.301	\$0.101	\$0.331		\$2.311
Water Supply & Conveyance												
High-Efficiency Washing Machine Rebate Program	\$0.056	\$0.056	\$0.038	\$0.038	\$0.038	\$0.038	\$0.038					\$0.300
Ultra Low Flush/High Efficiency Toilet Rebate Program	\$0.038	\$0.038	\$0.045	\$0.045	\$0.045	\$0.045	\$0.053	\$0.053	\$0.053	\$0.053		\$0.465
Water Conservation Best Management Practices	\$0.188	\$0.188	\$0.206	\$0.206	\$0.206	\$0.206	\$0.206	\$0.244	\$0.244	\$0.244		\$2.138
Subtotal	\$0.281	\$0.281	\$0.289	\$0.289	\$0.289	\$0.289	\$0.296	\$0.296	\$0.296	\$0.296		\$2.903
Water Treatment Facilities												
DVWTP Caustic Soda Chemical Storage Upgrade	\$0.510											\$0.510
DVWTP Recovery Ponds Solids Extraction System	\$0.100											\$0.100
DVWTP Sludge Handling Improvements						\$1.010	\$6.840					\$7.850
PPWTP Improvements - 2012					\$2.310							\$2.310
PPWTP Sludge Handling Improvements						\$1.020	\$8.290	\$1.230				\$10.540
PPWTP UF HVAC Improvements	\$0.070	\$0.390										\$0.460
PPWTP UF Work Facility Addition	\$0.090	\$0.450										\$0.540
Third Groundwater Demineralization Facility					\$2.106					\$1.332		\$3.438
Water Quality - DVWTP Taste and Odor Treatment	\$0.100	\$0.760	\$1.910	\$0.220								\$2.990
Water Quality - PPWTP Taste and Odor Treatment	\$0.100	\$0.760	\$1.910	\$0.220								\$2.990
Water Quality Management Program	\$0.078	\$0.083	\$0.083	\$0.090	\$0.090	\$0.098	\$0.098	\$0.105	\$0.105	\$0.113		\$0.941
Subtotal	\$1.048	\$2.443	\$3.903	\$0.530	\$4.506	\$2.128	\$15.228	\$1.335	\$0.105	\$1.445		\$32.669
Wells												
Install VFD at Mocho 3 or Mocho 4							\$0.330					\$0.330
Subtotal							\$0.330					\$0.330
Total	\$7.316	\$3.252	\$4.441	\$1.259	\$5.065	\$2.978	\$15.985	\$1.963	\$0.533	\$2.102		\$44.892
In 2007 Dollars:	\$7.035	\$3.007	\$3.948	\$1.076	\$4.163	\$2.354	\$12.147	\$1.434	\$0.374	\$1.420		\$36.958

**Water System
System-Wide Improvements Strategy
Ten-Year Total**

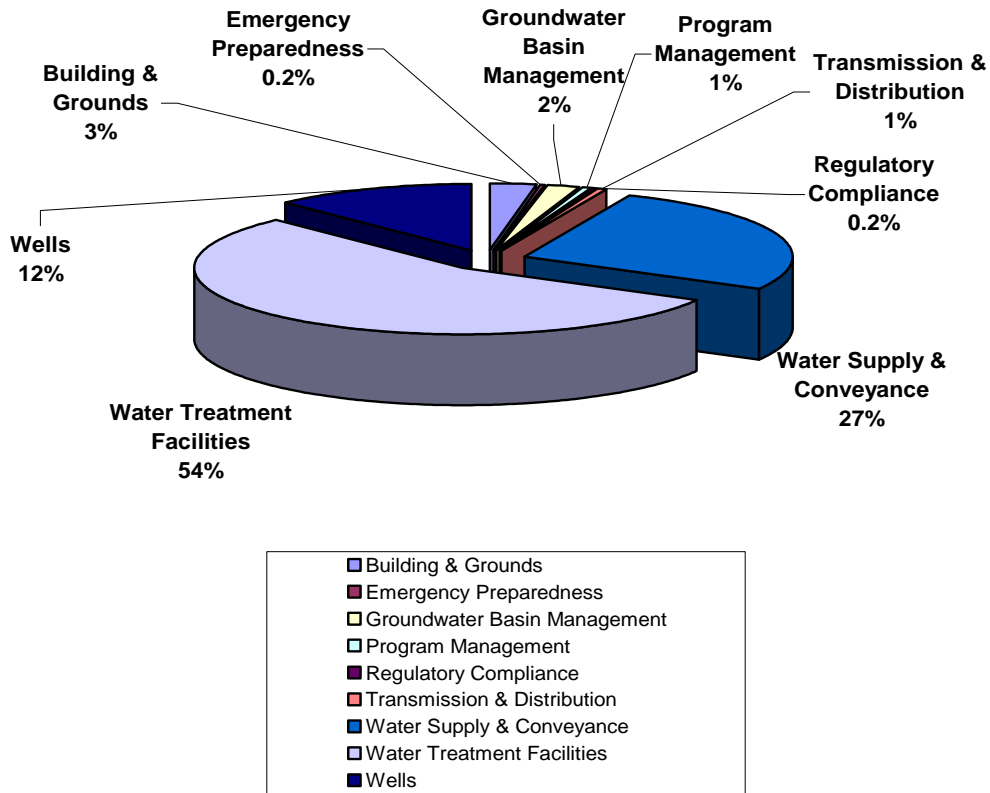


Program	Ten-Year Total (\$ Millions)	Percentage
Emergency Preparedness	0.943	2.10%
Groundwater Basin Management	5.462	12%
Program Management	0.275	1%
Transmission & Distribution	2.311	5%
Water Supply & Conveyance	2.903	6%
Water Treatment Facilities	32.669	73%
Wells	0.330	1%
Total	44.892	100%

2.4.3 Program Summary

This section provides a discussion and fiscal breakdown for each Program and its related Projects regardless of Strategy. This identifies the specific efforts made with respect to the topic. The following charts and tables identify the individual programs for the Ten-Year Total CIP.

**Water System
FY 2008/09 Ten-Year Total
Program Breakdown**



Program	Ten-Year Total (\$Millions)	Percentage
Building & Grounds	16.350	3%
Emergency Preparedness	1.168	0.2%
Groundwater Basin Management	10.973	2%
Program Management	3.648	1%
Regulatory Compliance	1.250	0.2%
Transmission & Distribution	3.155	1%
Water Supply & Conveyance	149.897	27%
Water Treatment Facilities	308.936	55%
Wells	69.810	12%
Total	565.187	100%

Buildings & Grounds Program

This program addresses structures and support facilities not directly involved in the supply, treatment, transmission or storage of water. This program represents 3% of the total Ten-Year CIP. Details of the projects listed are available in Section 2.6.

Programs	Appropriations (\$Millions)										Total
	FY 08/09	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	
Building & Grounds											
Administrative & Engineering Building - Sinking Fund (Water System)	\$0.624	\$0.640	\$0.656	\$0.673	\$0.690	\$0.706	\$0.725	\$0.743	\$0.762	\$0.780	\$6.999
Administrative & Engineering Building (Water System)	\$0.854	\$0.871	\$0.888	\$0.907	\$0.924	\$0.943	\$0.962	\$0.981	\$1.001	\$1.020	\$9.351
Total	\$1.478	\$1.511	\$1.544	\$1.580	\$1.614	\$1.649	\$1.687	\$1.724	\$1.763	\$1.800	\$16.350

Emergency Preparedness Program

This program addresses Zone 7's goals and desired capability for emergency response. This program represents less than 1% of the total Ten-Year CIP. Details of the projects listed are available in Section 2.6.

Programs	Appropriations (\$Millions)										Total
	FY 08/09	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	
Emergency Preparedness											
Security Improvements at Existing Facilities	\$0.835										\$0.835
Upgrade of PPTWP Emergency & Safety Services Building		\$0.025	\$0.200								\$0.225
Vulnerability Assessment Review & Update		\$0.108									\$0.108
Total	\$0.835	\$0.133	\$0.200								\$1.168

Groundwater Basin Management Program

This program focuses on the Zone 7's responsibility to manage the local groundwater basin, which includes reducing total dissolved solids and while delivering high quality water to its customers. This program represents 2% of the total Ten-Year CIP. Details of the projects listed are available in 2.6.

Programs	Appropriations (\$Millions)										Total
	FY 08/09	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	
Groundwater Basin Management											
Mocho Groundwater Demineralization Plant	\$9.383										\$9.383
Monitoring Well Replacements	\$0.050	\$0.050		\$0.040		\$0.060		\$0.060		\$0.060	\$0.320
New Monitoring Wells	\$0.150	\$0.150	\$0.150	\$0.160	\$0.160						\$0.770
Stream Gage Replacement	\$0.120	\$0.110				\$0.140	\$0.130				\$0.500
Total	\$9.703	\$0.310	\$0.150	\$0.200	\$0.160	\$0.200	\$0.130	\$0.060		\$0.060	\$10.973

Program Management

This program is designed to account for staff time and related costs associated with managing capital programs. This program represents 1% of the FY 2008/09 appropriations. Details of the projects listed are available in Section 2.6.

Programs	Appropriations (\$Millions)										
	FY 08/09	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	Total
Program Management											
Capital Improvement Program Management	\$0.143	\$0.143	\$0.143	\$0.143	\$0.143	\$0.152	\$0.152	\$0.152	\$0.152	\$0.152	\$1.473
Expansion Program Management	\$0.150	\$0.150	\$0.150	\$0.150	\$0.150	\$0.175	\$0.175	\$0.175	\$0.175	\$0.175	\$1.625
System-Wide Improvement, Renewal/Replacement Program Management	\$0.050	\$0.050	\$0.050	\$0.050	\$0.050	\$0.060	\$0.060	\$0.060	\$0.060	\$0.060	\$0.550
Total	\$0.343	\$0.343	\$0.343	\$0.343	\$0.343	\$0.387	\$0.387	\$0.387	\$0.387	\$0.387	\$3.648

Regulatory Compliance Program

This program ensures compliance with a range of new as well as existing regulatory and permit requirements that are not directly related to the reliable production of quality water (e.g., major projects associated with Risk Management Prevention Planning, and Process Safety Planning). This program represents less than 1% of the total Ten-Year CIP. Details of the projects listed are available in Section 2.6.

Programs	Appropriations (\$Millions)										
	FY 08/09	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	Total
Regulatory Compliance											
Laboratory Equipment Replacement	\$0.100	\$0.110	\$0.110	\$0.120	\$0.120	\$0.130	\$0.130	\$0.140	\$0.140	\$0.150	\$1.250
Total	\$0.100	\$0.110	\$0.110	\$0.120	\$0.120	\$0.130	\$0.130	\$0.140	\$0.140	\$0.150	\$1.250

Transmission & Distribution Program

This program consists of projects that are required to convey and distribute treated water to Zone 7 retailers. This program represents less than 1% of the total Ten-Year CIP. Details of the projects listed are available in Section 2.6.

Programs	Appropriations (\$Millions)										
	FY 08/09	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	Total
Transmission & Distribution											
Corrosion Master Plan	\$0.210					\$0.250					\$0.460
System-Wide Installation of Line Valves	\$0.050	\$0.220	\$0.050	\$0.230	\$0.060	\$0.250	\$0.070	\$0.270	\$0.070	\$0.300	\$1.570
Transmission System Master Planning	\$0.100	\$0.100	\$0.100	\$0.100	\$0.100	\$0.125	\$0.125	\$0.125	\$0.125	\$0.125	\$1.125
Total	\$0.360	\$0.320	\$0.150	\$0.330	\$0.160	\$0.625	\$0.195	\$0.395	\$0.195	\$0.425	\$3.155

Water Supply & Conveyance Program

This program focuses on the planning and purchase of new water supplies, and implementation of improvements required to convey raw water from the South Bay Aqueduct to Zone 7 agricultural customers, treatment plants and for Chain of Lakes for stream recharge. This program represents 27% of the total Ten-Year CIP. Details of the projects listed are available in Section 2.6.

Programs	Appropriations (\$Millions)										
	FY 08/09	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	Total
Water Supply & Conveyance											
Arroyo Mocho Low Flow Crossings	\$0.350										\$0.350
Arroyo Mocho/Lake H Diversion Structure	\$0.230	\$0.080									\$0.310
CAL-FED Project Proportional Local Share	\$0.090	\$0.090	\$0.090	\$0.090	\$0.090	\$0.090	\$0.090	\$0.090	\$0.090		\$0.810
Cawelo Groundwater Banking Program	\$1.295	\$1.295	\$1.293	\$1.296	\$1.293	\$1.294	\$1.295	\$1.295	\$1.294	\$1.297	\$12.947
Chain of Lakes Facilities and Improvements	\$1.250	\$0.790	\$1.340	\$0.400	\$0.940	\$0.820	\$0.510				\$6.050
Chain of Lakes Master Plan	\$1.250	\$0.580	\$0.340								\$2.170
CUWA Membership	\$0.110	\$0.110	\$0.110	\$0.110	\$0.110	\$0.110	\$0.110	\$0.110	\$0.110	\$0.110	\$1.100
Delta Conservation Plan	\$0.130	\$0.135									\$0.265
Delta Outreach Program	\$0.026	\$0.028									\$0.054
Delta Water Supply/Storage						\$11.000					\$11.000
Fixed Cost of Water Entitlement	\$0.139	\$0.068	\$0.033	\$0.022	\$0.011						\$0.273
Future 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
Future 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 Washing Machine Rebate Program	\$0.075	\$0.075	\$0.050	\$0.050	\$0.050	\$0.050	\$0.050				\$0.400
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 Project	\$6.702	\$8.548	\$8.629	\$8.491	\$8.491	\$8.494	\$8.492	\$8.491	\$8.494	\$8.492	\$83.324
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)	\$0.270	\$0.264	\$0.270	\$0.267	\$0.268	\$0.267	\$0.268	\$0.267	\$0.265	\$0.268	\$2.674
Ultra Low Flush/High Efficiency Toilet Rebate Program	\$0.050	\$0.050	\$0.060	\$0.060	\$0.060	\$0.060	\$0.070	\$0.070	\$0.070	\$0.070	\$0.620
Water Conservation Best Management Practices	\$0.250	\$0.250	\$0.275	\$0.275	\$0.275	\$0.275	\$0.275	\$0.325	\$0.325	\$0.325	\$2.850
Total	\$14.687	\$14.833	\$14.960	\$13.531	\$14.058	\$24.930	\$13.630	\$13.118	\$13.118	\$13.032	\$149.897

Water Treatment Facilities Program

This program addresses the existing and proposed facilities used in the treatment of raw water from the South Bay Aqueduct for distribution to Zone 7's treated water customers. This program represents 55% of the total FY 2008/09 Ten-Year CIP. Details of the projects listed are available in Section 2.6.

Programs	Appropriations (\$Millions)										
	FY 08/09	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	Total
Water Treatment Facilities											
Altamont Water Treatment Plant Membrane Module Replacement								\$0.685	\$0.710	\$0.740	\$2.135
Altamont Water Treatment Plant Operational Training	\$0.200										\$0.200
Altamont Water Treatment Plant Phase 1 (24 MGD) & Altamont Pipeline	\$89.571	\$43.770	\$15.420								\$148.761
Altamont Water Treatment Plant Phase 1A			\$0.900	\$5.381							\$6.281
Altamont Water Treatment Plant Phase 2 (12-18 MGD)						\$3.800	\$23.690	\$27.370	\$0.710		\$55.570
DVWTP Access Road Maintenance Project			\$0.040								\$0.040
DVWTP Aqueous Ammonia System			\$2.690								\$2.690
DVWTP Caustic Soda Chemical Storage Upgrade	\$0.510										\$0.510
DVWTP Chemical Feed System Replacement	\$0.330										\$0.330
DVWTP Filter Valves Replacement		\$0.270									\$0.270
DVWTP Instrumentation Upgrades			\$0.110	\$0.290							\$0.400
DVWTP Recovery Ponds Solids Extraction System	\$0.100										\$0.100
DVWTP Sludge Handling Improvements						\$1.010	\$6.840				\$7.850
Minor Renewal/Replacement Projects	\$0.200	\$0.200	\$0.225	\$0.225	\$0.225	\$0.250	\$0.250	\$0.250	\$0.250	\$0.250	\$2.325
PPWTP Ammonia Facility Replacement			\$2.020								\$2.020
PPWTP Improvements - 2012						\$2.310					\$2.310
PPWTP Instrumentation Upgrades				\$0.120	\$0.360						\$0.480
PPWTP Rehabilitation of Clarifier and Replacement of Motor				\$1.520							\$1.520
PPWTP Sludge Handling Improvements						\$1.020	\$8.290	\$1.230			\$10.540
PPWTP UF HVAC Improvements	\$0.070	\$0.390									\$0.460
PPWTP UF Work Facility Addition	\$0.090	\$0.450									\$0.540
PPWTP Ultrafiltration Membrane Replacement	\$0.320	\$0.010	\$0.350	\$0.370	\$0.410	\$0.840	\$0.480		\$0.510	\$0.530	\$3.820
SCADA Enhancements	\$0.780	\$0.270	\$0.280	\$0.300	\$0.300	\$0.320	\$1.250	\$0.350	\$0.350	\$0.370	\$4.570
Second Groundwater Demineralization Facility			\$3.930	\$17.550	\$18.250	\$4.430					\$44.160
Third Groundwater Demineralization Facility						\$2.340				\$1.480	\$3.820
Water Quality - DVWTP Taste and Odor Treatment		\$0.760	\$1.910	\$0.220							\$2.990
Water Quality - PPWTP Taste and Odor Treatment	\$0.100	\$0.760	\$1.910	\$0.220							\$2.990
Water Quality Management Program	\$0.104	\$0.110	\$0.110	\$0.120	\$0.120	\$0.130	\$0.130	\$0.140	\$0.140	\$0.150	\$1.254
Total	\$92.475	\$46.990	\$29.895	\$26.316	\$24.315	\$11.800	\$40.930	\$30.025	\$2.670	\$3.520	\$308.936

Wells Program

This program identifies the facilities required to reliably maintain the production of raw and treated water during peak demands, planned and unplanned outage of treatment plants, optimize conjunctive use and facilitate groundwater basin management. This program represents 12% of the total Ten-Year CIP. Details of the projects listed are available in Section 2.6.

Programs	Appropriations (\$Millions)										
	FY 08/09	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	Total
Wells											
Install VFD at Mocho 3 or Mocho 4							\$0.330				\$0.330
Well Master Plan Wells	\$4.160	\$15.280	\$9.080	\$16.450	\$2.800	\$7.180	\$1.770	\$2.390	\$8.370	\$2.000	\$69.480
Total	\$4.160	\$15.280	\$9.080	\$16.450	\$2.800	\$7.180	\$2.100	\$2.390	\$8.370	\$2.000	\$69.810

2.5 Funding Analysis

The Water System is funded by Fund 72 – Renewal/Replacement and System-Wide Improvements and Fund 73 – Expansion. The following sections discuss near-term funding over the next ten years and long-term planning through FY 35/36.

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

Fund 72 Funding 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.

These Strategies identify the projects, funding and schedules needed for the future Renewal/Replacement and System-Wide Improvements of the capital assets of Zone 7's Water System. In order to minimize the burden to water rate payers of widely-varying annual costs, an annual funding allowance of approximately \$4 million (\$3 million for Renewal/Replacement plus a \$1 million 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 and System-Wide Improvement 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 (\$8.8 million for Renewal/Replacement and \$1.2 for System-Wide Improvements) to adequately fund the program. In 2005, the Zone 7 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 actual transfer in FY 05/06 was \$2.5 million, \$5.5 million is proposed in FY 06/07 (will be transferred to Fund 72 in fall 2007) and \$4.06 is projected for FY 07/08. This is a three-year average of about \$4.1 million.

Historically, Zone 7 has cash-funded capital expenditures (“pay-as-you-go” financing) because cash-funding is often less expensive than interest-bearing debt financing and eliminates the long-term liability incurred with the use of debt. Until the \$10 million transfer target is met in FY 2013/14 (current goal) Zone 7 will have limits on the scale and timing of its Renewal/Replacement and System-Wide Improvements. As a result, the exercise of prioritizing projects has become increasingly important. As part of the capital planning process, the Capital Review Group prioritizes the list of projects to be presented within the CIP document based on resources, available funding and project justifications. When insufficient funds are projected, projects are deferred until enough funding is available, or interim solutions are proposed.

For example, a number of additional PPWTP System-Wide Improvements projects, which collectively, have been grouped together and named “PPWTP Improvements - 2012” have been preliminarily proposed and due to short-term funding challenges, have been deferred until FY 2012/13. These projects are detailed in Table 2-1 below:

**TABLE 2-1
“PPWTP Improvements - 2012” Project Detail**

Project	Cost (in \$ millions)
PPWTP Electrical Service Upgrade	\$.050
PPWTP Finished Water Sample Line Improvements (UF Plant)	\$.060
PPWTP Clarifier Maintenance Facility Improvements (UF Plant)	\$.050
PPWTP Chemical Feed Piping Renewal/Replacement (Conv. Plant)	\$.330
PPWTP Tank Farm Improvements (Conv. Plant)	\$.120
PPWTP In-Line TOC Analyzers (Conv. Plant)	\$.060
PPWTP Raw Water Quality Monitoring	\$.120
PPWTP Chlorine Contact Time Analysis	\$.080
PPWTP Clearwell Overflow Improvements	\$.090
PPWTP Seismic Upgrade of Clearwell	\$.470
PPWTP Maintenance Storage Building	\$.580
PPWTP Valve Actuator Renewal/Replacement (Conv. Plant)	\$.170
PPWTP Relocate Retailer Line	\$.050
PPWTP Raw Water Pretreatment Analysis (UF Plant)	\$.080
Total	\$2.310 M

In addition, other projects such as the PPWTP Clarifier Rehabilitation and Replacement of Motor and Sludge Handling Improvements at Del Valle and Patterson Pass Water Treatment Plants have been deferred until sufficient funding is available.

Zone 7 staff is in the process of planning for long-term taste and odor (T&O) treatment improvements at Del Valle and Patterson Pass Water Treatment Plants. A consultant has been hired by Zone 7 to conduct an engineering study to examine potential T&O treatment processes. It is anticipated that the study phase will take approximately twenty months and will be completed by May 2009. There will be a pilot test of ozone and ozone-peroxide treatment alternatives, Zone 7 staff and a Technical Review Committee comprised of Retailer staff and a representative from the California Department of Public Health will evaluate the results. The design phase is anticipated to occur during years 2009 and 2010, with construction commencing in FY 2011/12. This CIP document has an estimated project cost of \$6.6 million, which is a placeholder pending completion of the study. Note that the preliminary estimates depict a cost of \$10-\$15 million for each water treatment facility. Zone 7 staff will work with our Board and Retailers to develop a funding plan to pay for necessary T&O projects as the project develops and more refined cost estimates are made.

The near-term funding outlook (Table 2-2) shows that with the ramp-up of the annual allowance, or water rate contribution, to this fund to approximately \$10 million, there will be adequate

funding to complete projects planned in this Ten-Year CIP. At the end of FY 2017/18, the program end balance is approximately \$25 million. Note that the Renewal/Replacement and System-Wide Improvement Program extends indefinitely beyond this ten-year planning period. The program end balance seen will be used to fund future projects within this program, such as a Third Groundwater Demineralization Facility (estimated at \$49 million). Since Zone 7 employs a preferred a pay-as-you-go financing strategy, continued foresight in financial planning is needed. Note the following:

Table 2-2 – Shows the projected ten years of revenues, expenditures, and Fund 72 balances for FY 2008/09 through FY 2017/18.

Graph 2-1 - Shows the projected cumulative revenue versus cumulative expenditures for this program, from FY 08/09 through FY 2017/18 in both actual and 2007 dollars.

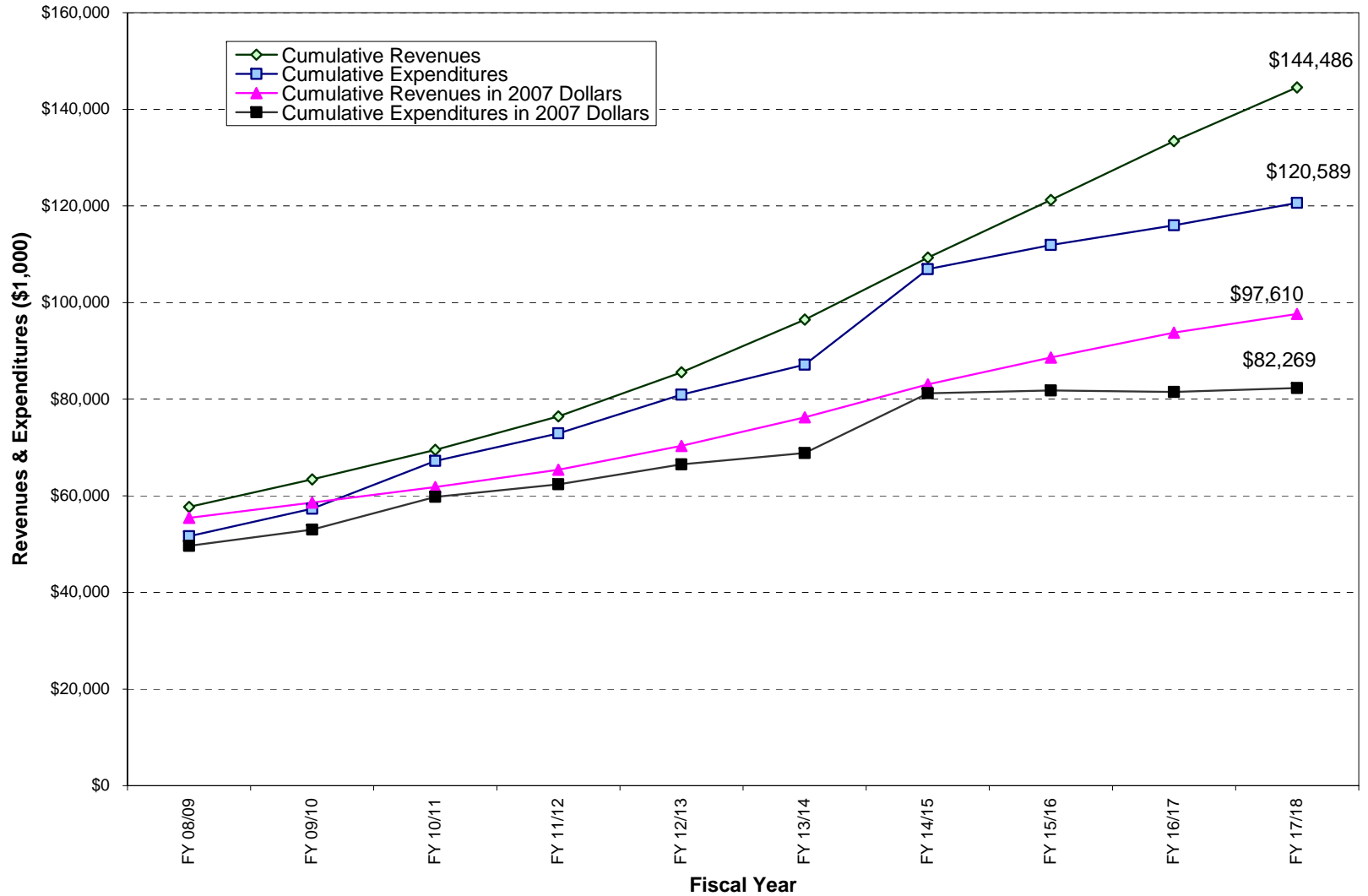
Graph 2-2 - Shows the projected available fund balance through FY 2017/18 in both actual and 2007 dollars.

TABLE 2-2
Fund 72 (Water Rates)
TEN-YEAR FUNDING OUTLOOK
(\$ Millions)

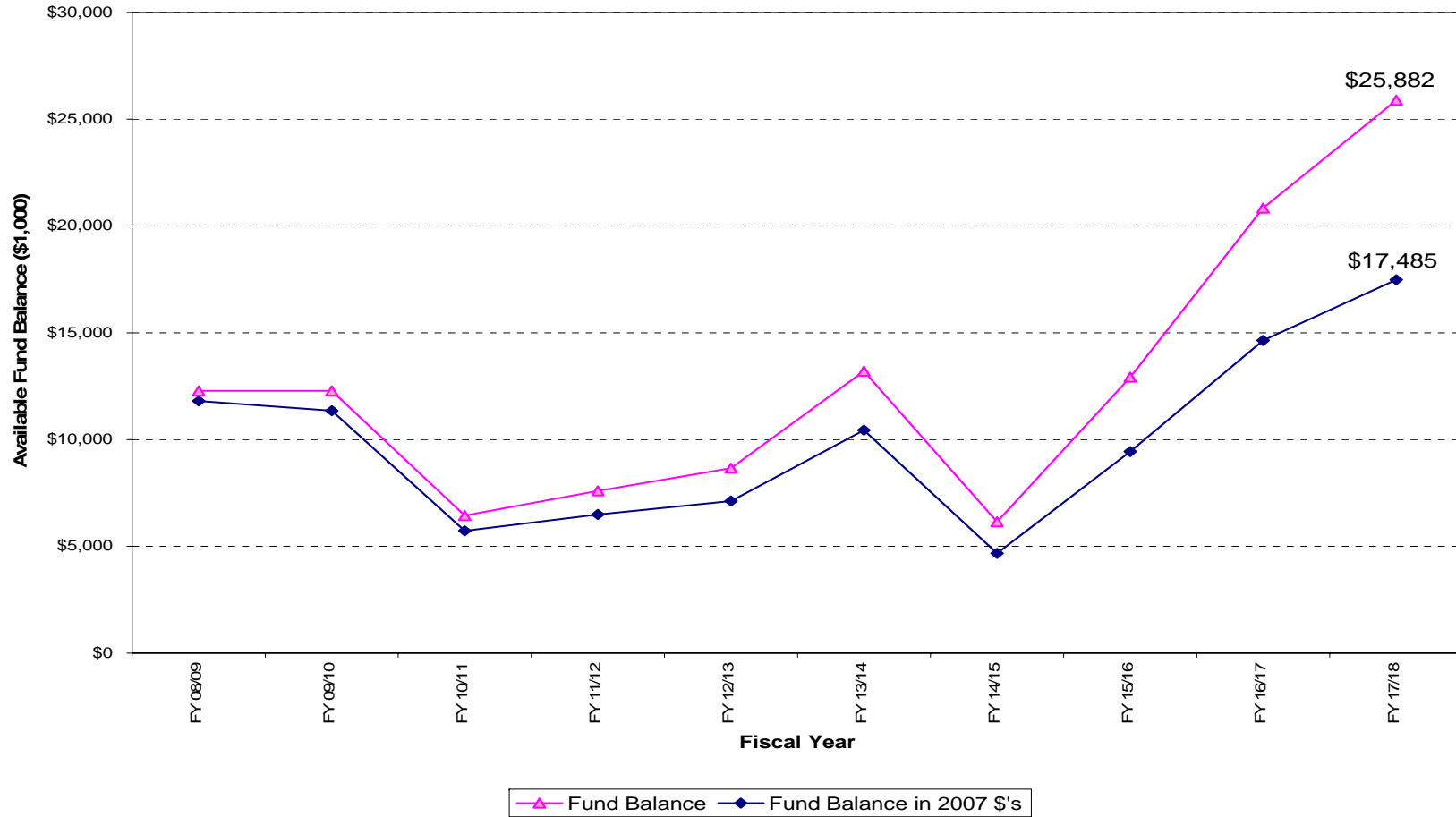
Fiscal year (FY)	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18
Beg. Balance	17.382	12.281	12.278	6.440	7.600	8.660	13.205	6.153	12.918	20.840
Water Rate Contribution	4.060	4.004	4.377	4.642	6.420	8.276	10.046	10.046	10.046	10.046
Dougherty Valley Facility Use Fee	1.250	1.250	1.250	2.034	2.566	2.245	2.245	1.115	1.115	0.000
Interest Income	0.219	0.491	0.491	0.258	0.124	0.374	0.557	0.775	1.020	1.015
R&R Expenditures	2.464	1.619	6.608	3.578	2.018	2.368	2.878	2.134	2.620	2.770
SWI Expenditures	7.3	3.3	4.441	1.259	5.065	2.978	15.985	1.963	0.533	2.102
Program Contingency¹	0.500	0.520	0.540	0.560	0.580	0.610	0.630	0.660	0.680	0.710
Subtotal	12.630	12.636	6.807	7.977	9.046	13.600	6.559	13.334	21.267	26.319
<i>Reserved Funds</i>										
Building Sinking Fund	0.349	0.358	0.367	0.377	0.386	0.395	0.406	0.416	0.427	0.437
Net Estimated Available Fund Balance	12.281	12.278	6.440	7.600	8.660	13.205	6.153	12.918	20.840	25.882
Net Estimated Available Fund Balance in 2007 Dollars:	11.809	11.352	5.725	6.496	7.118	10.436	4.676	9.439	14.642	17.485

1. Program contingency is adjusted by 4% annually to account for inflation.

GRAPH 2-1
Fund 72 – Water Rates
Ten-Year Funding Outlook through FY 2017/18
Cumulative Revenue vs. Cumulative Expenditures



GRAPH 2-2
Fund 72 – Water Rates
Ten-Year Funding Outlook through FY 2017/18
Available Fund Balance
Shown in Actual and 2007 Dollars



Water Rate Impacts of Future Groundwater Demineralization Plants

Besides the impact on future Zone 7 treated water rates from the required AMP funding 'ramp up' discussed earlier, funding for Zone 7's future groundwater demineralization plants will have additional operation & maintenance (O&M) costs associated with them. It is estimated that one demineralization facility would have an annual O&M cost of approximately \$1.6 million per year (2007 dollars), which assumes operation of the facility nine months out of the year. This would translate to roughly a 5% of the Zone 7 treated water rate. A second demineralization plant would add an additional 5% to the treated water rate. Currently, the first facility (Mocho Groundwater Demineralization Plant) is scheduled to go into operation in 2009. The second facility is scheduled to go into operation as early as 2013 and the third facility, if needed, is scheduled for operation in 2020. As total water demands increase through buildout, the relative percentage of the overall treated water rate that would pay for operation and maintenance of the first two plants is anticipated to decrease from around 10% to 8%. The third facility's impact on water rates is yet to be determined.

2.5.2 Fund 73 – Expansion

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, conveyance facilities (e.g., SBA Improvement & Enlargement Project), treatment and transmission facilities.

As has been communicated the last few years, there would be a funding shortfall in Fund 73 if there were to be no additional sources of revenues and/or no changes in projected expenditures. The primary reason for this projected near-term deficit is the cost (currently estimated at \$195 million) of the Altamont Water Treatment Plant Phase I and Pipeline Project. Zone 7 hired the firm of Bartle Wells Associates (BWA), independent public finance advisors, to develop funding strategies to meet this projected near-term deficit in Fund 73. BWA, with Zone 7's assistance, developed various potential financing plans capable of eliminating the otherwise-projected funding shortfall. In October 2006, staff recommended to the Zone 7 Board, a financing plan which included a 45% increase in connection fees and \$30 million in short-term financing. The Board subsequently approved the fee increase from \$13,500 to \$19,570 for the Zone 7 service area and from \$13,050 to \$18,120 for Dougherty Valley. At that time it was noted that staff would return to the Board with a full evaluation of the available funding alternatives and a request for authorization to pursue an appropriate course of action.

On April 4, 2007, staff and BWA presented the Zone 7 Finance Committee with a range of potential funding alternatives and communicated the need to secure more funding than previously anticipated. Based on the latest project cost estimates and cash flow needs, staff has identified the need to secure additional funding in the amount of \$60 million rather than the previously-estimated amount of \$30 million. This increase is attributed to increased project costs and lower-than-anticipated connection fee revenue. The Finance Committee directed staff to analyze various scenarios, including the "Most Probable", "Worst Case" and "Best Case" and present the findings to the full Board. The Finance Committee found it prudent to analyze each scenario considering continuation of the current development slowdown, which would affect revenue projections, as well as considering the impact of potential increased costs for major projects such as the Altamont Water Treatment Plant Phase 1 and Pipeline Project. To provide for reasonable revenue projections and also to recognize the cyclical variability in economic growth, a concept of "growth cycling" has been utilized in projecting future connection fee revenues. This approach assumes that for the planning period under consideration, for the first five years, 70% of the projected number of connections would actually come in and the remaining 30% would materialize in following five years in addition to 100% of the normally projected number of equivalent connections for those years or 130%. The cycle would then restart in the first year of the subsequent ten-year period.

Accordingly, staff developed parameters for these scenarios which take in consideration the potential for increased project costs and decreased connection fee revenue in the near-term. These scenarios were presented to the full Zone 7 Board on April 18, 2007. At that time, staff recommended proceeding under Funding Scenario 1, illustrated in Table 2-3 below which facilitates timely completion of Expansion projects as planned while using conservative revenue projections. The conservative revenue projection that was used in this scenario is a slight modification of the normal growth cycle. This modified growth scenario accounts for the slowdown in development that occurred in FY 06/07. Instead of 70% of planned growth, 40% of planned growth was estimated for FY 06/07,

returning to 70% of planned growth in the following four years, with the remaining 60% from FY 06/07 and 30% from FY 07/08 – FY 10/11 materializing in the subsequent five years (160% in FY 11/12 and 130% in FY 12/13 – 15/16). Note that this scenario has been further modified to provide for more conservatism in revenue projections, rather than 160% in FY 11/12 and 130% in FY 12/13 – 15/16, 100% of planned growth is projected for FY 11/12 and 145% in FY 12/13 – FY15/16).

In addition, this scenario includes financing of up to \$60 million over a six year period in the form of an Installment Sale Structure (ISS). An ISS is a form of lease financing which functions similarly to a line of credit. Zone 7 will make interest only payments on the amount financed during the six-year term with the principal amount due in year six. The agreement with the financial institution will contain certain covenants by Zone 7 that are very similar to those associated with a revenue bond. The most important covenant is that payments by Zone 7 will be secured solely by net water revenues (connection fee and water rate revenues after payment of operations and maintenance costs). Under this arrangement there is no lien on Zone 7's other funds, and there will not be any lien or pledge of Zone 7's physical assets. It is important to note that while the ISS will be secured by net water revenues, actual payments will be made using connection fee revenue.

At the May 2, 2007 Zone 7 Board meeting; the Board authorized BWA, on behalf of the General Manager to solicit bids from financial institutions to secure an ISS. Upon authorization, BWA issued a Request for Proposal (RFP) on May 25, 2007 to solicit bids from financial institutions to secure an ISS in the amount of \$60 million. The RFP was issued to eight financial institutions and five responses were received. BWA and Zone 7 staff reviewed all of the proposals received and recommended proceeding with Wells Fargo Bank, N.A. (Well Fargo). Wells Fargo offered the most favorable overall financial terms for Zone 7, including an attractive interest rate, no upfront fees and the lowest unused portion fee. At the June 20, 2007 Zone 7 Board of Directors meeting, the Board authorized the Zone 7 General Manager to negotiate and execute an agreement with Wells Fargo secure the ISS. Staff is currently working with Wells Fargo to finalize the agreement and anticipates drawing on the ISS some time in FY 2008/09, but the exact timing will be dependent upon receipt of connection fee revenue and project costs and schedules. The resultant near-term funding outlook under this funding structure is shown in Table 2-3 below.

Graph 2-3 - Shows the projected cumulative revenue versus cumulative expenditures for this program, from FY 08/09 through FY 2017/18 in both actual and 2007 dollars.

Graph 2-4 - Shows the projected available fund balance through FY 2017/18 in both actual and 2007 dollars.

TABLE 2-3
Fund 73 (Connection Fees)
TEN-YEAR FUNDING OUTLOOK- WITH \$60 M INSTALLMENT SALE STRUCTURE
(\$ Millions)

Expansion Program Ten-Year Funding Outlook										
Scenario 1 - Most Probable. Growth 40%, 70%, 70%, 70%, 70% for FY 06/07-10/11.										
AWTP Phase 1 & Altamont Pipeline online by 2010.										
\$60M ISS Opened - \$55M Used - \$7M Minimum Funds Available ¹										
	FY 08/09	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
BEGINNING OF YEAR FUND BALANCE										
Cash	68,705	3,443	3,053	6,395	5,212	8,829	49,506	85,333	88,267	86,042
ISS available	60,000	50,000	5,000	7,500	10,000					
ISS being used	0	10,000	55,000	52,500	50,000	0				
TOTAL FUNDS AVAILABLE	128,705	53,443	8,053	13,895	15,212	8,829	49,506	85,333	88,267	86,042
REVENUE (\$1000s)										
Dougherty Valley ²	3,485	3,590	5,303	9,941	26,003	21,196	21,514	12,654	0	0
Zone 7 ²	34,242	32,315	50,836	51,742	72,903	69,956	61,148	41,113	21,403	25,422
Interest Income ³	2,748	138	122	256	208	353	1,980	3,413	3,531	3,442
ISS Used/Paid Back	10,000	45,000	-2,500	-2,500	-50,000					
Dougherty Valley Trust Fund										
Total Revenue	50,475	81,043	53,761	59,440	49,114	91,505	84,642	57,180	24,933	28,864
EXPENDITURES (\$1000s)										
Total Expenditures⁴	113,542	79,154	48,054	58,167	42,947	48,182	46,067	51,393	24,195	16,213
END CASH FUND BALANCE	5,637	5,332	8,760	7,667	11,379	52,153	88,081	91,120	89,005	98,693
Sinking Fund Contributions⁵	2,195	2,279	2,365	2,456	2,550	2,647	2,748	2,853	2,962	3,075
Year Ending Net Available Fund Balance	3,443	3,053	6,395	5,212	8,829	49,506	85,333	88,267	86,042	95,617
Cash Available	3,443	3,053	6,395	5,212	8,829	49,506	85,333	88,267	86,042	95,617
ISS Available	50,000	5,000	7,500	10,000		0	0	0	0	0
Total Funds Available (Cash & ISS)	53,443	8,053	13,895	15,212	8,829	49,506	85,333	88,267	86,042	95,617
Total Funds Available in 2007 Dollars	51,387	7,446	12,352	13,003	7,257	39,125	64,846	64,495	60,452	64,596
PROJECTED CONNECTIONS										
Dougherty Valley	184	184	264	480	1,217	963	963	566	0	0
Zone 7	1,672	1,532	2,339	2,310	3,159	2,942	2,534	1,704	887	1,054
% of General Plan Growth	70%	70%	70%	100%	145%	145%	145%	145%	70%	70%

¹ \$7M total minimum funds available includes separate minimum balances of \$2M cash fund balance and \$5M minimum ISS.

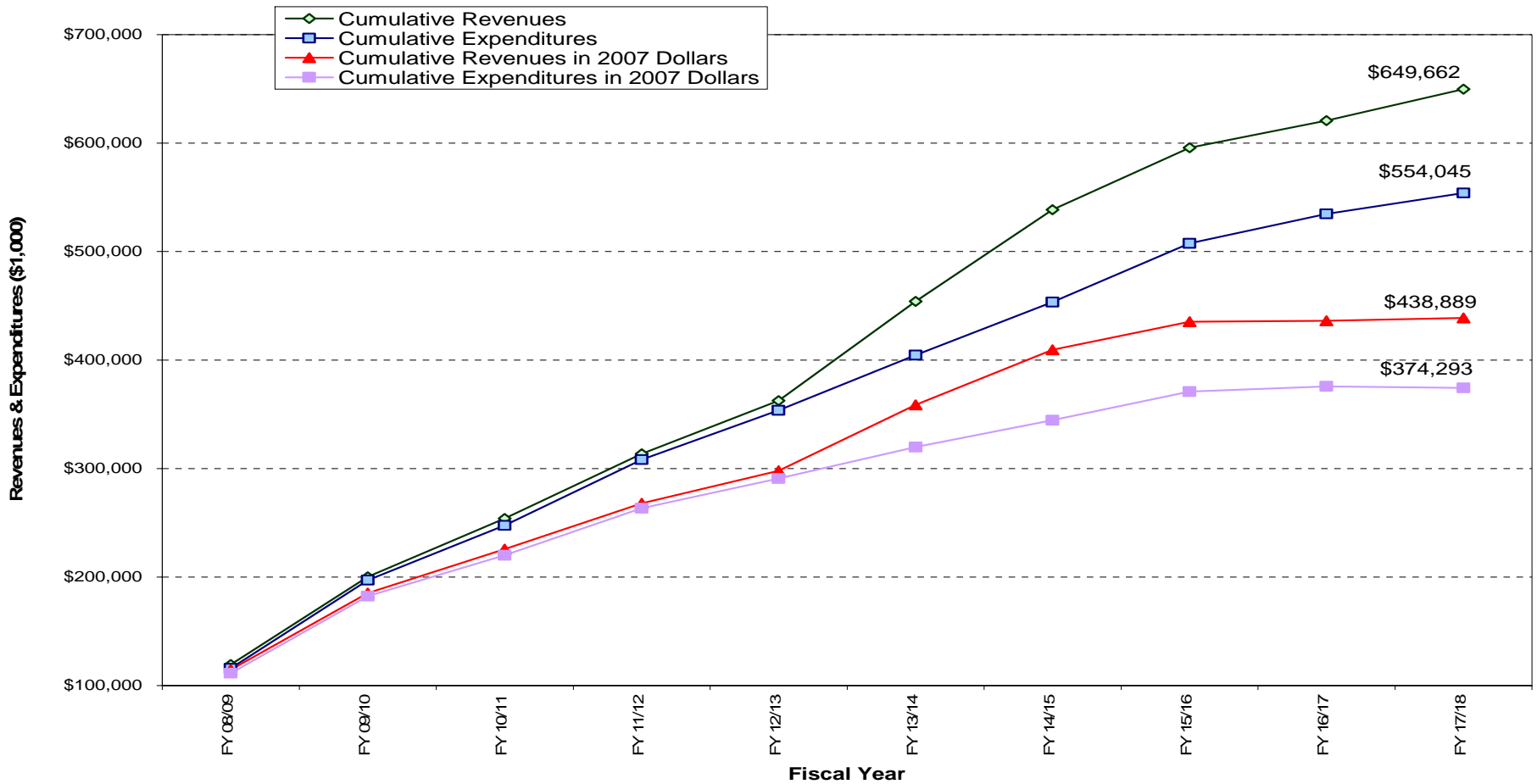
² For normal planning purposes a growth cycling concept is used. It assumes 70% of projected growth for the first five years and 130% for the succeeding five years. This scenario assumes 40% of projected growth in FY 2006/07, 70% of projected growth in FY 07/08 - FY 10/11, 100% of projected growth in FY 11/12 and 145% in FY 12/13 - FY 15/16.

³ Assumes 4% interest earned on beginning and sinking fund balances.

⁴ Total expenditures include: project expenditures (adjusted by 4% annual inflation); administrative fee (1% of connection fee revenue) to Retailers; lease payment for Administration & Engineering Building; \$500K program contingency for FY 08/09, increasing to 10% of total annual expenditures for FY 09/10 -11/12, 30% thereafter and interest paid on ISS (est. 4.52%).

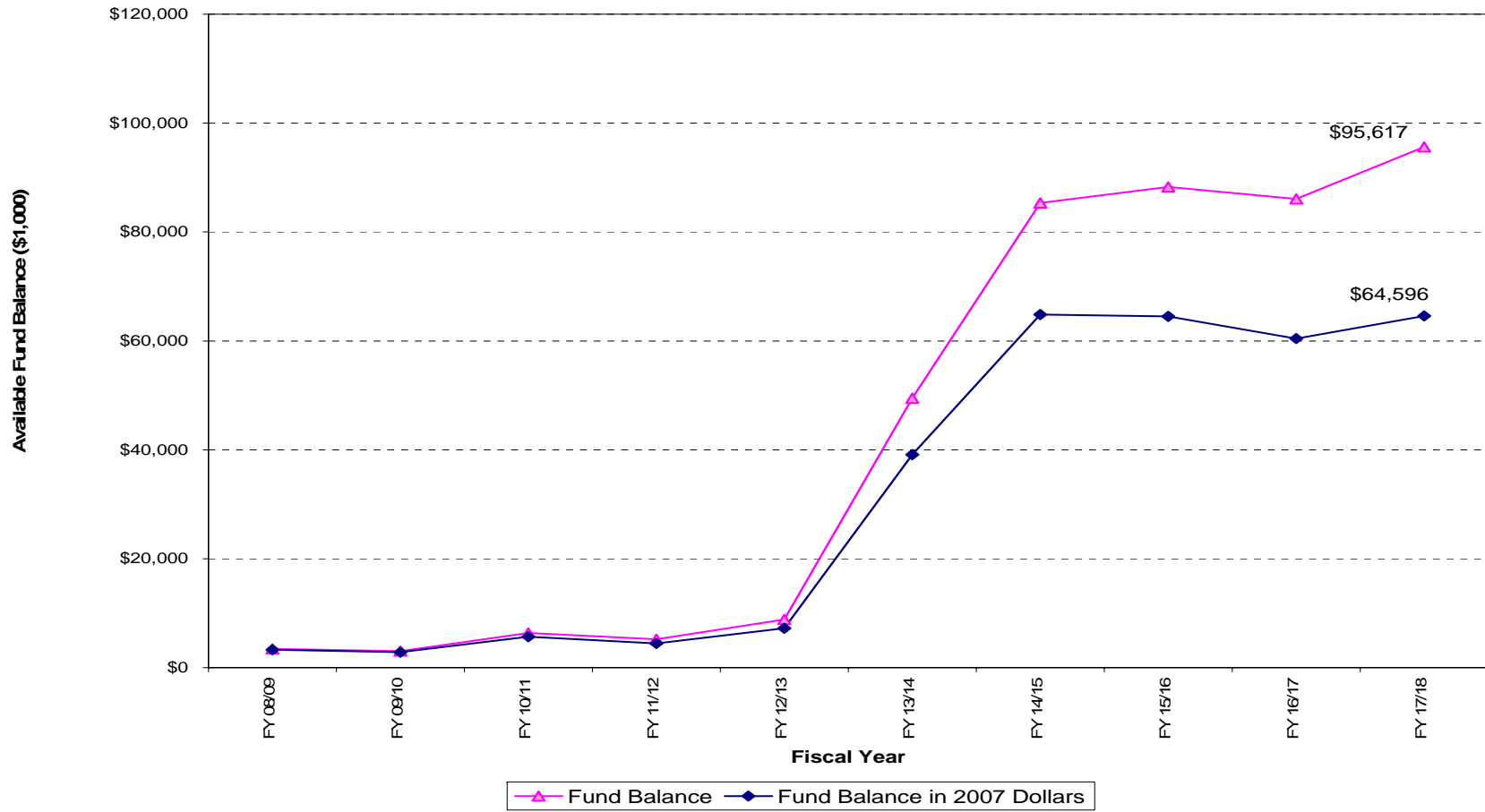
⁵ Sinking Fund Contribution includes: Future Contractor's Share of the SBA, SBA Enlargement and Administration & Engineering Building sinking funds.

GRAPH 2-3
Fund 73 – Connection Fees
Ten-Year Funding Outlook through FY 2017/18
Cumulative Revenue vs. Cumulative Expenditures



Note: Cumulative Expenditures include retirement of ISS and debt service. Cumulative Revenues includes use of \$55 million of the ISS.

GRAPH 2-4
Fund 73 – Connection Fees
Ten-Year Funding Outlook until FY 2017/18
Available Fund Balance
Shown in Actual and 2007 Dollars



2.6 CAPITAL PROJECTS

This section contains a ten-year estimated appropriation summary for the capital projects for the Water System included in the FY 2008/09 through FY 2017/18 CIP, a project summary sheet for each project and an alphabetical project listing

2.6.1 Appropriation Summary

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

**Capital Improvement Program
Project Summary by Program**
(Appropriations shown in \$Millions)

Programs	Appropriations (\$Millions)										Total
	FY 08/09	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	
Building & Grounds											
Administrative & Engineering Building Lease (Water System)	\$0.854	\$0.871	\$0.888	\$0.907	\$0.924	\$0.943	\$0.962	\$0.981	\$1.001	\$1.020	\$9.351
Administrative & Engineering Building - Sinking Fund (Water System)	\$0.624	\$0.640	\$0.656	\$0.673	\$0.690	\$0.706	\$0.725	\$0.743	\$0.762	\$0.780	\$6.999
Total	\$1.478	\$1.511	\$1.544	\$1.580	\$1.614	\$1.649	\$1.687	\$1.724	\$1.763	\$1.800	\$16.350
Emergency Preparedness											
Security Improvements at Existing Facilities	\$0.835										\$0.835
Upgrade of PPTWP Emergency & Safety Services Building		\$0.025	\$0.200								\$0.225
Vulnerability Assessment Review & Update		\$0.108									\$0.108
Total	\$0.835	\$0.133	\$0.200								\$1.168
Groundwater Basin Management											
Mocho Groundwater Demineralization Plant	\$9.383										\$9.383
Monitoring Well Replacements	\$0.050	\$0.050		\$0.040		\$0.060		\$0.060		\$0.060	\$0.320
New Monitoring Wells	\$0.150	\$0.150	\$0.150	\$0.160	\$0.160						\$0.770
Stream Gage Replacement	\$0.120	\$0.110				\$0.140	\$0.130				\$0.500
Total	\$9.703	\$0.310	\$0.150	\$0.200	\$0.160	\$0.200	\$0.130	\$0.060		\$0.060	\$10.973
Program Management											
Capital Improvement Program Management	\$0.143	\$0.143	\$0.143	\$0.143	\$0.143	\$0.152	\$0.152	\$0.152	\$0.152	\$0.152	\$1.473
Expansion Program Management	\$0.150	\$0.150	\$0.150	\$0.150	\$0.150	\$0.175	\$0.175	\$0.175	\$0.175	\$0.175	\$1.625
System-Wide Improvement, Renewal/Replacement Program Management	\$0.050	\$0.050	\$0.050	\$0.050	\$0.050	\$0.060	\$0.060	\$0.060	\$0.060	\$0.060	\$0.550
Total	\$0.343	\$0.343	\$0.343	\$0.343	\$0.343	\$0.387	\$0.387	\$0.387	\$0.387	\$0.387	\$3.648
Regulatory Compliance											
Laboratory Equipment Replacement	\$0.100	\$0.110	\$0.110	\$0.120	\$0.120	\$0.130	\$0.130	\$0.140	\$0.140	\$0.150	\$1.250
Total	\$0.100	\$0.110	\$0.110	\$0.120	\$0.120	\$0.130	\$0.130	\$0.140	\$0.140	\$0.150	\$1.250
Transmission & Distribution											
Corrosion Master Plan	\$0.210					\$0.250					\$0.460
System-Wide Installation of Line Valves	\$0.050	\$0.220	\$0.050	\$0.230	\$0.060	\$0.250	\$0.070	\$0.270	\$0.070	\$0.300	\$1.570
Transmission System Master Planning	\$0.100	\$0.100	\$0.100	\$0.100	\$0.100	\$0.125	\$0.125	\$0.125	\$0.125	\$0.125	\$1.125
Total	\$0.360	\$0.320	\$0.150	\$0.330	\$0.160	\$0.625	\$0.195	\$0.395	\$0.195	\$0.425	\$3.155

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

Programs	Appropriations (\$Millions)										Total	
	FY 08/09	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		
Water Supply & Conveyance												
Arroyo Mocho Low Flow Crossings	\$0.350											\$0.350
Arroyo Mocho/Lake H Diversion Structure	\$0.230	\$0.080										\$0.310
CAL-FED Project Proportional Local Share	\$0.090	\$0.090	\$0.090	\$0.090	\$0.090	\$0.090	\$0.090	\$0.090	\$0.090	\$0.090		\$0.810
Cawelo Groundwater Banking Program	\$1.295	\$1.295	\$1.293	\$1.296	\$1.293	\$1.294	\$1.295	\$1.295	\$1.294	\$1.297		\$12.947
Chain of Lakes Facilities and Improvements	\$1.250	\$0.790	\$1.340	\$0.400	\$0.940	\$0.820	\$0.510					\$6.050
Chain of Lakes Master Plan	\$1.250	\$0.580	\$0.340									\$2.170
CUWA Membership	\$0.110	\$0.110	\$0.110	\$0.110	\$0.110	\$0.110	\$0.110	\$0.110	\$0.110	\$0.110	\$0.110	\$1.100
Delta Conservation Plan	\$0.130	\$0.135										\$0.265
Delta Outreach Program	\$0.026	\$0.028										\$0.054
Delta Water Supply/Storage						\$11.000						\$11.000
Fixed Cost of Water Entitlement	\$0.139	\$0.068	\$0.033	\$0.022	\$0.011							\$0.273
Future 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	\$0.726	\$7.260
Future 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	\$0.196	\$1.960
High-Efficiency Washing Machine Rebate Program	\$0.075	\$0.075	\$0.050	\$0.050	\$0.050	\$0.050	\$0.050					\$0.400
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	\$0.048	\$0.480
South Bay Aqueduct Improvement & Enlargement Project	\$6.702	\$8.548	\$8.629	\$8.491	\$8.491	\$8.494	\$8.492	\$8.491	\$8.494	\$8.492	\$8.492	\$83.324
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	\$1.500	\$15.000
SWP Peaking Payment (Lost Hills & Belridge Water Districts)	\$0.270	\$0.264	\$0.270	\$0.267	\$0.268	\$0.267	\$0.268	\$0.267	\$0.265	\$0.268	\$0.268	\$2.674
Ultra Low Flush/High Efficiency Toilet Rebate Program	\$0.050	\$0.050	\$0.060	\$0.060	\$0.060	\$0.060	\$0.070	\$0.070	\$0.070	\$0.070	\$0.070	\$0.620
Water Conservation Best Management Practices	\$0.250	\$0.250	\$0.275	\$0.275	\$0.275	\$0.275	\$0.275	\$0.325	\$0.325	\$0.325	\$0.325	\$2.850
Total	\$14.687	\$14.833	\$14.960	\$13.531	\$14.058	\$24.930	\$13.630	\$13.118	\$13.118	\$13.032	\$13.032	\$149.897

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

Programs	Appropriations (\$Millions)										
	FY 08/09	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	Total
Water Treatment Facilities											
Altamont Water Treatment Plant Membrane Module Replacement								\$0.685	\$0.710	\$0.740	\$2.135
Altamont Water Treatment Plant Operational Training	\$0.200										\$0.200
Altamont Water Treatment Plant Phase 1 (24 MGD) & Altamont Pipeline	\$89.571	\$43.770	\$15.420								\$148.761
Altamont Water Treatment Plant Phase 1A			\$0.900	\$5.381							\$6.281
Altamont Water Treatment Plant Phase 2 (12-18 MGD)						\$3.800	\$23.690	\$27.370	\$0.710		\$55.570
DVWTP Access Road Maintenance Project			\$0.040								\$0.040
DVWTP Aqueous Ammonia System			\$2.690								\$2.690
DVWTP Caustic Soda Chemical Storage Upgrade	\$0.510										\$0.510
DVWTP Chemical Feed System Replacement	\$0.330										\$0.330
DVWTP Filter Valves Replacement		\$0.270									\$0.270
DVWTP Instrumentation Upgrades			\$0.110	\$0.290							\$0.400
DVWTP Recovery Ponds Solids Extraction System	\$0.100										\$0.100
DVWTP Sludge Handling Improvements						\$1.010	\$6.840				\$7.850
Minor Renewal/Replacement Projects	\$0.200	\$0.200	\$0.225	\$0.225	\$0.225	\$0.250	\$0.250	\$0.250	\$0.250	\$0.250	\$2.325
PPWTP Ammonia Facility Replacement			\$2.020								\$2.020
PPWTP Improvements - 2012											\$2.310
PPWTP Instrumentation Upgrades				\$0.120	\$0.360						\$0.480
PPWTP Rehabilitation of Clarifier and Replacement of Motor				\$1.520							\$1.520
PPWTP Sludge Handling Improvements						\$1.020	\$8.290	\$1.230			\$10.540
PPWTP UF HVAC Improvements	\$0.070	\$0.390									\$0.460
PPWTP UF Work Facility Addition	\$0.090	\$0.450									\$0.540
PPWTP Ultrafiltration Membrane Replacement	\$0.320	\$0.010	\$0.350	\$0.370	\$0.410	\$0.840	\$0.480		\$0.510	\$0.530	\$3.820
SCADA Enhancements	\$0.780	\$0.270	\$0.280	\$0.300	\$0.300	\$0.320	\$1.250	\$0.350	\$0.350	\$0.370	\$4.570
Second Groundwater Demineralization Facility			\$3.930	\$17.550	\$18.250	\$4.430					\$44.160
Third Groundwater Demineralization Facility						\$2.340				\$1.480	\$3.820
Water Quality - DVWTP Taste and Odor Treatment		\$0.760	\$1.910	\$0.220							\$2.990
Water Quality - PPWTP Taste and Odor Treatment	\$0.100	\$0.760	\$1.910	\$0.220							\$2.990
Water Quality Management Program	\$0.104	\$0.110	\$0.110	\$0.120	\$0.120	\$0.130	\$0.130	\$0.140	\$0.140	\$0.150	\$1.254
Total	\$92.475	\$46.990	\$29.895	\$26.316	\$24.315	\$11.800	\$40.930	\$30.025	\$2.670	\$3.520	\$308.936
Wells											
Install VFD at Mocho 3 or Mocho 4 Well Master Plan Wells	\$4.160	\$15.280	\$9.080	\$16.450	\$2.800	\$7.180	\$0.330 \$1.770	\$2.390	\$8.370	\$2.000	\$0.330 \$69.480
Total	\$4.160	\$15.280	\$9.080	\$16.450	\$2.800	\$7.180	\$2.100	\$2.390	\$8.370	\$2.000	\$69.810
Total	\$124.141	\$79.830	\$56.432	\$58.870	\$43.570	\$46.901	\$59.189	\$48.239	\$26.643	\$21.374	\$565.187
In 2007 Dollars	\$119.366	\$73.807	\$50.168	\$50.322	\$35.811	\$37.067	\$44.979	\$35.248	\$18.719	\$14.440	\$479.927

2.6.2 Project Listing

The following list shows the project title and page number for each Water System capital project in this Ten-Year CIP.

<i>Project Title</i>	<i>Page No.</i>
Administrative & Engineering Building (Water System)	2-64
Administrative & Engineering Building - Sinking Fund (Water System)	2-65
Altamont Water Treatment Plant Membrane Module Replacement	2-66
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Altamont Water Treatment Plant Phase 1 (24 MGD) & Altamont Pipeline	2-68
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Altamont Water Treatment Plant Phase 2 (12-18 MGD)	2-70
Arroyo Mocho Low Flow Crossings	2-71
Arroyo Mocho/Lake H Diversion Structure	2-72
CAL-FED Project Proportional Local Share	2-73
Capital Improvement Program Management	2-74
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DVWTP Access Road Maintenance Project	2-83
DVWTP Aqueous Ammonia System	2-84
DVWTP Caustic Soda Chemical Storage Upgrade	2-85
DVWTP Chemical Feed System Replacement	2-86
DVWTP Filter Valves Replacement	2-87
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DVWTP Recovery Ponds Solids Extraction System	2-89
DVWTP Sludge Handling Improvements	2-90
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Future Contractor's Share of the SBA	2-93
Future Contractor's Share of the SBA - Sinking Fund	2-94
High-Efficiency Washing Machine Rebate Program	2-95
Install VFD at Mocho 3 or Mocho 4	2-96
Laboratory Equipment Replacement	2-97
Minor Renewal/Replacement Projects	2-98
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PPWTP Improvements - 2012	2-102
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PPWTP Rehabilitation of Clarifier and Replacement of Motor	2-104

PPWTP Sludge Handling Improvements	2-105
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PPWTP UF Work Facility Addition	2-107
PPWTP Ultrafiltration Membrane Replacement	2-108
SCADA Enhancements	2-109
Second Groundwater Demineralization Facility	2-110
Security Improvements at Existing Facilities	2-111
Semitropic Stored Water Recovery Unit	2-112
South Bay Aqueduct Improvement & Enlargement Project	2-113
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Stream Gage Replacement	2-115
SWP Peaking Payment (Lost Hills & Belridge Water Districts)	2-116
System-Wide Improvement, Renewal/Replacement Program Management	2-117
System-Wide Installation of Line Valves	2-118
Third Groundwater Demineralization Facility	2-119
Transmission System Master Planning	2-120
Ultra Low Flush/High Efficiency Toilet Rebate Program	2-121
Upgrade of PPTWP Emergency & Safety Services Building	2-122
Vulnerabilities Assessment Review and Update	2-123
Water Conservation Best Management Practices	2-124
Water Quality - DVWTP Taste and Odor Treatment	2-125
Water Quality - PPWTP Taste and Odor Treatment	2-126
Water Quality Management Program	2-127
Well Master Plan Wells	2-128

2.6.3 Project Summaries

The following project summaries are presented in the order they appear in the Project Listing.

Capital Improvement Project Summary Report

Strategy	Expansion Renewal/Replacement
Program	Building & Grounds
Project	Administrative & Engineering Building Lease (Water System)
Project ID:	SP1
Priority	2
Project Description	A new office building has been constructed for administrative and engineering staff. The new building has a larger Board Room for public meetings. It is located closer to operations (treatment plants), and is more centrally located for employees and Valley residents. The cost is based on "Build to Suit" option and includes lease payments. In addition to the scheduled lease payment for the new building, \$696,000 plus interest per year will be contributed to this sinking fund in order to cover the purchase cost of the building after the lease payments have been completed (FY 2018/19).
Justification	Engineering, administrative and operations staff were at different locations. This project has brought administrative and engineering staff together and will bring both closer to operations. This project also accommodates future expansion. It will reduce overall agency travel times, improve communications and staff productivity.
Responsible Section	ASD Administrative Services Division
Operating Impact	Provides for more efficient and effective operations of administrative and engineering functions. Provides for secure Emergency Operations Center (EOC), as the new building meets strictest building and safety codes.
In Service Date	Month: February Year: 2020
Total Project Cost In 2007 dollars	\$15,261,000 (for the Water System) N/A
Source of Funds	Fund 72 Water Rates 56% Fund 73 Connection Fees 44%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$277	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$277
Design	\$277	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$277
Construction	\$1,485	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,485
Other	\$2,830	\$854	\$871	\$888	\$907	\$924	\$943	\$962	\$981	\$1,001	\$1,020	\$1,041	\$13,222
Total	\$4,869	\$854	\$871	\$888	\$907	\$924	\$943	\$962	\$981	\$1,001	\$1,020	\$1,041	\$15,261

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Expansion Renewal/Replacement
Program	Building & Grounds
Project	Administrative & Engineering Building - Sinking Fund (Water System)
Project ID:	SP11
Priority	1
Project Description	A new office building has been constructed for administrative and engineering staff. The new building has a larger Board Room for public meetings. It is located closer to operations (treatment plants), and is more centrally located for employees and Valley residents. The cost is based on "Build to Suit" option and includes lease payments. In addition to the scheduled lease payment for the new building, \$696,000 plus interest per year will be contributed to this sinking fund in order to cover the purchase cost of the building after the lease payments have been completed (FY 2018/19).
Justification	This sinking fund will cover the cost to purchase the new Administrative & Engineering Building after Zone 7's 15 year lease is completed.
Responsible Section	ASD Administrative Services Division
Operating Impact	None.
In Service Date	Month: Year: 2018
Total Project Cost In 2007 dollars	\$10,849,000 (for the Water System) N/A
Source of Funds	Fund 72 Water Rates 56% Fund 73 Connection Fees 44%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other	\$3,050	\$624	\$640	\$656	\$673	\$690	\$706	\$725	\$743	\$762	\$780	\$800	\$10,849
Total	\$3,050	\$624	\$640	\$656	\$673	\$690	\$706	\$725	\$743	\$762	\$780	\$800	\$10,849

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Renewal/Replacement
Program	Water Treatment Facilities
Project	Altamont Water Treatment Plant Membrane Module Replacement
Project ID:	ALT8
Priority	1
Project Description	This project involves the periodic replacement of immersed ultrafiltration membranes. After several years of operation, membranes reach their useful life and will need to be replaced. The funding in latter years provides a placeholder for the membrane system upgrades.
Justification	As the fouling process continues, the permeability through the membrane decreases. To minimize the effects of fouling, the membranes require frequent cleaning and eventually, replacement.
Responsible Section	CP Capital Projects
Operating Impact	Increase operating reliability and effectiveness.
In Service Date	Month: Year: Ongoing
Total Project Cost	\$10,110,000
In 2007 dollars	\$5,000,000
Source of Funds	Fund 72 Water Rates 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$685	\$710	\$740	\$7,975	\$10,110
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$685	\$710	\$740	\$7,975	\$10,110

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Expansion
Program	Water Treatment Facilities
Project	Altamont Water Treatment Plant Operational Training
Project ID:	ALT5
Priority	2
Project Description	This project is for an Operational Training Program for one Water Facilities Supervisor (75% of the time) for the new Altamont Water Treatment Plant.
Justification	In preparation for the completion of the new Altamont Water Treatment Plant, there is a need to begin training a Water Facilities Supervisor that will be staffed at this new facility.
Responsible Section	OPS Operations & Maintenance
Operating Impact	Increase of operational efficiencies.
In Service Date	Month: June Year: 2009
Total Project Cost	\$408,000
In 2007 dollars	\$400,000
Source of Funds	Fund 73 Connection Fees 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$200	\$208	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$408
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$200	\$208	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$408

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Expansion
Program	Water Treatment Facilities
Project	Altamont Water Treatment Plant Phase 1 (24 MGD) & Altamont Pipeline
Project ID:	ALT2
Priority	1
Project Description	<p>The 24 MGD first phase of the water treatment plant will have provisions for expansion to 42 MGD. It will consist of an operations and control building, treatment process facilities, washwater and solids handling facilities, chemical storage and feed system, standby power, miscellaneous support facilities, parking and access road. The project is scheduled for completion in 2010.</p> <p>The pipeline involves the installation of approximately twelve miles of 48 /42 -inch potable water transmission pipeline from the future Altamont Water Treatment Plant to connections with the existing Cross Valley and Vasco Pipelines.</p>
Justification	<p>The Treated Water Facilities Master Plan (2000) identified a need to construct a new water treatment plant with a maximum capacity of 42 MGD. The water treatment plant project EIR was certified in June 2001. The Master Plan also identified additional required potable water transmission. The new transmission pipelines will connect with Zone 7's existing Cross Valley and Vasco Pipelines. They will both increase transmission capacity and also provide additional operational flexibility through the provision of pipeline loops in the Zone 7 transmission system. The pipeline project EIR was certified in February, 2005.</p>
Responsible Section	CP Capital Projects
Operating Impact	Increases production and delivery capacity and improves operational flexibility.
In Service Date	Month: June Year: 2010
Total Project Cost In 2007 dollars	\$195,111,000 186,649,000
Source of Funds	Fund 73 Connection Fees 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$2,720	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,720
Design	\$13,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$13,000
Construction	\$27,230	\$89,571	\$43,770	\$15,420	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$175,991
Other	\$3,400	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,400
Total	\$46,350	\$89,571	\$43,770	\$15,420	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$195,111

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Expansion
Program	Water Treatment Facilities
Project	Altamont Water Treatment Plant Phase 1A
Project ID:	ALT6
Priority	1
Project Description	Increase clearwell and storage and emergency generator capacity to increase reliability.
Justification	The Treated Water Facilities Master Plan identified a need to construct a new water treatment plant with a potential maximum capacity of 42 MGD.
Responsible Section	CP Capital Projects
Operating Impact	Increased reliability and system flexibility
In Service Date	Month: June Year: 2012
Total Project Cost	\$6,281,000
In 2007 dollars	\$5,400,000
Source of Funds	Fund 73 Connection Fees 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$0	\$0	\$900	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$900
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$5,381	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,381
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$0	\$0	\$900	\$5,381	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$6,281

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Expansion
Program	Water Treatment Facilities
Project	Altamont Water Treatment Plant Phase 2 (12-18 MGD)
Project ID:	ALT4
Priority	1
Project Description	This project involves the design and construction the second phase of the Altamont Water Treatment Plant (AWTP), expanding the plant from 24 MGD to 36-42 MGD.
Justification	The Treated Water Facilities Master Plan identified a need to construct a new water treatment plant with a potential maximum capacity of 42 MGD. The second phase of AWTP will assist in meeting increasing water demands due to growth and will maintain Zone 7's potable water supply reliability goal, improve water quality and increase operational flexibility.
Responsible Section	AP Advance Planning
Operating Impact	Increased supply capability, reliability and system flexibility. Increased overall operations and maintenance (O&M) costs; however, unit O&M costs should not increase.
In Service Date	Month: June Year: 2016
Total Project Cost	\$55,570,000
In 2007 dollars	\$41,500,000
Source of Funds	Fund 73 Connection Fees 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$0	\$0	\$0	\$0	\$0	\$1,270	\$0	\$0	\$0	\$0	\$0	\$1,270
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$2,530	\$0	\$0	\$0	\$0	\$0	\$2,530
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$23,690	\$27,370	\$0	\$0	\$0	\$51,060
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$710	\$0	\$0	\$710
Total	\$0	\$0	\$0	\$0	\$0	\$0	\$3,800	\$23,690	\$27,370	\$710	\$0	\$0	\$55,570

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Expansion
Program	Water Supply & Conveyance
Project	Arroyo Mocho Low Flow Crossings
Project ID:	COL8
Priority	2
Project Description	This project provides stream channel improvements at two existing driveway crossings on the Arroyo Mocho off Mines Road to facilitate future artificial flow increases associated with the filling of the Chain of Lakes.
Justification	Zone 7 plans to use Lakes H and I for artificial groundwater recharge. This initial Chain of Lakes operation requires Zone 7 to increase its typical releases from 20 cfs to up to 50 cfs; however the higher flows will preclude access of two residences located across the stream from their Mines Road driveway entrances. These improvements are necessary to route a substantial portion of the artificial flows below the crossing surface to facilitate vehicular access to the residences. The project is an identified mitigation in the MMRP for the Arroyo Mocho Diversion Project.
Responsible Section	GP Groundwater Protection
Operating Impact	Increases water supply reliability. Increases channel maintenance costs.
In Service Date	Month: August Year: 2007
Total Project Cost	\$948,000
In 2007 dollars	\$943,000
Source of Funds	Fund 73 Connection Fees 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$213	\$60	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$273
Design	\$230	\$100	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$330
Construction	\$155	\$190	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$345
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$598	\$350	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$948

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Expansion
Program	Water Supply & Conveyance
Project	Arroyo Mocho/Lake H Diversion Structure
Project ID:	COL9
Priority	2
Project Description	This project provides the additional materials and capital equipment that Zone 7 needs to effectively operate the Arroyo Mocho Diversion structure that Hanson Aggregates is constructing for Zone 7 at Lake H per their mining agreement. It also provides for the acquisition of permits, the development of specifications for the Zone 7-supplied equipment and the review and coordination of Hanson's design, plans and specifications for the structure that they are constructing. The Zone 7-supplied equipment includes fish screens, automatic screen cleaning apparatuses, water flow and water level monitoring equipment, and security facilities.
Justification	The diversion structure is necessary to operate Lakes H and I for their intended purpose, which is as artificial groundwater recharge percolation ponds. The additional recharge capacity that this project allows is necessary for the conjunctive use increases planned for by Zone 7 to maintain its future water system reliability goals. Environmental and regulatory pressures have forced Zone 7 to commit to certain operational constraints to prevent against the take of future potential migrating steelhead. Therefore, Zone 7 has agreed to take on the permitting and the expense for appurtenances necessary to comply operationally with the regulatory requirements, such as fish screens, screen cleaning devices and monitoring equipment and automatic controls.
Responsible Section	GP Groundwater Protection
Operating Impact	Indirectly increases water supply reliability. Adds new O&M and repair & replacement expenses for Zone 7.
In Service Date	Month: November Year: 2009
Total Project Cost In 2007 dollars	\$916,000 \$906,000
Source of Funds	Fund 73 Connection Fees 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$256	\$90	\$20	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$366
Design	\$75	\$40	\$20	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$135
Construction	\$275	\$100	\$40	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$415
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$606	\$230	\$80	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$916

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Expansion
Program	Water Supply & Conveyance
Project	CAL-FED Project Proportional Local Share
Project ID:	WP13
Priority	1
Project Description	Impacts to Zone 7's water supply are currently anticipated as part of the CAL-FED Program. The CAL-FED program components, which are allocated to Zone 7, include drinking water quality, environmental water quality, storage and conveyance. This is a cost-sharing project with the State Water Project Contractors and the Central Valley Project. Zone 7 would be responsible for its proportional share. This includes \$60K annually for the Municipal Water Quality Investigation (MWQI).
Justification	To firm up State Water Project entitlement, reliability and water quality.
Responsible Section	AP Advance Planning
Operating Impact	Improved reliability and effectiveness.
In Service Date	Month: Year: Ongoing
Total Project Cost In 2007 dollars	\$3,110,000 N/A
Source of Funds	Fund 73 Connection Fees 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other	\$590	\$90	\$90	\$90	\$90	\$90	\$90	\$90	\$90	\$90	\$0	\$1,710	\$3,110
Total	\$590	\$90	\$90	\$90	\$90	\$90	\$90	\$90	\$90	\$90	\$0	\$1,710	\$3,110

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Expansion Renewal/Replacement System-Wide Improvements
Program	Program Management
Project	Capital Improvement Program Management
Project ID:	SP13
Priority	2
Project Description	Ongoing program management of the Capital Improvement Plan.
Justification	Provides for better tracking of program management costs.
Responsible Section	AP Advance Planning
Operating Impact	None
In Service Date	Month: Year: Ongoing
Total Project Cost In 2007 dollars	\$4,893,000 N/A
Source of Funds	Fund 50 Flood Control/ General Fund 5% Fund 72 Water Rates 20% Fund 73 Connection Fees 75%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$285	\$143	\$143	\$143	\$143	\$143	\$152	\$152	\$152	\$152	\$152	\$3,135	\$4,893
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$285	\$143	\$143	\$143	\$143	\$143	\$152	\$152	\$152	\$152	\$152	\$3,135	\$4,893

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Expansion
Program	Water Supply & Conveyance
Project	Cawelo Groundwater Banking Program
Project ID:	WP11
Priority	1
Project Description	<p>On June 21, 2006, the Zone 7 Board of Directors approved an agreement with the Cawelo Water District (a member unit of Kern County Water Agency) for a water banking and exchange program. The banking program will increase Zone 7's dry-year water supply by up to 10,000 acre-feet per year thus providing 100% water reliability through build-out (anticipated in 2030). Zone 7 will be able to store up to 120,000 acre-feet of water within the Cawelo Water District area. The banking program requires a capital expenditure of \$23-25 million to: (1) expand the Cawelo surface water delivery system to enlarge Cawelo's in-lieu recharge capacity, (2) construct additional wells, and (3) make certain improvements to Cawelo's connection to the California Aqueduct to increase its pump-back capacity to the State Water Project. Zone 7's share of the project construction cost is \$19 million.</p> <p>Cawelo financed this program by a \$21.055 million sale of Certificates of Participation (COP) on August 15, 2006. The COPs run through 2035 with an interest rate of 4%, and increasing to 4.67% by 2035. By agreement, Zone 7 will reimburse Cawelo for the COP annual debt service of about \$1.3 million per year.</p>
Justification	Increase reliability by providing additional water supplies during drought years.
Responsible Section	EPA Environmental and Public Affairs
Operating Impact	Increased operational reliability.
In Service Date	Month: Year: Ongoing
Total Project Cost In 2007 dollars	\$38,647,000 N/A
Source of Funds	Fund 73 Connection Fees 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other	\$2,215	\$1,295	\$1,295	\$1,293	\$1,296	\$1,293	\$1,294	\$1,295	\$1,295	\$1,294	\$1,297	\$23,485	\$38,647
Total	\$2,215	\$1,295	\$1,295	\$1,293	\$1,296	\$1,293	\$1,294	\$1,295	\$1,295	\$1,294	\$1,297	\$23,485	\$38,647

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Expansion
Program	Water Supply & Conveyance
Project	Chain of Lakes Facilities and Improvements
Project ID:	COL10
Priority	1
Project Description	This project consists of the development, design, and implementation of improvements and facilities at the various lakes for the purposes of water storage and groundwater recharge. It includes improvements such as fences, access roads, slope grading and landscaping. It also includes inspections and the construction of recharge monitoring pizometers and installation of equipment such as flow meters, water level meters, and controls. Planning, design, and implementation of specific projects will be broken out of this "parent" budget; however, studies and improvements necessary for specific uses (i.e., flood detention or recycled water storage) at Cope Lake shall be funded from a separate project.
Justification	Zone 7 took possession of Lake I and Cope Lake in 2003 and awaits the transfer of Lake H. Additional lakes will become available to us in the future and the need/scope of improvements and facilities will have to be accessed. These lakes are integral components of Zone 7's future water storage and groundwater recharge operations as identified in the Water Supply Planning Study (February 1999). The plans and improvements provided by this project are necessary for the operation and maintenance of these important facilities
Responsible Section	GP Groundwater Protection
Operating Impact	Increase of water supply reliability. Increased O&M costs.
In Service Date	Month: December Year: 2030
Total Project Cost In 2007 dollars	\$40,675,000 \$28,200,000
Source of Funds	Fund 73 Connection Fees 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$1,644	\$100	\$60	\$110	\$120	\$120	\$60	\$30	\$0	\$0	\$0	\$5,920	\$8,164
Design	\$715	\$160	\$40	\$220	\$90	\$180	\$190	\$90	\$0	\$0	\$0	\$6,400	\$8,085
Construction	\$756	\$830	\$580	\$1,010	\$190	\$640	\$570	\$390	\$0	\$0	\$0	\$18,810	\$23,776
Other	\$300	\$160	\$110	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$80	\$650
Total	\$3,415	\$1,250	\$790	\$1,340	\$400	\$940	\$820	\$510	\$0	\$0	\$0	\$31,210	\$40,675

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Expansion
Program	Water Supply & Conveyance
Project	Chain of Lakes Master Plan
Project ID:	COL6
Priority	1
Project Description	Development of a comprehensive master plan for the operation and maintenance of the entire Chain of Lakes and incorporating it into Zone 7's water supply, flood protection and/or untreated water programs. The plan will integrate the important elements of the management plan for Lakes H and I, and Cope Lake and include such aspects as geotechnical investigations and recommendations, hydraulic structures, improvements and ancillary facilities, as well as suggested operations and maintenance.
Justification	The Chain of Lakes will be a significant water supply resource, and possibly flood protection and/or untreated water resource, to Zone 7 in the future. These lakes are integral components of Zone 7's future water storage and groundwater recharge operations as identified in the Water Supply Planning Study, and our future flood protection and stream improvements as identified in the Stream Management Master Plan. Chain of Lakes planning will intergrate with the StreamWISE (Waterways Improvements Supporting the Environment) Program. The master planning is necessary to integrate multiple uses and the phasing of property transfers. Also, planning will help to shape or reshape mining reclamation plans to accommodate these integrated uses.
Responsible Section	GP Groundwater Protection
Operating Impact	Increase of water supply reliability. Increase in operation and maintenance costs.
In Service Date	Month: June Year: 2010
Total Project Cost In 2007 dollars	\$4,192,000 \$3,197,000
Source of Funds	Fund 73 Connection Fees 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$612	\$1,250	\$580	\$340	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,782
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,410	\$1,410
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$612	\$1,250	\$580	\$340	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,410	\$4,192

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	System-Wide Improvements
Program	Transmission & Distribution
Project	Corrosion Master Plan
Project ID:	DS31
Priority	3
Project Description	This project includes periodic updates to the Corrosion Master Plan. Evaluate current condition of Zone 7's facilities with respect to corrosion and cathodic protection. Recommend future studies, plan, design and implement projects to repair and upgrade cathodic protection to ensure the service life of the facilities in compliance with industry standards. This program is planned to have a major update every 5 years.
Justification	This program is required to protect existing facilities from corrosion. In addition, the use of cathodic protection will lengthen facilities' service lives, this optimization of their service lives will help to minimize water rate increases.
Responsible Section	AP Advance Planning
Operating Impact	Lengthen service life and improve reliability.
In Service Date	Month: Year: Ongoing
Total Project Cost	\$2,516,000
In 2007 dollars	\$1,576,000
Source of Funds	Fund 72 Water Rates 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$70	\$50	\$0	\$0	\$0	\$0	\$60	\$0	\$0	\$0	\$0	\$410	\$590
Design	\$66	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$66
Construction	\$240	\$160	\$0	\$0	\$0	\$0	\$190	\$0	\$0	\$0	\$0	\$1,270	\$1,860
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$376	\$210	\$0	\$0	\$0	\$0	\$250	\$0	\$0	\$0	\$0	\$1,680	\$2,516

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Expansion
Program	Water Supply & Conveyance
Project	CUWA Membership
Project ID:	WP15
Priority	1
Project Description	This expenditure is for the California Urban Water Agencies (CUWA) annual membership dues (\$60,000/year) and various Zone 7 staff members participation in four standing CUWA committees: 1. Technical Advisory & Oversight, 2. Water Quality, 3. Water Conservation, and 4. Planning.
Justification	CUWA membership dues will complement on-going CAL-FED projects, which are intended to maintain and improve Delta water quality and reliability, even as Delta exports increase.
Responsible Section	EPA Environmental and Public Affairs
Operating Impact	Increased reliability and water quality.
In Service Date	Month: Year: Ongoing
Total Project Cost In 2007 dollars	\$110,000 Per Year N/A
Source of Funds	Fund 73 Connection Fees 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$112	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$900	\$1,512
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other	\$175	\$60	\$60	\$60	\$60	\$60	\$60	\$60	\$60	\$60	\$60	\$1,020	\$1,795
Total	\$287	\$110	\$110	\$110	\$110	\$110	\$110	\$110	\$110	\$110	\$110	\$1,920	\$3,307

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Expansion
Program	Water Supply & Conveyance
Project	Delta Conservation Plan
Project ID:	WP17
Priority	2
Project Description	Zone 7's proportional share of expenditures in support of the development of the Bay Delta Conservation Plan.
Justification	Develops a long-term plan for the Delta that ensures water supply reliability in the future through continued use of the Delta as a conveyance system for water imported from the Sierra Nevada. The Delta as a conveyance is threatened by fragile levees, seismic risk, climate change and environmental regulatory uncertainties.
Responsible Section	EPA Environmental and Public Affairs
Operating Impact	Improved reliability.
In Service Date	Month: June Year: 2009 Ongoing
Total Project Cost	\$602,000
In 2007 dollars	\$597,000
Source of Funds	Fund 73 Connection Fees 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$337	\$130	\$135	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$602
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$337	\$130	\$135	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$602

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Expansion
Program	Water Supply & Conveyance
Project	Delta Outreach Program
Project ID:	WP18
Priority	2
Project Description	Public outreach campaign to educate San Francisco Bay Area residents and leaders of the region's reliance on the Delta for water supply reliability and water quality.
Justification	Develops San Francisco Bay Area support for Delta improvements to meet the challenges of the Delta as a conveyance system to import water from Sierra Nevada. The system is threatened by fragile levees, seismic risk, climate change and environmental regulatory uncertainty.
Responsible Section	EPA Environmental and Public Affairs
Operating Impact	Improved reliability.
In Service Date	Month: June Year: 2008
Total Project Cost	\$54,000
In 2007 dollars	\$50,000
Source of Funds	Fund 73 Connection Fees 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$26	\$28	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$54
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$26	\$28	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$54

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Expansion
Program	Water Supply & Conveyance
Project	Delta Water Supply/Storage
Project ID:	WP16
Priority	2
Project Description	Additional Delta water supplies to be purchased for storage locally to meet future Zone 7 water demands.
Justification	Additional water supplies are needed for local storage to firm up reliability in case of inability to bring in adequate supplies from the Delta (e.g., due to a major levee break).
Responsible Section	AP Advance Planning
Operating Impact	Increased water supply reliability.
In Service Date	Month: June Year: 2011
Total Project Cost	\$11,000,000
In 2007 dollars	\$10,000,000
Source of Funds	Fund 73 Connection Fees 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$11,000	\$0	\$0	\$0	\$0	\$0	\$11,000
Total	\$0	\$0	\$0	\$0	\$0	\$0	\$11,000	\$0	\$0	\$0	\$0	\$0	\$11,000

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Renewal/Replacement
Program	Water Treatment Facilities
Project	DVWTP Access Road Maintenance Project
Project ID:	DV122
Priority	3
Project Description	Surface maintenance and road repairs to the DVWTP access road and parking areas are needed. This project would consist of an initial pavement condition assessment and may involve surface coating the pavement (slurry coat or chip seal), filling cracks, repairing damaged pavement and base areas and re-stripping.
Justification	This project will maintain the DVWTP access road in a safe and serviceable condition, extending the time period for which repaving and major road repairs would be needed.
Responsible Section	CP Capital Projects
Operating Impact	Decrease maintenance, increase safety.
In Service Date	Month: June Year: 2011
Total Project Cost	\$40,000
In 2007 dollars	\$30,000
Source of Funds	Fund 72 Water Rates 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$0	\$0	\$10	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$10
Design	\$0	\$0	\$0	\$10	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$10
Construction	\$0	\$0	\$0	\$20	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$20
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$0	\$0	\$40	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$40

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Renewal/Replacement
Program	Water Treatment Facilities
Project	DVWTP Aqueous Ammonia System
Project ID:	DV125
Priority	2
Project Description	Replace existing anhydrous ammonia system with an aqueous ammonia system or upgrade existing system
Justification	This project will replace or upgrade the last pure gaseous chemical system at DVWTP. Aqueous ammonia bulk storage will be approximately 19% ammonia and will be safer to handle and less of a hazardous threat; alternatively, the existing system will be upgraded with improved safety measures. This project will be completed concurrently with the ammonia system improvements project at PPWTP, as well as the Taste and Odor Improvement Projects and Del Valle and Patterson Pass.
Responsible Section	CP Capital Projects
Operating Impact	Increase safety.
In Service Date	Month: December Year: 2010
Total Project Cost	\$2,690,000
In 2007 dollars	\$2,400,000
Source of Funds	Fund 72 Water Rates 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$0	\$0	\$110	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$110
Design	\$0	\$0	\$0	\$670	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$670
Construction	\$0	\$0	\$0	\$1,910	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,910
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$0	\$0	\$2,690	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,690

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	System-Wide Improvements
Program	Water Treatment Facilities
Project	DVWTP Caustic Soda Chemical Storage Upgrade
Project ID:	DV117
Priority	2
Project Description	Upgrade existing caustic soda chemical storage facility at DVWTP due to inadequate capacity. The existing caustic soda storage tank is downstairs and requires a new load every 2-3 days during extended periods of high demand. Alternatives include replacing adjacent, unused alum tank or providing a new storage facility outside. With the increased firm plant production capability provided by the new 10-MGD DAF unit, greater use of treatment chemicals is anticipated.
Justification	Chemical storage tanks may not be of optimal size to properly and efficiently schedule chemical deliveries. Optimizing chemical systems are meant to realize long-term savings by minimizing the frequency of chemical deliveries and improve operational reliability by providing adequate chemical storage at all times.
Responsible Section	CP Capital Projects
Operating Impact	Improve ability to comply with regulatory requirements, increase operational effectiveness, increase reliability and safety.
In Service Date	Month: June Year: 2009
Total Project Cost	\$510,000
In 2007 dollars	\$500,000
Source of Funds	Fund 72 Water Rates 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$30	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$30
Design	\$0	\$120	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$120
Construction	\$0	\$360	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$360
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$510	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$510

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Renewal/Replacement
Program	Water Treatment Facilities
Project	DVWTP Chemical Feed System Replacement
Project ID:	DV119
Priority	2
Project Description	Replace existing chemical feed systems, including pumps, which are antiquated and require regular maintenance. Various components break down and clog frequently. The chemical feed systems were originally installed as temporary systems.
Justification	Existing chemical feed systems are subject to constant mechanical failure. Properly functioning feed systems are essential to reliable plant production.
Responsible Section	CP Capital Projects
Operating Impact	Increased reliability, decreased maintenance.
In Service Date	Month: June Year: 2009
Total Project Cost	\$330,000
In 2007 dollars	\$320,000
Source of Funds	Fund 72 Water Rates 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$20	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$20
Design	\$0	\$50	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$50
Construction	\$0	\$260	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$260
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$330	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$330

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Renewal/Replacement
Program	Water Treatment Facilities
Project	DVWTP Filter Valves Replacement
Project ID:	DV120
Priority	2
Project Description	Replace filter valves at DVWTP. This valve replacement project includes valves such as those used for filter inlet, effluent, drain, surface wash, and backwash. This project does not include filter rate control valves, which were replaced in 2003.
Justification	Valves are nearing the end of their useful life. Valve seals are wearing out, resulting in possible water losses. Properly functioning filter valves are essential to reliable plant production.
Responsible Section	CP Capital Projects
Operating Impact	Increase reliability, improve operational effectiveness, decrease maintenance.
In Service Date	Month: June Year: 2010
Total Project Cost	\$270,000
In 2007 dollars	\$250,000
Source of Funds	Fund 72 Water Rates 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$0	\$20	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$20
Design	\$0	\$0	\$30	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$30
Construction	\$0	\$0	\$220	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$220
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$0	\$270	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$270

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Renewal/Replacement
Program	Water Treatment Facilities
Project	DVWTP Instrumentation Upgrades
Project ID:	DV106
Priority	2
Project Description	Repair or replace/upgrade instrumentation (i.e. turbidimeters, counters, analyzers) at the Del Valle Water Treatment Plant. An AMP condition assessment in December 2003 confirmed the instruments to be in good condition. However, regular/continued use of the instruments promotes steady wear and tear, and over time compromises instrumentation accuracy. This results in more frequent and rigorous calibration and associated maintenance. Due to the standard wear and tear of the instruments, as well as recognizing continuing technological advances, the expected remaining useful life is approximately eight to ten years.
Justification	Properly functioning, reliable instrumentation is integral in water treatment process control. To ensure delivery of high quality water in compliance with drinking water standards, it is recommended that instrumentation be replaced on a regular basis.
Responsible Section	OPS Operations & Maintenance
Operating Impact	Increased operational effectiveness and assurance that instrumentation is appropriate to meet reporting requirements.
In Service Date	Month: June Year: 2012
Total Project Cost	\$400,000
In 2007 dollars	\$350,000
Source of Funds	Fund 72 Water Rates 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$0	\$0	\$110	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$110
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$290	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$290
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$0	\$0	\$110	\$290	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$400

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	System-Wide Improvements		
Program	Water Treatment Facilities		
Project	DVWTP Recovery Ponds Solids Extraction System		
Project ID:	DV127		
Priority	1		
Project Description	The washwater recovery ponds accumulate sludge that settles out of filter backwash flows and other washwater flows. Currently, the ponds must be manually drained to the lower drying beds. Operators enter the recovery ponds on a weekly basis for this cleaning procedure. This project provides a permanent system for pumping backwash solids from the washwater recovery ponds to the thickener. It includes a concrete pump sump, valves, pumps, switchgear, piping to thickener, and SCADA control.		
Justification	By pumping the settled solids to the thickener, they can be thickened and dewatered along with the pulsator solids. It minimizes entry into the recovery ponds and minimizes downtime of the ponds during cleaning.		
Responsible Section	CP Capital Projects		
Operating Impact	Increase safety and operational effectiveness and reliability.		
In Service Date	Month: January	Year: 2009	
Total Project Cost	\$104,000		
In 2007 dollars	\$100,000		
Source of Funds	Fund 72	Water Rates	100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$5	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5
Design	\$0	\$15	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$15
Construction	\$0	\$84	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$80
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$104	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$104

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	System-Wide Improvements
Program	Water Treatment Facilities
Project	DVWTP Sludge Handling Improvements
Project ID:	DV114
Priority	2
Project Description	A sludge thickening system that was designed to reduce drying time is currently in operation, however, the current measured sludge concentrations from the thickener is approximately 0.5 to 1.0 % rather than the anticipated concentration of 2.0%. Sludge studies will be conducted to determine the best alternative to increasing sludge handling capacity. Estimated construction cost is a placeholder for alternatives, including installing new sludge beds and installing a belt press/centrifuge system to handle solids during high loading periods. This project will also include the PLC improvements needed for the associated facilities. Currently, an rental mobile, centrifuge is successfully in use.
Justification	This project is required to ensure the long-term reliable production of treated water at DVWTP. It will enable Zone 7 to take full advantage of the maximum treated water production capacity at DVWTP.
Responsible Section	CP Capital Projects
Operating Impact	Increase operational reliability, flexibility, and effectiveness.
In Service Date	Month: June Year: 2015
Total Project Cost	\$7,850,000
In 2007 dollars	\$6,000,000
Source of Funds	Fund 72 Water Rates 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$1,010	\$660	\$0	\$0	\$0	\$0	\$1,670
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,920	\$0	\$0	\$0	\$0	\$5,920
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$260	\$0	\$0	\$0	\$0	\$260
Total	\$0	\$0	\$0	\$0	\$0	\$0	\$1,010	\$6,840	\$0	\$0	\$0	\$0	\$7,850

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Expansion		
Program	Program Management		
Project	Expansion Program Management		
Project ID:	SP14		
Priority	2		
Project Description	Ongoing program management of the Water System Expansion Program.		
Justification	Provides for better tracking of program management costs.		
Responsible Section	AP Advance Planning		
Operating Impact	None		
In Service Date	Month:	Year:	Ongoing
Total Project Cost In 2007 dollars	\$6,050,000 N/A		
Source of Funds	Fund 73	Connection Fees	100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$300	\$150	\$150	\$150	\$150	\$150	\$175	\$175	\$175	\$175	\$175	\$4,125	\$6,050
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$300	\$150	\$150	\$150	\$150	\$150	\$175	\$175	\$175	\$175	\$175	\$4,125	\$6,050

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Expansion
Program	Water Supply & Conveyance
Project	Fixed Cost of Water Entitlement
Project ID:	WP2
Priority	1
Project Description	Payment of a portion of the fixed cost for purchase of 24,619 acre-feet of additional State Water Project (SWP) entitlements, purchased via Amendments 19, 20, 21, 23, and 25 to Zone 7's SWP contract.
Justification	These purchases were required to meet Zone 7's long-term water supply needs, and thus allow Zone 7 to continue to meet its treated and untreated water customer demands. Expansion will pay declining amount over a ten-year period of the fixed SWP costs associated with water acquisitions that have not been used.
Responsible Section	AP Advance Planning
Operating Impact	Increased operation and maintenance.
In Service Date	Month: June Year: 2013
Total Project Cost In 2007 dollars	\$5,322,000 N/A
Source of Funds	Fund 73 Connection Fees 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other	\$5,049	\$139	\$68	\$33	\$22	\$11	\$0	\$0	\$0	\$0	\$0	\$0	\$5,322
Total	\$5,049	\$139	\$68	\$33	\$22	\$11	\$0	\$0	\$0	\$0	\$0	\$0	\$5,322

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Expansion
Program	Water Supply & Conveyance
Project	Future Contractor's Share of the SBA
Project ID:	WP7
Priority	1
Project Description	Zone 7 contracted to purchase 22,000 AFA of previously-unallocated capacity in the South Bay Aqueduct under Amendments 19 and 20 to its water supply contract with DWR. The annual cost is \$2,690,000, of which 73% will be funded by Property Taxes and the remaining 27% will be funded by Dougherty Valley through Connection Fees.
Justification	Purchase of this unallocated share of the SBA was to allow Zone 7 to meet the water supply and peaking needs of new customers.
Responsible Section	AP Advance Planning
Operating Impact	The purchases were required to meet Zone 7's long-term water supply needs, and thus allow Zone 7 to continue to meet its treated and untreated water customer demands.
In Service Date	Month: June Year: 2035
Total Project Cost In 2007 dollars	\$30,763,000 N/A
Source of Funds	Fund 73 Connection Fees 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other	\$11,161	\$726	\$726	\$726	\$726	\$726	\$726	\$726	\$726	\$726	\$726	\$12,342	\$30,763
Total	\$11,161	\$726	\$726	\$726	\$726	\$726	\$726	\$726	\$726	\$726	\$726	\$12,342	\$30,763

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Expansion
Program	Water Supply & Conveyance
Project	Future Contractor's Share of the SBA - Sinking Fund
Project ID:	WP14
Priority	1
Project Description	Zone 7 contracted to purchase 22,000 afa of previously-unallocated capacity in the South Bay Aqueduct under Amendments 19 and 20 to its contract with the Department of Water Resources. In addition to the schedule payment for the 22,000 afa, Zone 7 contributes \$196,000 per year into this sinking fund (beginning FY 2004/05 until FY 2024/25), in order to cover contractual costs from the year 2026 to 2035. The annual contributions to the sinking fund is funded by Connection Fees.
Justification	This sinking fund is to cover contractual costs from the year 2026 to 2035.
Responsible Section	AP Advance Planning
Operating Impact	None.
In Service Date	Month: Year: 2024
Total Project Cost In 2007 dollars	\$196,000 Per Year N/A
Source of Funds	Fund 73 Connection Fees 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other	\$778	\$196	\$196	\$196	\$196	\$196	\$196	\$196	\$196	\$196	\$196	\$1,372	\$4,110
Total	\$778	\$196	\$196	\$196	\$196	\$196	\$196	\$196	\$196	\$196	\$196	\$1,372	\$4,110

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	System-Wide Improvements Expansion
Program	Water Supply & Conveyance
Project	High-Efficiency Washing Machine Rebate Program
Project ID:	PR3
Priority	1
Project Description	This program encourages the purchase and installation of high-efficiency washing machines by offering buyers from \$75 to \$200 rebates. New regulations, scheduled to go into effect in 2007, will require all washers to be energy-efficient.
Justification	Studies show that approximately 20 percent of a household's water is used by washing machines. High-efficiency washing machines use about 40% less water per load. This could lead to an annual water savings of approximately 5,100 gallons per machine. This program is a water conservation Best Management Practice that Zone 7 also implements for its retailing water agencies.
Responsible Section	EPA Environmental and Public Affairs
Operating Impact	Decrease O & M costs.
In Service Date	Month: Year: Ongoing
Total Project Cost In 2007 dollars	\$1,066,000 N/A
Source of Funds	Fund 72 Water Rates 75% Fund 73 Connection Fees 25%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other	\$666	\$75	\$75	\$50	\$50	\$50	\$50	\$50	\$0	\$0	\$0	\$0	\$1,066
Total	\$666	\$75	\$75	\$50	\$50	\$50	\$50	\$50	\$0	\$0	\$0	\$0	\$1,066

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	System-Wide Improvements
Program	Wells
Project	Install VFD at Mocho 3 or Mocho 4
Project ID:	W33
Priority	3
Project Description	Install a variable frequency drive (VFD) at Mocho Wells 3 or 4 to better control groundwater pumping rate.
Justification	Mocho 3 and Mocho 4 (along with Mocho Wells 1 and 2) will be piped to the Mocho Demin Plant for raw water supply source. The installation of a VFD at one of the two wells will help control delivered water quality.
Responsible Section	CP Capital Projects
Operating Impact	Improved operations.
In Service Date	Month: June Year: 2015
Total Project Cost	\$330,000
In 2007 dollars	\$250,000
Source of Funds	Fund 72 Water Rates 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$70	\$0	\$0	\$0	\$0	\$70
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$260	\$0	\$0	\$0	\$0	\$260
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$330	\$0	\$0	\$0	\$0	\$330

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Renewal/Replacement
Program	Regulatory Compliance
Project	Laboratory Equipment Replacement
Project ID:	LAB2
Priority	2
Project Description	The replacement of various monitoring and analytical laboratory equipment. Examples of major equipment to be replaced include but are not limited to: HP 5890 GC with Hall ECD/PID detectors, autosampler and data acquisition system; PE 5100 PC AA with flame and graphite furnace with autosampler and data acquisition system; Varian Saturn GC/MS with dual autosampler and data acquisition system.
Justification	This program replaces existing laboratory equipment that has an average service life of ten years. This equipment is required for regulatory compliance monitoring and groundwater water quality management.
Responsible Section	LAB Laboratory
Operating Impact	Equipment required to meet regulatory compliance.
In Service Date	Month: Year: Ongoing
Total Project Cost In 2007 dollars	\$5,727,000 \$3,317,000
Source of Funds	Fund 72 Water Rates 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other	\$517	\$100	\$110	\$110	\$120	\$120	\$130	\$130	\$140	\$140	\$150	\$3,960	\$5,727
Total	\$517	\$100	\$110	\$110	\$120	\$120	\$130	\$130	\$140	\$140	\$150	\$3,960	\$5,727

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Renewal/Replacement
Program	Water Treatment Facilities
Project	Minor Renewal/Replacement Projects
Project ID:	DS36
Priority	2
Project Description	Replacement of assets, which individually, typically cost less than \$50K and require some engineering support.
Justification	Ongoing maintenance associated with the reliable supply of high-quality water.
Responsible Section	OPS Operations & Maintenance
Operating Impact	System operational reliability.
In Service Date	Month: Year: Ongoing
Total Project Cost	\$8,875,000
In 2007 dollars	\$6,660,000
Source of Funds	Fund 72 Water Rates 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other	\$1,000	\$200	\$200	\$225	\$225	\$225	\$250	\$250	\$250	\$250	\$250	\$5,550	\$8,875
Total	\$1,000	\$200	\$200	\$225	\$225	\$225	\$250	\$250	\$250	\$250	\$250	\$5,550	\$8,875

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	System-Wide Improvements Expansion
Program	Groundwater Basin Management
Project	Mocho Groundwater Demineralization Plant
Project ID:	W19
Priority	1
Project Description	This project involves the design and installation of a groundwater demineralization facility with treatment capacity of up to 7.7 mgd utilizing reverse osmosis technology. The demineralization facility will be located at the Mocho Well No. 4 site and will treat groundwater pumped from the existing Mocho wells. Ancillary improvements include piping from the existing wells, piping to existing Zone 7 transmission mains, waste discharge piping to Livermore-Amador Valley Water Management Agency (LAVWMA) facilities and control systems to facilitate operation.
Justification	The project supports the Salt Management Program adopted by the Zone 7 Board of Directors on August 18, 1999. This project will mitigate salt build-up in groundwater basin by exporting the salts out of the basin via the LAVWMA pipeline. The facility will have a net salt removal capacity of 3000-4000 tons/year. Additionally, it will lower the TDS and hardness of the groundwater deliveries to Zone 7's treated water customers, thus also supporting Zone 7's Water Quality Policy goals.
Responsible Section	AP Advance Planning
Operating Impact	Increased operations and maintenance costs estimated at \$1.5 - 2 million per year.
In Service Date	Month: June Year: 2009
Total Project Cost In 2007 dollars	\$36,680,000 \$36,319,000
Source of Funds	Fund 72 Water Rates 50% Fund 73 Connection Fees 50%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$276	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$276
Design	\$2,273	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,273
Construction	\$24,747	\$9,383	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$34,130
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$27,296	\$9,383	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$36,679

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Renewal/Replacement
Program	Groundwater Basin Management
Project	Monitoring Well Replacements
Project ID:	GW4
Priority	3
Project Description	This project provides for, on an as-needed basis, the replacement of old and damaged monitoring wells which are currently in Zone 7's monitoring network. In addition, it provides for the relocation of other Zone 7-monitored wells which need to be destroyed to allow for future development of land. The replacement wells will have various completion depths depending on their location. In some cases, nested monitoring wells having multiple completion intervals may be desirable. It is estimated that up to 2 wells will need to be replaced and/or destroyed each year.
Justification	Zone 7 operates an extensive monitoring well network for the monitoring of basin-wide groundwater levels and groundwater quality. In order for Zone 7 to continue to protect and manage the groundwater basin as a viable water supply, some of these monitoring wells will need to be replaced.
Responsible Section	GP Groundwater Protection
Operating Impact	Facilitate better monitoring of Zone 7's conjunctive use of the groundwater basin.
In Service Date	Month: Year: Ongoing
Total Project Cost In 2007 dollars	\$1,685,000 \$1,266,000
Source of Funds	Fund 72 Water Rates 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$160	\$10	\$20	\$0	\$10	\$0	\$20	\$0	\$20	\$0	\$20	\$270	\$530
Design	\$35	\$10	\$10	\$0	\$10	\$0	\$10	\$0	\$10	\$0	\$10	\$130	\$225
Construction	\$310	\$30	\$20	\$0	\$20	\$0	\$30	\$0	\$30	\$0	\$30	\$390	\$860
Other	\$70	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$70
Total	\$575	\$50	\$50	\$0	\$40	\$0	\$60	\$0	\$60	\$0	\$60	\$790	\$1,685

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	System-Wide Improvements
Program	Groundwater Basin Management
Project	New Monitoring Wells
Project ID:	GW7
Priority	2
Project Description	This project provides for the installation of "nested" monitoring wells at up to nine locations around Livermore-Amador Valley. The monitoring wells will be specifically designed to monitor the groundwater quality and water levels across the groundwater basin. These wells will help fill data gaps in the current monitoring network.
Justification	Water quality and water level monitoring data obtained from these wells will facilitate wellfield operations planning, salt loading management, wellhead protection, and general basin management. They will be used to monitor changes in water quality, which in turn can be used to modify operational plans to optimize delivered water quality. They will also provide snapshots of the vertical distribution of water quality and recharge around the basin, which will also facilitate groundwater basin management activities.
Responsible Section	GP Groundwater Protection
Operating Impact	Increase of water supply reliability. Increase O&M costs.
In Service Date	Month: June Year: 2010
Total Project Cost In 2007 dollars	\$1,070,000 \$975,000
Source of Funds	Fund 72 Water Rates 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$70	\$30	\$20	\$20	\$20	\$20	\$0	\$0	\$0	\$0	\$0	\$0	\$180
Design	\$20	\$10	\$10	\$10	\$10	\$10	\$0	\$0	\$0	\$0	\$0	\$0	\$70
Construction	\$210	\$110	\$120	\$120	\$130	\$130	\$0	\$0	\$0	\$0	\$0	\$0	\$820
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$300	\$150	\$150	\$150	\$160	\$160	\$0	\$0	\$0	\$0	\$0	\$0	\$1,070

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	System-Wide Improvements
Program	Water Treatment Facilities
Project	PPWTP Improvements - 2012
Project ID:	PP54
Priority	1
Project Description	<p>This project includes several PPWTP improvement projects, consolidated into one project, which are scheduled for completion in FY 2012/13. These projects include:</p> <ul style="list-style-type: none"> PPWTP Electrical Service Upgrade PPWTP Finished Water Sample Line Improvements (UF Plant) PPWTP Clarifier Maintenance Facility Improvements (UF Plant) PPWTP Chemical Feed Piping Renewal/Replacement (Conv. Plant) PPWTP Tank Farm Improvements (Conv. Plant) PPWTP In-Line TOC Analyzers (Conv. Plant) PPWTP Raw Water Quality Monitoring PPWTP Chlorine Contact Time Analysis PPWTP Clearwell Overflow Improvements PPWTP Seismic Upgrade of Clearwell PPWTP Maintenance Storage Building PPWTP Valve Actuator Renewal/Replacement (Conv. Plant) PPWTP Relocate Retailer Line PPWTP Raw Water Pretreatment Analysis (UF Plant)
Justification	These improvements would enable Zone 7 to take full advantage of the maximum treated water production capacity at PPWTP.
Responsible Section	CP Capital Projects
Operating Impact	Increases operational effectiveness.
In Service Date	Month: June Year: 2013
Total Project Cost In 2007 dollars	\$2,310,000 \$1,898,000
Source of Funds	Fund 72 Water Rates 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0	\$2,310	\$0	\$0	\$0	\$0	\$0	\$0	\$2,310
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$0	\$0	\$0	\$0	\$2,310	\$0	\$0	\$0	\$0	\$0	\$0	\$2,310

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Renewal/Replacement
Program	Water Treatment Facilities
Project	PPWTP Instrumentation Upgrades
Project ID:	PP30
Priority	2
Project Description	Repair or replace/ upgrade instrumentation (i.e. turbidimeters, counters, analyzers) at the Patterson Pass Conventional Water Treatment Plant and the Patterson Pass Ultrafiltration Water Treatment Plant. A condition assessment in December 2003 confirmed the instruments to be in good condition. However, regular/continued use of the instruments promotes steady wear and tear, and over time compromises instrumentation accuracy. This results in more frequent and rigorous calibration and associated maintenance. Due to the standard wear and tear of the instruments, as well as recognizing continuing technological advances, the expected remaining useful life is approximately eight to ten years.
Justification	Properly functioning, reliable instrumentation is integral in water treatment process control. To ensure delivery of high quality water in compliance with drinking water standards, it is recommended that instrumentation be replaced on a regular basis.
Responsible Section	CP Capital Projects
Operating Impact	Increased operational efficiencies and ensure instrumentation is appropriate to meet reporting requirements.
In Service Date	Month: Year: Ongoing
Total Project Cost	\$2,240,000
In 2007 dollars	\$1,500,000
Source of Funds	Fund 72 Water Rates 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$0	\$0	\$0	\$120	\$0	\$0	\$0	\$0	\$0	\$0	\$320	\$440
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0	\$360	\$0	\$0	\$0	\$0	\$0	\$1,440	\$1,800
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$0	\$0	\$0	\$120	\$360	\$0	\$0	\$0	\$0	\$0	\$1,760	\$2,240

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Renewal/Replacement
Program	Water Treatment Facilities
Project	PPWTP Rehabilitation of Clarifier and Replacement of Motor
Project ID:	PP1
Priority	2
Project Description	Improvement/replacement of cathodic protection system, re-coating of steel components as well as the concrete walls and floor and replacement of motor/drive mechanism. Replacement to be done after the Altamont Water Treatment Plant is operational.
Justification	Ultrasonic x-ray and materials inspection performed in December 1999 identified that the existing cathodic system required replacement and the steel structural components along with concrete walls and floor required sand/water blasting and re-coating to prolong the service life of the facility, along with replacement of the mechanical drive since it has been in service long past its expected useful life. As a result of recent study in the Asset Management Plan and PPWTP project prioritization review, this project has been upgraded to include the full replacement of the clarifier mechanism rather than just repair of the existing clarifier. It is expected that a new, modern, clarifier mechanism will improve operational performance and reduce coagulant dosing demands.
Responsible Section	CP Capital Projects
Operating Impact	Prolongs the facility's service life.
In Service Date	Month: January Year: 2012
Total Project Cost	\$1,520,000
In 2007 dollars	\$1,300,000
Source of Funds	Fund 72 Water Rates 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$0	\$0	\$0	\$60	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$60
Design	\$0	\$0	\$0	\$0	\$410	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$410
Construction	\$0	\$0	\$0	\$0	\$1,050	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,050
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$0	\$0	\$0	\$1,520	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,520

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	System-Wide Improvements
Program	Water Treatment Facilities
Project	PPWTP Sludge Handling Improvements
Project ID:	PP43
Priority	2
Project Description	Sludge bed capacity limitations have become a bottleneck in the treatment process since the addition of the UF plant and coagulant upgrade from alum to ferric chloride. Either a full-scale mechanical dewatering facility or building additional sludge beds will be required. Since a rental mobile centrifuge has been successfully utilized since 2006, completion of this project is deferred until FY 15/16.
Justification	This project would enable Zone 7 to take full advantage of the maximum treated water production capacity at PPWTP.
Responsible Section	CP Capital Projects
Operating Impact	Increased operational reliability, flexibility and effectiveness.
In Service Date	Month: June Year: 2016
Total Project Cost In 2007 dollars	\$10,540,000 \$8,000,000
Source of Funds	Fund 72 Water Rates 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$0	\$0	\$0	\$0	\$0	\$130	\$0	\$0	\$0	\$0	\$0	\$130
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$890	\$390	\$0	\$0	\$0	\$0	\$1,280
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$7,240	\$680	\$0	\$0	\$0	\$7,920
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$660	\$550	\$0	\$0	\$0	\$1,210
Total	\$0	\$0	\$0	\$0	\$0	\$0	\$1,020	\$8,290	\$1,230	\$0	\$0	\$0	\$10,540

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	System-Wide Improvements
Program	Water Treatment Facilities
Project	PPWTP UF HVAC Improvements
Project ID:	PP45
Priority	2
Project Description	Installation of HVAC system to cover the entire UF Building.
Justification	This project would extend HVAC control over the entire UF building to provide added protection for UF equipment against higher heating and cooling temperatures throughout the year.
Responsible Section	CP Capital Projects
Operating Impact	Increased operational reliability.
In Service Date	Month: June Year: 2011
Total Project Cost	\$460,000
In 2007 dollars	\$430,000
Source of Funds	Fund 72 Water Rates 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$10	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$10
Design	\$0	\$50	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$50
Construction	\$0	\$0	\$380	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$380
Other	\$0	\$10	\$10	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$20
Total	\$0	\$70	\$390	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$460

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	System-Wide Improvements
Program	Water Treatment Facilities
Project	PPWTP UF Work Facility Addition
Project ID:	PP41
Priority	2
Project Description	Construction of a work facility that will handle equipment storage and will include minor water quality laboratory facilities necessary for immediate water sample analyses at the UF plant.
Justification	This project provides for more effective and efficient response to on-going sampling needs at the UF plant and for making repairs to equipment.
Responsible Section	CP Capital Projects
Operating Impact	Increased operational effectiveness.
In Service Date	Month: June Year: 2009
Total Project Cost	\$540,000
In 2007 dollars	\$510,000
Source of Funds	Fund 72 Water Rates 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$10	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$10
Design	\$0	\$80	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$80
Construction	\$0	\$0	\$430	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$430
Other	\$0	\$0	\$20	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$20
Total	\$0	\$90	\$450	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$540

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Renewal/Replacement
Program	Water Treatment Facilities
Project	PPWTP Ultrafiltration Membrane Replacement
Project ID:	PP29
Priority	1
Project Description	Replacement of ultrafiltration membranes. Although the membranes are currently functioning adequately, after several years of operation, membranes reach their useful lives and will need to be replaced. Over a six-year period starting in FY 06-07, membranes will be replaced. The funding in latter years provides a placeholder for membrane system upgrades.
Justification	Several mechanisms for membrane fouling exist: adsorption, pore blocking, particle deposition, and concentration polarization. As the fouling process continues, the flux through the membranes decreases. To minimize the effects of fouling, the membranes require frequent cleaning and eventually, replacement. As technology improves and/or existing membrane system become obsolete, system upgrades beyond the membranes can be expected, and these upgrades will replace this project in the CIP at that time.
Responsible Section	CP Capital Projects
Operating Impact	Increase operating reliability and effectiveness.
In Service Date	Month: Year: Ongoing
Total Project Cost In 2007 dollars	\$16,880,000 \$9,700,000
Source of Funds	Fund 72 Water Rates 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$10	\$10	\$10	\$0	\$0	\$0	\$10	\$0	\$0	\$0	\$0	\$0	\$40
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$380	\$0	\$0	\$0	\$0	\$0	\$380
Construction	\$1,250	\$310	\$0	\$350	\$370	\$410	\$450	\$470	\$0	\$510	\$530	\$11,800	\$16,450
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$10	\$0	\$0	\$0	\$0	\$10
Total	\$1,260	\$320	\$10	\$350	\$370	\$410	\$840	\$480	\$0	\$510	\$530	\$11,800	\$16,880

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Renewal/Replacement
Program	Water Treatment Facilities
Project	SCADA Enhancements
Project ID:	WTP103
Priority	2
Project Description	After the completion of Phase I of the SCADA Improvements project (May 2006 completion), there will be an ongoing need for reprogramming, installation of additional devices and upgrading of the existing devices to improve the use of SCADA system to accommodate the changes in the plant and transmission system operation. The SCADA system will also require major software and hardware upgrades about every five years.
Justification	This project will enable operators to have increased control and monitoring capability of the treatment and transmission facilities using SCADA. The improvements will enhance personnel and equipment safety, and help meet regulations. The improvements will result in increased efficiency and enable operations to fine tune the treatment and transmission process.
Responsible Section	AP Advance Planning
Operating Impact	Improved control, monitoring and reporting through SCADA of process equipment.
In Service Date	Month: Year: Ongoing
Total Project Cost In 2007 dollars	\$17,714,000 \$10,644,000
Source of Funds	Fund 72 Water Rates 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design	\$201	\$160	\$110	\$110	\$120	\$120	\$190	\$1,050	\$140	\$140	\$150	\$8,680	\$11,171
Construction	\$843	\$620	\$160	\$170	\$180	\$180	\$130	\$200	\$210	\$210	\$220	\$3,420	\$6,543
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$1,044	\$780	\$270	\$280	\$300	\$300	\$320	\$1,250	\$350	\$350	\$370	\$12,100	\$17,714

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Expansion
Program	Water Treatment Facilities
Project	Second Groundwater Demineralization Facility
Project ID:	W25
Priority	1
Project Description	Design and construction of a second groundwater demineralization facility utilizing reverse osmosis technology. The anticipated capacity for this facility is 6.2 mgd of delivered water with lower total dissolved solids (TDS) and hardness, and will remove up to an additional 3,000 tons of salt per year. The combined salt removal capacity of the first two demineralization facilities will be about 6000 tons per year. The location of this proposed facility is anticipate to be at the Zone 7 Parkside building location. Timing of this facility may be revised in the future depending upon the performance Mocho Groundwater Demineralization Plant. The cost estimate for this facility has been revised based on the cost of the Mocho Groundwater Demineralization Plant.
Justification	This project supports both the Water Quality Management Program and the Salt Management Program adopted by the Zone 7 Board of Directors. This project would improve delivered water quality to Zone 7's retailers and mitigate salt build-up in the groundwater basin by exporting the salts out of the basin via the LAVWMA pipeline.
Responsible Section	AP Advance Planning
Operating Impact	Increased operations and maintenance costs estimated at up to \$1.5 to 2 million per year (2007\$).
In Service Date	Month: June Year: 2013
Total Project Cost In 2007 dollars	\$44,160,000 \$37,000,000
Source of Funds	Fund 73 Connection Fees 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$0	\$0	\$1,120	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,120
Design	\$0	\$0	\$0	\$2,810	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,810
Construction	\$0	\$0	\$0	\$0	\$17,550	\$18,250	\$4,430	\$0	\$0	\$0	\$0	\$0	\$40,230
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$0	\$0	\$3,930	\$17,550	\$18,250	\$4,430	\$0	\$0	\$0	\$0	\$0	\$44,160

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	System-Wide Improvements
Program	Emergency Preparedness
Project	Security Improvements at Existing Facilities
Project ID:	SP9
Priority	1
Project Description	Security improvements to Zone 7's water facilities (Water Treatment Plants, Wells and Pump Stations) including the addition of security cameras, intrusion alarms, and motion detectors.
Justification	This is required for the protection of Zone 7 staff, Zone 7 infrastructure, and the community's water supply.
Responsible Section	CP Capital Projects
Operating Impact	Increased security. Potential cost saving to guard services after installations are complete.
In Service Date	Month: December Year: 2008
Total Project Cost	\$1,635,000
In 2007 dollars	\$1,602,000
Source of Funds	Fund 72 Water Rates 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$200	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$200
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$600	\$835	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,435
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$800	\$835	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,635

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Expansion
Program	Water Supply & Conveyance
Project	Semitropic Stored Water Recovery Unit
Project ID:	WP12
Priority	1
Project Description	<p>Semitropic Water Storage District and Zone 7 have finalized the amendment to the Semitropic Banking Program agreement that will provide for additional recovery capacity. On February 18, 2004, the Zone 7 Board approved Zone 7's participation in its proportional share (6.5%) of the Stored Water Recovery Unit (SWRU) project. Under the proposed amendment, Zone 7's minimum recovery capacity will increase by 3,250 acre-feet/year (from 5,850 afy to 9,100 afy). This will reduce our dry-year shortfall at build-out to about 2,000 acre-feet.</p> <p>Zone 7's cost share of the SWRU project will be about \$1.04 million. The total cost of the SWRU project consists of about \$10.5 million for a 120-inch pipeline from Semitropic to the California Aqueduct and about \$5.5 million for new wells and conveyance enhancements to the Semitropic water system. The \$10.5 million pipeline portion of the SWRU project will be financed by 30-year bonds (5.266% bond sale interest rate), which debt service will be passed on to Zone 7 as annual payments.</p>
Justification	Increase reliability by providing additional water supplies during drought years.
Responsible Section	AP Advance Planning
Operating Impact	Increased operational reliability.
In Service Date	Month: April Year: 2009
Total Project Cost In 2007 dollars	\$48,000 Per Year N/A
Source of Funds	Fund 73 Connection Fees 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other	\$192	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$864	\$1,536
Total	\$192	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$48	\$864	\$1,536

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Expansion
Program	Water Supply & Conveyance
Project	South Bay Aqueduct Improvement & Enlargement Project
Project ID:	SP5
Priority	1
Project Description	<p>SBA improvements by the California Department of Water Resources (DWR) that will convey for Zone 7 an additional 130 cubic feet per second (cfs) through Reach 1 and 80 cfs through Reaches 2 through 4. Improvements include an expanded South Bay Pumping Plant, third (parallel) Brushy Creek Pipeline, raised linings on open channel sections, replacement of 54-inch pipe under I-580 with 78-inch pipe (completed 3/02), application of hydraulically smoother elastomeric polyurethane lining on the Altamont Pipeline (completed 3/02), enlarged Patterson Reservoir, and new 425 acre-foot (operational storage) raw water reservoir (Dyer Reservoir) located near Dyer Road and future Altamont Water Treatment Plant.</p> <p>Note that Amendment No. 24 of Zone 7's water supply contract with DWR allows for debt financing of the SBA Improvement & Enlargement Project by DWR. Annual repayment by Zone 7 is expected to begin in 2006 and end in 2036. To ensure there is adequate funding available to repay debt after buildout occurs (2025), a sinking fund has been established. This sinking fund will fund the remainder of the debt from 2026 to 2036. The costs shown reflect the actual repayment of the debt plus interest.</p>
Justification	As identified in the 1999 Water Supply Master Plan and 2001 Water Conveyance Study, provides for long-term Zone 7 raw water conveyance capacity through planned service-area build-out.
Responsible Section	AP Advance Planning
Operating Impact	Provides for enhanced long-term water supply, reliability and flexibility.
In Service Date	Month: June Year: 2008
Total Project Cost In 2007 dollars	\$230,385,000 \$132,454,000
Source of Funds	Fund 73 Connection Fees 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other	\$8,005	\$6,702	\$8,548	\$8,629	\$8,491	\$8,491	\$8,494	\$8,492	\$8,491	\$8,494	\$8,492	\$139,056	\$230,385
Total	\$8,005	\$6,702	\$8,548	\$8,629	\$8,491	\$8,491	\$8,494	\$8,492	\$8,491	\$8,494	\$8,492	\$139,056	\$230,385

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Supply & Conveyance

Project **South Bay Aqueduct Improvement & Enlargement Project - Sinking Fund**

Project ID: SP12

Priority 1

Project Description SBA improvements by the California Department of Water Resources (DWR) that will convey for Zone 7 an additional 130 cubic feet per second (cfs) through Reach 1 and 80 cfs through Reaches 2 through 4. Improvements include an expanded South Bay Pumping Plant, third (parallel) Brushy Creek Pipeline, raised linings on open channel sections, replacement of 54-inch pipe under I-580 with 78-inch pipe (completed 3/02), application of hydraulically smoother elastomeric polyurethane lining on the Altamont Pipeline (completed 3/02), enlarged Patterson Reservoir, and new 425 acre-foot (operational storage) raw water reservoir (Dyer Reservoir) located near Dyer Road and future Altamont Water Treatment Plant.

Note that Amendment No. 24 of Zone 7's water supply contract with DWR allows for debt financing of the SBA Improvement & Enlargement Project by DWR. Annual repayment by Zone 7 is expected to begin in 2006 and end in 2036. To ensure there is adequate funding available to repay debt after buildout occurs (2025), a sinking fund has been established. This sinking fund will fund the remainder of the debt from 2026 to 2036. The costs shown reflect the actual repayment of the debt plus interest. Note the sinking fund cost is separate from the SBA Improvement & Enlargement Project cost.

Justification This sinking fund is necessary to cover contractual costs from 2026 to 2035, during which time there will essentially be no on-going water connection fee revenues available because development buildout within the Valley is expected to be reached by this time.

Responsible Section AP Advance Planning

Operating Impact None.

In Service Date **Month:** **Year:** 2024

Total Project Cost \$1,500,000 Per Year
In 2007 dollars N/A

Source of Funds Fund 73 Connection Fees 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other	\$4,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$10,500	\$30,000
Total	\$4,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$10,500	\$30,000

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Renewal/Replacement
Program	Groundwater Basin Management
Project	Stream Gage Replacement
Project ID:	GW3
Priority	1
Project Description	This project provides for the replacement of damaged or destroyed steam gages which are currently in Zone 7's monitoring network, on an as-needed basis. Zone 7 currently operates 7 recorder stream gaging stations in its surface water monitoring program. Based on the current gaging station conditions and previous experience, it is anticipated that a gaging station will need to be repaired or replaced on a 5-year frequency.
Justification	Zone 7 operates an extensive stream gaging network for the monitoring of basin-wide surface water flow. The stream flow information is used to compute groundwater basin inflow, outflow and recharge. From time to time, these gaging stations are damaged or destroyed by storm events. In other cases, the stream courses may be altered, making it necessary to replace existing stations. Replacement of these stations is necessary for the on-going monitoring of basin recharge operations.
Responsible Section	GP Groundwater Protection
Operating Impact	Facilitates better monitoring of ongoing basin recharge operations including associated salt loading.
In Service Date	Month: Year: Ongoing
Total Project Cost	\$1,804,000
In 2007 dollars	\$1,139,000
Source of Funds	Fund 72 Water Rates 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$34	\$80	\$0	\$0	\$0	\$0	\$100	\$0	\$0	\$0	\$0	\$450	\$664
Design	\$30	\$40	\$0	\$0	\$0	\$0	\$40	\$0	\$0	\$0	\$0	\$200	\$310
Construction	\$0	\$0	\$110	\$0	\$0	\$0	\$0	\$130	\$0	\$0	\$0	\$590	\$830
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$64	\$120	\$110	\$0	\$0	\$0	\$140	\$130	\$0	\$0	\$0	\$1,240	\$1,804

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Expansion
Program	Water Supply & Conveyance
Project	SWP Peaking Payment (Lost Hills & Belridge Water Districts)
Project ID:	WP10
Priority	1
Project Description	Zone 7 agreed to pay Lost Hills & Belridge Water Districts the extra SWP peaking payment when we acquired their SWP Table A amounts based on DWR billings to Kern County Water Agency (and to thus these 2 member agencies) Annual peaking commitment is approximately \$265,000.
Justification	Reliability of water supply.
Responsible Section	AP Advance Planning
Operating Impact	Extra peaking allows Zone 7 to deliver or store additional water when available in the SWP system.
In Service Date	Month: Year: 2035
Total Project Cost In 2007 dollars	\$7,157,000 N/A
Source of Funds	Fund 73 Connection Fees 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other	\$999	\$270	\$264	\$270	\$267	\$268	\$267	\$268	\$267	\$265	\$268	\$3,484	\$7,157
Total	\$999	\$270	\$264	\$270	\$267	\$268	\$267	\$268	\$267	\$265	\$268	\$3,484	\$7,157

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	System-Wide Improvements Renewal/Replacement		
Program	Program Management		
Project	System-Wide Improvement, Renewal/Replacement Program Management		
Project ID:	SP15		
Priority	1		
Project Description	Ongoing program management of the SWI and R&R programs.		
Justification	Provides for better tracking of program management costs.		
Responsible Section	AP Advance Planning		
Operating Impact	None		
In Service Date	Month:	Year:	Ongoing
Total Project Cost In 2007 dollars	\$2,150,000 N/A		
Source of Funds	Fund 72	Water Rates	100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$100	\$50	\$50	\$50	\$50	\$50	\$60	\$60	\$60	\$60	\$60	\$1,500	\$2,150
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$100	\$50	\$50	\$50	\$50	\$50	\$60	\$60	\$60	\$60	\$60	\$1,500	\$2,150

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	System-Wide Improvements
Program	Transmission & Distribution
Project	System-Wide Installation of Line Valves
Project ID:	DS41
Priority	3
Project Description	Installation of approximately 30 new line valves in the transmission system, as needed, to provide a maximum of 2,000-2,500 feet separation throughout the transmission system.
Justification	The installation of additional line valves will reduce service interruptions due to scheduled maintenance and other activities such as leak repairs.
Responsible Section	CP Capital Projects
Operating Impact	Improve operation and reduce service interruptions.
In Service Date	Month: July Year: 2020
Total Project Cost	\$3,790,000
In 2007 dollars	\$2,350,000
Source of Funds	Fund 72 Water Rates 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design	\$50	\$50	\$0	\$50	\$0	\$60	\$0	\$70	\$0	\$70	\$0	\$0	\$350
Construction	\$150	\$0	\$220	\$0	\$230	\$0	\$250	\$0	\$270	\$0	\$300	\$2,020	\$3,440
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$200	\$50	\$220	\$50	\$230	\$60	\$250	\$70	\$270	\$70	\$300	\$2,020	\$3,790

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	System-Wide Improvements Expansion
Program	Water Treatment Facilities
Project	Third Groundwater Demineralization Facility
Project ID:	W30
Priority	3
Project Description	Depending upon the ultimate performance of the first two Zone 7 groundwater demineralization facilities, this project, if needed, will provide the remaining groundwater demineralization capacity for Zone 7 to completely meet its hardness and/or salt management goals through service area buildout.
Justification	This project supports both the Water Quality Management Program and the Salt Management Program adopted by the Zone 7 Board of Directors. This project will improve the delivered water quality to Zone 7's retailers and mitigate salt build-up in the groundwater basin by exporting the salts out of the basin via the LAVWMA pipeline.
Responsible Section	AP Advance Planning
Operating Impact	Increased operations and maintenance costs estimated at up to \$1.5 million per year.
In Service Date	Month: June Year: 2020
Total Project Cost In 2007 dollars	\$49,580,000 \$30,000,000
Source of Funds	Fund 72 Water Rates 90% Fund 73 Connection Fees 10%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,480	\$0	\$1,480
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,300	\$3,300
Construction	\$0	\$0	\$0	\$0	\$0	\$2,340	\$0	\$0	\$0	\$0	\$0	\$42,460	\$44,800
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$0	\$0	\$0	\$0	\$2,340	\$0	\$0	\$0	\$0	\$1,480	\$45,760	\$49,580

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Expansion System-Wide Improvements Renewal/Replacement
Program	Transmission & Distribution
Project	Transmission System Master Planning
Project ID:	DS37
Priority	2
Project Description	This program involves a comprehensive effort to define renewal/replacement and improvement projects needed for the transmission system in order to meet existing and future water demands. This program involves an integration of all aspects of transmission system planning, including the Asset Management Program (AMP), corrosion master planning, hydraulic modeling, etc.
Justification	Establish transmission system sustainability and increase operational/maintenance efficiencies and ensure that Zone 7 meets its goals and objectives to its retailers for existing and future demands, all in a cost-effective manner.
Responsible Section	AP Advance Planning
Operating Impact	Increase operational/maintenance effectiveness.
In Service Date	Month: Year: Ongoing
Total Project Cost In 2007 dollars	\$4,525,000 \$4,200,000
Source of Funds	Fund 72 Water Rates 50% Fund 73 Connection Fees 50%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$100	\$100	\$100	\$100	\$100	\$100	\$125	\$125	\$125	\$125	\$125	\$3,300	\$4,525
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$100	\$100	\$100	\$100	\$100	\$100	\$125	\$125	\$125	\$125	\$125	\$3,300	\$4,525

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Expansion System-Wide Improvements
Program	Water Supply & Conveyance
Project	Ultra Low Flush/High Efficiency Toilet Rebate Program
Project ID:	PR1
Priority	1
Project Description	This program encourages the replacement of existing high-water-using toilets (more than 1.6 gallons per flush) with ultra-low-flush toilets (ULFT - 1.6 gallons or less), or dual-flush or high-efficiency (HET 1.3 gallons or less) toilets in residential, commercial, and industrial buildings by offering homeowners and businesses a two-tier rebate of either \$50 per installation for an ULFT or \$125 for installations of a dual-flush toilet or HET.
Justification	<p>This program replaces existing high-water-using toilets with ULFTs, dual-flush toilets or HETs in residential, commercial, and industrial buildings. The estimated water savings from an ULFT is on the order of 38 gallons/day.</p> <p>The toilet rebate program is a water conservation BMP that Zone 7 implements in conjunction with its retailing water agencies.</p>
Responsible Section	EPA Environmental and Public Affairs
Operating Impact	Decreased operations.
In Service Date	Month: June Year: 2017 Ongoing
Total Project Cost In 2007 dollars	\$1,835,000 N/A
Source of Funds	Fund 72 Water Rates 75% Fund 73 Connection Fees 25%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other	\$1,215	\$50	\$50	\$60	\$60	\$60	\$60	\$70	\$70	\$70	\$70	\$0	\$1,835
Total	\$1,215	\$50	\$50	\$60	\$60	\$60	\$60	\$70	\$70	\$70	\$70	\$0	\$1,835

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Renewal/Replacement
Program	Emergency Preparedness
Project	Upgrade of PPTWP Emergency & Safety Services Building
Project ID:	ESS2
Priority	2
Project Description	The project involves remodeling of the Emergency & Safety Services (ESS) building at Patterson Pass Water Treatment Plant to include three offices, a reception area and a training room. This project cannot be accomplished until the ammoniation and soft water system for ammonia injection are removed from the building.
Justification	This is needed when the second demineralization project, currently planned to be at the Parkside location, starts construction and displaces the ESS section from Parkside. The improvements will house the section, provide a back-up Emergency Operations Center and make the existing trailer available contract support or on-site work stations for engineering.
Responsible Section	ASD Administrative Services Division
Operating Impact	Increased safety and emergency operations coordination for agency.
In Service Date	Month: February Year: 2010
Total Project Cost	\$225,000
In 2007 dollars	\$220,000
Source of Funds	Fund 72 Water Rates 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$0	\$25	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$25
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$200	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$200
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$0	\$25	\$200	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$225

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	System-Wide Improvements
Program	Emergency Preparedness
Project	Vulnerability Assessment Review & Update
Project ID:	ESS1
Priority	2
Project Description	The project is a re-assessment of the vulnerabilities of Zone 7 facilities, including an evaluation the security levels of the treatment facilities, distribution system, and administration office.
Justification	This will update the 2003 Vulnerability Assessment report.
Responsible Section	ASD Administrative Services Division
Operating Impact	Increased safety and emergency operations coordination for agency.
In Service Date	Month: September Year: 2009
Total Project Cost	\$108,000
In 2007 dollars	\$100,000
Source of Funds	Fund 72 Water Rates 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$0	\$108	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$108
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$0	\$108	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$108

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	System-Wide Improvements Expansion
Program	Water Supply & Conveyance
Project	Water Conservation Best Management Practices
Project ID:	PR2
Priority	1
Project Description	As listed in the MOU regarding Urban Water Conservation in California which includes financial & technical support for our retailers' conservation efforts; support & incentives to improve large landscape water efficiency; and public information & school education programs promoting water conservation.
Justification	Reduce long-term water demands by promoting Best Management Practices that encourage wise and efficient use of water. Zone 7 studies show that per capita water use in our service area is declining, thus illustrating the effectiveness of our program.
Responsible Section	EPA Environmental and Public Affairs
Operating Impact	Decreased potable water demands and increase system reliability.
In Service Date	Month: Year: Ongoing
Total Project Cost In 2007 dollars	\$3,860,000 N/A
Source of Funds	Fund 72 Water Rates 75% Fund 73 Connection Fees 25%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other	\$685	\$250	\$250	\$275	\$275	\$275	\$275	\$275	\$325	\$325	\$325	\$325	\$3,860
Total	\$685	\$250	\$250	\$275	\$275	\$275	\$275	\$275	\$325	\$325	\$325	\$325	\$3,860

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	System-Wide Improvements
Program	Water Treatment Facilities
Project	Water Quality - DVWTP Taste and Odor Treatment
Project ID:	DV110
Priority	2
Project Description	Install treatment process(es) at DVWTP for earthy-musty taste and odor removal. Possible treatment alternatives include chlorine dioxide, GAC and/or ozonation.
Justification	This project will mitigate seasonal earthy-musty taste and odor from treated surface from DVWTP, per the Water Quality Implementation Plan.
Responsible Section	CP Capital Projects
Operating Impact	Increased operations and maintenance costs.
In Service Date	Month: June Year: 2012
Total Project Cost	\$3,390,000
In 2007 dollars	\$3,100,000
Source of Funds	Fund 72 Water Rates 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$400	\$100	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$500
Design	\$0	\$0	\$650	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$650
Construction	\$0	\$0	\$0	\$1,690	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,690
Other	\$0	\$0	\$110	\$220	\$220	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$550
Total	\$400	\$100	\$760	\$1,910	\$220	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,390

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	System-Wide Improvements
Program	Water Treatment Facilities
Project	Water Quality - PPWTP Taste and Odor Treatment
Project ID:	PP25
Priority	2
Project Description	Install treatment process(es) at PPWTP for earthy-musty taste and odor removal. Possible treatment alternatives include chlorine dioxide, GAC and/or ozonation.
Justification	This project will mitigate seasonal earthy-musty taste and odor from the surface water supplies at the PPWTP per the Water Quality Implementation Plan.
Responsible Section	CP Capital Projects
Operating Impact	Increased operations and maintenance costs.
In Service Date	Month: June Year: 2012
Total Project Cost	\$3,390,000
In 2007 dollars	\$3,100,000
Source of Funds	Fund 72 Water Rates 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$400	\$100	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$500
Design	\$0	\$0	\$650	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$650
Construction	\$0	\$0	\$0	\$1,690	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,690
Other	\$0	\$0	\$110	\$220	\$220	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$550
Total	\$400	\$100	\$760	\$1,910	\$220	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,390

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	System-Wide Improvements Expansion
Program	Water Treatment Facilities
Project	Water Quality Management Program
Project ID:	PR9
Priority	1
Project Description	A comprehensive water quality management program and implementation plan (Water Quality Management Plan) was completed in April 2003. This plan addresses water quality concerns of customers and community. It has lead to the Board adoption of policies that address specific water quality goals and objectives that meet internal (Zone 7) and customer and end user needs. This ongoing program will be one component of Zone 7's overall master planning process. It will help guide both our water system operations and our Capital Improvement Program (CIP) over the next 20 years.
Justification	Will assist the Zone 7 Board of Directors in determining policies to effectively manage treated and untreated water quality issues. Will provide guidance to Zone 7's water operations, help establish capital facilities needs and design guidelines, and incorporate a funding strategy.
Responsible Section	WQ Water Quality
Operating Impact	Will provide clear operational guidelines. Potential additional treatment and blending facilities to operate.
In Service Date	Month: Year: Ongoing
Total Project Cost In 2007 dollars	\$6,298,000 N/A
Source of Funds	Fund 72 Water Rates 75% Fund 73 Connection Fees 25%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$964	\$104	\$110	\$110	\$120	\$120	\$130	\$130	\$140	\$140	\$150	\$4,080	\$6,298
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$964	\$104	\$110	\$110	\$120	\$120	\$130	\$130	\$140	\$140	\$150	\$4,080	\$6,298

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy	Expansion
Program	Wells
Project	Well Master Plan Wells
Project ID:	W11
Priority	1
Project Description	This project involves the construction of 9 to 11 new municipal water supply wells to meet Zone 7's M&I drought reliability goal through buildout. The new wells will be constructed with schedule that mirrors the increases needed to maintain Zone 7's reliability as demand grows. The estimated project costs include all planning, site testing, land acquisition, well drilling, facility design and construction, pipeline additions and miscellaneous site work costs necessary to implement these Well Master Plan wells.
Justification	This project is required to maintain sufficient Zone 7 well capacity for Zone 7 to meet 100% of its M&I customers' projected future needs, even during worse-case drought conditions, as established in Zone 7 Resolution 02-2382. As additional benefits, these wells will provide Zone 7 with better abilities to manage groundwater levels, groundwater flow, dissolved salt build-up/removal, delivered water quality blending and peak-day demands.
Responsible Section	GP Groundwater Protection
Operating Impact	System reliability.
In Service Date	Month: June Year: 2020
Total Project Cost In 2007 dollars	\$98,588,000 \$82,549,000
Source of Funds	Fund 73 Connection Fees 100%

(\$1,000)

Appropriation	Prior	FY 08-09	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	Future	Total
Planning	\$1,897	\$160	\$160	\$110	\$90	\$0	\$0	\$100	\$100	\$110	\$110	\$40	\$2,877
Design	\$2,580	\$1,140	\$1,680	\$170	\$200	\$1,340	\$250	\$1,410	\$270	\$250	\$1,590	\$550	\$11,430
Construction	\$12,051	\$2,860	\$13,440	\$8,800	\$16,160	\$1,460	\$6,930	\$260	\$2,020	\$8,010	\$300	\$11,990	\$84,281
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$16,528	\$4,160	\$15,280	\$9,080	\$16,450	\$2,800	\$7,180	\$1,770	\$2,390	\$8,370	\$2,000	\$12,580	\$98,588

Note: 'Future' means all the project costs from FY 18/19 through FY 35/36, which is the planning horizon.

Chapter 3 – FLOOD PROTECTION SYSTEM

3.1 Introduction

This section identifies the specific goals and proposed appropriations for Flood Protection over the next five years starting with FY 2008/09. The primary goal of Flood Protection is to provide flood protection to the Livermore-Amador Valley communities, while also continuing to be environmentally sensitive to stream usage.

To optimally address community interest, current federal and state regulatory requirements, and environmental concerns, Zone 7 has developed a Stream Management Master Plan (SMMP) and Master Environmental Impact Report (MEIR) (adopted by the Zone 7 Board of Directors on August 16, 2006), which serve as an update to the original 1966 Flood Control Master Plan. The SMMP focuses on providing multi-use benefits in the areas of: 1) flood protection, 2) erosion and sedimentation control, 3) water supply, 4) water quality, 5) environment and habitat preservation, and 6) trails, recreation, and public education, all key areas identified by stakeholders during the development of the SMMP. A comprehensive action and implementation plan, called the StreamWISE (Waterway Improvements Supporting the Environment) is currently being developed to prioritize and sequence capital improvements, identify a financial strategy, and establish maintenance plans for the new Program, which will implement the SMMP. The StreamWISE implementation plan process is incorporating direct involvement from key stakeholder groups to ensure that Zone 7 meets the needs of its constituents and partners. Through this process a five-year and ten-year outlook for the CIP will be created by prioritizing and sequencing the SMMP projects. Because this process is still underway, this CIP document (FY 2008/09) does not include any of the currently-proposed SMMP projects. The 45 initially-proposed SMMP projects have been estimated to total \$727 million; however, a revised cost estimate will be provided with the implementation plan. Those projects falling within the ten-year CIP planning horizon will be added to the CIP document after the implementation plan is finalized. The anticipated date of finalization is April 2008.

With the StreamWISE funding plan and detailed long-term project schedule is still to be developed, this year's Flood Protection System CIP planning analysis, as follows in this report section, is in a transitional format. The format used in prior years' reports has thus been modified to conform to this transitional stage of Zone 7's Flood Protection System planning.

A copy of the SMMP Executive Summary is attached for reference as Appendix B.

3.2 System Overview & Funding Analysis

Flood Protection is currently funded by two sources, property taxes and developer-based fees. The sources of revenue provide funding for three funds: 1) Fund 50 - Flood Protection/General Fund, 2) Fund 71 – SDA (Special Drainage Area) 7-1 Administration & Engineering, and 3) Fund 90 - SDA 7-1 Reimbursements. By April 2008, a new funding plan will be developed for

the prioritized StreamWISE projects. This funding plan is expected to include the existing funding sources, as well as additional sources, to fund the prioritized projects under the new cost estimate total. This funding plan is being developed through coordination with the program stakeholders and is expected to include efforts to obtain both State and Federal funding (e.g., Proposition 50).

Listed below are descriptions of the current funding sources for the Flood Protection System:

3.2.1 Fund 50 – Flood Protection/ General Fund

Funds a project, or portion thereof, that relates to the replacement or improvement of existing flood protection facilities owned by Zone 7. Revenues are generated from property taxes collected within Zone 7's service area. Fund 50 pays for both on-going capital expenditures and operating expenditures. Capital expenditures are for projects that fall under either the Renewal/Replacement or System-Wide Improvements Strategies. Operating expenditures are comprised of a comprehensive year-round maintenance program that includes repairing slides and erosion issues, refurbishing access roads and associated drainage ditches, installing and repairing gates and fences, and maintaining vegetation growth. Table 3-1 delineates the proposed near-term funding outlook.

TABLE 3-1
Fund 50 (Property Taxes)
NEAR-TERM FUNDING
(\$ Millions)

Fiscal year (FY)	08/09	09/10	10/11	11/12	12/13
Beg. Balance	6.658	5.639	4.695	3.487	2.403
Property Tax Revenue*	5.715	6.001	6.301	6.616	6.946
Capital Expenditures/Encumbrances	1.447	1.499	1.901	1.924	1.566
Operating Expenditures	5.211	5.367	5.528	5.694	5.864
Building Sinking Fund	0.076	0.078	0.080	0.082	0.084
End. Balance	5.639	4.695	3.487	2.403	1.835

* Since property tax revenue is based on the assessed property value, which fluctuates over time, Zone 7 has based the revenue estimates on historic experience. A five percent annual increase is conservatively estimated to account for growth in assessed property valuation.

3.2.2 Fund 71 – SDA 7-1 Administration, Engineering, & Construction

Funds the administration of the SDA 7-1 Program and the engineering, construction, and land acquisition of new Flood Protection facilities by Zone 7. Revenue is derived from the collection of SDA 7-1 drainage fees from developments creating new impervious areas within Zone 7's service area. Historically, drainage fees collected have been equally

allocated to Funds 71 and Fund 90 per District Ordinance 0-2002-24; however, with the implementation of the new StreamWISE program, Zone 7 is considering the adoption of a new fee structure that would replace the SDA 7-1 drainage fees. Presently, SDA 7-1 fees amount to roughly \$2-\$3 million per year in revenue. Expenditures are not listed herein because, as mentioned above, Flood Protection is in a transitional state, with the new StreamWISE implementation plan anticipated to be complete in April 2008.

3.2.3 Fund 90 – SDA 7-1 Reimbursements

If the funding plan for the StreamWISE Program determines that reimbursement will continue, then Fund 90 will be used for the reimbursement of construction improvements and right-of-way acquisition performed and provided by private development to Zone 7. As stated above, revenue is derived from the collection of SDA 7-1 drainage fees, which are equally allocated to Fund 71 and Fund 90. Private developers developing adjacent to creeks/streams, have the option to receive reimbursement for improving a section of channel to Zone 7 standards. In order to qualify for reimbursement, a developer must enter into an SDA 7-1 Agreement with Zone 7. As part of the Agreement, the developer improves the section of channel to Zone 7 standards and dedicates the right-of-way to Zone 7 to maintain and operate. Upon completion, developers are reimbursed up to a pre-determined amount for actual construction and right-of-way costs through Fund 90. As with Fund 71, it is anticipated that roughly \$2-\$3 million per year in fee revenue will be available for improvements over the current five-year planning period. Based on recent experience, it is also estimated that approximately \$1 million per year will be expended/encumbered each year during the five-year planning period, unless superseded by a new funding mechanism. Because the program is in transition, requests for reimbursements are being evaluated on a case-by-case basis.

3.3 Capital Projects

This section contains a summary table for the capital projects funded under Fund 50 of the Flood Protection System, a project summary sheet for each project and an alphabetical project listing.

3.3.1 Appropriation Summary

The appropriation summary identifies the estimated five-year appropriations for each project included in the Five-Year CIP for Fund 50 of the Flood Protection System.

**Flood Protection System
Capital Improvement Program
Fund 50 Project Summary by Program**
(Appropriations shown in \$Millions)

Programs	Appropriations (\$Millions)					Total
	FY 2008/09	FY 2009/10	FY 2010/11	FY 2011/12	FY 2012/13	
Building & Grounds						
Administrative & Engineering Building (Flood Protection)	\$0.107	\$0.109	\$0.111	\$0.114	\$0.116	\$0.557
Administrative and Engineering Building - Sinking Fund (Flood Protection)	\$0.078	\$0.080	\$0.082	\$0.084	\$0.086	\$0.410
Subtotal	\$0.185	\$0.189	\$0.193	\$0.198	\$0.202	\$0.967
Flood Control Facilities						
Construction and Rehabilitation of Maintenance Roads	\$0.130	\$0.140	\$0.140	\$0.170	\$0.140	\$0.720
District-wide F. C. Channel Desilting Program	\$0.200	\$0.330	\$0.340	\$0.190	\$0.190	\$1.250
Fences & Gates Installation & Replacement	\$0.040	\$0.040	\$0.040	\$0.050	\$0.050	\$0.220
Landscaping & Hydroseeding Channel Embankments	\$0.070	\$0.070	\$0.080	\$0.080	\$0.080	\$0.380
Rehabilitation of F. C. Channel Embankments	\$0.530	\$0.540	\$0.560	\$0.590	\$0.610	\$2.830
System-wide Asphalt Paving F.C. Facility Driveway	\$0.080	\$0.050	\$0.050	\$0.050	\$0.050	\$0.280
System-wide Construction of Concrete V-ditches	\$0.050	\$0.050	\$0.050	\$0.060	\$0.060	\$0.270
System-wide Construction of Drain Structures	\$0.060	\$0.060	\$0.070	\$0.110	\$0.130	\$0.430
System-wide Vegetation Abatement	\$0.240	\$0.240	\$0.240	\$0.240	\$0.060	\$1.020
Subtotal	\$1.400	\$1.520	\$1.570	\$1.540	\$1.370	\$7.400
Program Management						
Capital Improvement Program Management	\$0.006	\$0.006	\$0.006	\$0.006	\$0.006	\$0.058
Subtotal	\$0.006	\$0.006	\$0.006	\$0.006	\$0.006	\$0.058
Total	\$1.591	\$1.715	\$1.769	\$1.744	\$1.578	\$8.397
In 2007 Dollars:	\$1.530	\$1.586	\$1.573	\$1.491	\$1.297	\$7.476

3.3.2 Project Listing

The list shows the project title and page number for each capital project in the Five-Year Flood Protection System CIP.

Project Title	Page No.
Administrative & Engineering Building	3-6
Administrative & Engineering Building – Sinking Fund	3-7
Capital Improvement Program Management	3-8
Construction and Rehabilitation of Maintenance Roads	3-9
District-Wide F.C. Channel Desilting Program	3-10
Fences & Gates Installation & Replacement	3-11
Landscaping & Hydroseeding Channel Embankments	3-12
Rehabilitation of F.C. Channel Embankments	3-13
System-Wide Asphalt Paving F.C. Facility Driveways	3-14
System-Wide Construction of Concrete V-Ditches	3-15
System-Wide Construction of Drain Structure	3-16
System-Wide Vegetation Abatement	3-17

3.3.3 Project Summaries

The following project summaries are presented in the order they appear in the Project Listing.

Capital Improvement Project Summary Report

Strategy	Expansion System-Wide Improvements		
Program	Building & Grounds		
Project	Administrative & Engineering Building (Flood Protection)		
Project ID:	SP17		
Priority	2		
Project Description	A new office building has been constructed for administrative and engineering staff. The new building has a larger Board Room for public meetings. It is located closer to operations (treatment plants), and is more centrally located for employees and Valley residents. The cost is based on "Build to Suit" option and includes lease payments. In addition to the scheduled lease payment for the new building, \$696,000 plus interest per year will be contributed to this sinking fund in order to cover the purchase cost of the building after the lease payments have been completed (FY 2018/19).		
Justification	Engineering, administrative and operations staff were at different locations. This project has brought administrative and engineering staff together and will bring both closer to operations. This project also accommodates future expansion. It will reduce overall agency travel times, improve communications and staff productivity.		
Responsible Section	ASD Administrative Services Division		
Operating Impact	Provides for more efficient and effective operations of administrative and engineering functions. Provides for secure Emergency Operations Center (EOC), as the new building meets strictest building.		
In Service Date	Month:	Year: 2020	
Total Project Cost In 2007 dollars	\$4,372,000 N/A		
Source of Funds	Fund 50	Flood Control/ General Fund	50%
	Fund 71	SDA 7-1 Operations	50%

(\$1,000)

Appropriation	Prior	FY 08-09	FY 09-10	FY 10-11	FY 11-12	12/13	Future	Total
Planning	\$142	\$0	\$0	\$0	\$0	\$0	\$0	\$142
Design	\$142	\$0	\$0	\$0	\$0	\$0	\$0	\$142
Construction	\$766	\$0	\$0	\$0	\$0	\$0	\$0	\$766
Other	\$723	\$214	\$218	\$222	\$227	\$231	\$260	\$3,322
Total	\$1,773	\$214	\$218	\$222	\$227	\$231	\$260	\$4,372

Capital Improvement Project Summary Report

Strategy	Expansion Renewal/Replacement
Program	Building & Grounds
Project	Administrative and Engineering Building - Sinking Fund (Flood Protection)
Project ID:	SP16
Priority	2
Project Description	A new office building has been constructed for administrative and engineering staff. The new building has a larger Board Room for public meetings. It is located closer to operations (treatment plants), and is more centrally located for employees and Valley residents. The cost is based on "Build to Suit" option and includes lease payments. In addition to the scheduled lease payment for the new building, \$696,000 plus interest per year will be contributed to this sinking fund in order to cover the purchase cost of the building after the lease payments have been completed (FY 2018/19).
Justification	This sinking fund will cover the cost to purchase the new Administrative & Engineering Building after Zone 7's 15 year lease is completed.
Responsible Section	ASD Administrative Services Division
Operating Impact	None.
In Service Date	Month: Year: 2018
Total Project Cost In 2007 dollars	\$2,535,000 N/A
Source of Funds	Fund 50 Flood Control/ General Fund 50% Fund 71 SDA 7-1 Operations 50%

(\$1,000)

Appropriation	Prior	FY 08-09	FY 09-10	FY 10-11	FY 11-12	12/13	Future	Total
Planning	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other	\$586	\$156	\$160	\$164	\$168	\$172	\$200	\$2,535
Total	\$586	\$156	\$160	\$164	\$168	\$172	\$200	\$2,535

Capital Improvement Project Summary Report

Strategy	Expansion Renewal/Replacement System-Wide Improvements		
Program	Program Management		
Project	Capital Improvement Program Management		
Project ID:	SP13		
Priority	2		
Project Description	Ongoing program management of the Capital Improvement Plan.		
Justification	Provides for better tracking of program management costs.		
Responsible Section	AP Advance Planning		
Operating Impact	None		
In Service Date	Month:	Year:	Ongoing
Total Project Cost In 2007 dollars	\$258,000 N/A		
Source of Funds	Fund 50	Flood Control/ General Fund	5%
	Fund 72	Water Rates	20%
	Fund 73	Connection Fees	75%

(\$1,000)

Appropriation	Prior	FY 08-09	FY 09-10	FY 10-11	FY 11-12	12/13	Future	Total
Planning	\$15	\$8	\$8	\$8	\$8	\$8	\$165	\$258
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$15	\$8	\$8	\$8	\$8	\$8	\$165	\$258

Capital Improvement Project Summary Report

Strategy	Renewal/Replacement
Program	Flood Control Facilities
Project	Construction and Rehabilitation of Maintenance Roads
Project ID:	FC9
Priority	1
Project Description	Construct new and rehabilitate existing gravel flood control maintenance roads by replenishing the road base, grading and compacting to proper grade.
Justification	Construction of new gravel roads is needed along channel. Heavy usage and previous storm damages have caused these maintenance roads to be inaccessible under wet conditions. This program is required to provide and to restore the function and integrity of these roads to provide safe access for staff to conduct facility inspection activities on a year-round basis
Responsible Section	FCE Flood Control Engineering
Operating Impact	Increased maintenance efficiencies by providing safe access for staff to conduct facility inspection activities on year-round basis.
In Service Date	Month: Year: Ongoing
Total Project Cost	\$1,545,000
In 2007 dollars	\$1,486,000
Source of Funds	Fund 50 Flood Control/ General Fund 100%

(\$1,000)

Appropriation	Prior	FY 08-09	FY 09-10	FY 10-11	FY 11-12	12/13	Future	Total
Planning	\$30	\$10	\$10	\$10	\$20	\$20	\$0	\$100
Design	\$60	\$10	\$10	\$10	\$30	\$0	\$0	\$120
Construction	\$675	\$100	\$110	\$110	\$120	\$120	\$0	\$1,235
Other	\$60	\$10	\$10	\$10	\$0	\$0	\$0	\$90
Total	\$825	\$130	\$140	\$140	\$170	\$140	\$0	\$1,545

Capital Improvement Project Summary Report

Strategy	Renewal/Replacement
Program	Flood Control Facilities
Project	District-wide F. C. Channel Desilting Program
Project ID:	FC5
Priority	1
Project Description	This District-wide desilting program is designed to systematically plan, design and remove roughly over 300,000 cubic yards of sediment which has accumulated in various flood control channels over the years.
Justification	Silt sedimentation decreases channel carrying capacity and conveyance capability which compromise the level of flood protection. This program is required to restore the flood control channel facilities to their original design hydraulic capacity and associated parameters in order to provide the design level of flood protection in servicing the community in any given time.
Responsible Section	FCE Flood Control Engineering
Operating Impact	Increased flood control channel efficiency and prolong service life.
In Service Date	Month: June Year: 2011
Total Project Cost	\$3,685,000
In 2007 dollars	\$3,537,000
Source of Funds	Fund 50 Flood Control/ General Fund 100%

(\$1,000)

Appropriation	Prior	FY 08-09	FY 09-10	FY 10-11	FY 11-12	12/13	Future	Total
Planning	\$355	\$50	\$30	\$30	\$20	\$20	\$0	\$505
Design	\$280	\$50	\$30	\$30	\$20	\$20	\$0	\$430
Construction	\$1,800	\$100	\$270	\$280	\$150	\$150	\$0	\$2,750
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$2,435	\$200	\$330	\$340	\$190	\$190	\$0	\$3,685

Capital Improvement Project Summary Report

Strategy	Renewal/Replacement
Program	Flood Control Facilities
Project	Fences & Gates Installation & Replacement
Project ID:	FC7
Priority	1
Project Description	This project provides for the replacement of damaged or destroyed fences and gates within the flood control facilities.
Justification	Zone 7 owns about 39 miles of channels. From time to time, fences and gates are damaged or destroyed by vandalism, traffic accidents, or adjacent property owners' activities. In some cases, where the adjacent property becomes developed, it requires upgrading to a higher security fence other than a 5-wire field fence. Replacement of these fences and gates are necessary for security and liability purposes.
Responsible Section	FCE Flood Control Engineering
Operating Impact	Provides for the desired level of security, liability and safety within Zone 7 stream channels.
In Service Date	Month: Year: Ongoing
Total Project Cost	\$460,000
In 2007 dollars	\$440,000
Source of Funds	Fund 50 Flood Control/ General Fund 100%

(\$1,000)

Appropriation	Prior	FY 08-09	FY 09-10	FY 10-11	FY 11-12	12/13	Future	Total
Planning	\$35	\$10	\$10	\$10	\$10	\$10	\$0	\$85
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$180	\$30	\$30	\$30	\$40	\$40	\$0	\$350
Other	\$25	\$0	\$0	\$0	\$0	\$0	\$0	\$25
Total	\$240	\$40	\$40	\$40	\$50	\$50	\$0	\$460

Capital Improvement Project Summary Report

Strategy	System-Wide Improvements		
Program	Flood Control Facilities		
Project	Landscaping & Hydroseeding Channel Embankments		
Project ID:	FC8		
Priority	1		
Project Description	Installation of landscaping to meet the Best Management Practices requirements under the Alameda County Clean Water Program, and erosion control hydroseeding at Zone 7 flood control channel facilities.		
Justification	Provide erosion control measures.		
Responsible Section	FCE Flood Control Engineering		
Operating Impact	Increased maintenance.		
In Service Date	Month:	Year:	Ongoing
Total Project Cost	\$740,000		
In 2007 dollars	\$660,000		
Source of Funds	Fund 50	Flood Control/ General Fund	100%

(\$1,000)

Appropriation	Prior	FY 08-09	FY 09-10	FY 10-11	FY 11-12	12/13	Future	Total
Planning	\$30	\$10	\$10	\$10	\$10	\$10	\$0	\$80
Design	\$0	\$10	\$10	\$10	\$10	\$10	\$0	\$50
Construction	\$300	\$50	\$50	\$60	\$60	\$60	\$0	\$580
Other	\$30	\$0	\$0	\$0	\$0	\$0	\$0	\$30
Total	\$360	\$70	\$70	\$80	\$80	\$80	\$0	\$740

Capital Improvement Project Summary Report

Strategy	Renewal/Replacement
Program	Flood Control Facilities
Project	Rehabilitation of F. C. Channel Embankments
Project ID:	FC3
Priority	1
Project Description	Rehabilitation of reaches of damaged flood control channel facilities.
Justification	Previous storm damages sometimes compounded by the end of their design service lives have deteriorated and degraded the structural integrity of these existing facilities. This project is required to restore the facilities to or above the original design function and protection level against storm events in any given time.
Responsible Section	FCE Flood Control Engineering
Operating Impact	Increase flood control channel efficiency and prolong service life.
In Service Date	Month: Year: Ongoing
Total Project Cost	\$5,830,000
In 2007 dollars	\$5,500,000
Source of Funds	Fund 50 Flood Control/ General Fund 100%

(\$1,000)

Appropriation	Prior	FY 08-09	FY 09-10	FY 10-11	FY 11-12	12/13	Future	Total
Planning	\$200	\$80	\$80	\$80	\$90	\$90	\$0	\$620
Design	\$150	\$30	\$30	\$30	\$30	\$30	\$0	\$300
Construction	\$2,400	\$420	\$430	\$450	\$470	\$490	\$0	\$4,660
Other	\$250	\$0	\$0	\$0	\$0	\$0	\$0	\$250
Total	\$3,000	\$530	\$540	\$560	\$590	\$610	\$0	\$5,830

Capital Improvement Project Summary Report

Strategy	System-Wide Improvements
Program	Flood Control Facilities
Project	System-wide Asphalt Paving F.C. Facility Driveway
Project ID:	FC1
Priority	1
Project Description	Improve existing gravel flood control facility driveway entrances by construction of asphalt pavements.
Justification	Gravel driveway entrances deteriorate with heavy traffic usage and wet weather. In addition, staff finds gravel scattered on the adjacent sidewalks at times creating tripping hazards which may expose Zone 7 to undesirable liability issues. Improving driveways from gravel to asphalt will provide all weather entrances, reduce potential claims and enhance Zone 7's public appearance.
Responsible Section	FCE Flood Control Engineering
Operating Impact	Increase in long term renewal and replacement costs but decrease in short term maintenance costs.
In Service Date	Month: Year: Ongoing
Total Project Cost	\$730,000
In 2007 dollars	\$685,000
Source of Funds	Fund 50 Flood Control/ General Fund 100%

(\$1,000)

Appropriation	Prior	FY 08-09	FY 09-10	FY 10-11	FY 11-12	12/13	Future	Total
Planning	\$45	\$20	\$10	\$10	\$10	\$10	\$0	\$105
Design	\$30	\$10	\$10	\$10	\$10	\$10	\$0	\$80
Construction	\$300	\$50	\$30	\$30	\$30	\$30	\$0	\$470
Other	\$75	\$0	\$0	\$0	\$0	\$0	\$0	\$75
Total	\$450	\$80	\$50	\$50	\$50	\$50	\$0	\$730

Capital Improvement Project Summary Report

Strategy	System-Wide Improvements
Program	Flood Control Facilities
Project	System-wide Construction of Concrete V-ditches
Project ID:	FC4
Priority	1
Project Description	Improve existing earthen V-ditches to concrete V-ditches along the top of embankments.
Justification	The slope of earthen V-ditches are often altered either by erosion and/or siltation may cause retardance of flow in just a single season. They require a high degree of maintenance activity for them to function properly (i.e., cleaning, regrading, weed abatement, etc.). Improving V-ditches from earthen to concrete will reduce maintenance costs in a long run and improve embankment stability.
Responsible Section	FCE Flood Control Engineering
Operating Impact	Increase in long term renewal and replacement costs but decrease in short term maintenance costs.
In Service Date	Month: Year: Ongoing
Total Project Cost In 2007 dollars	\$620,000 \$575,000
Source of Funds	Fund 50 Flood Control/ General Fund 100%

(\$1,000)

Appropriation	Prior	FY 08-09	FY 09-10	FY 10-11	FY 11-12	12/13	Future	Total
Planning	\$40	\$10	\$10	\$10	\$10	\$10	\$0	\$90
Design	\$35	\$10	\$10	\$10	\$10	\$10	\$0	\$85
Construction	\$245	\$30	\$30	\$30	\$40	\$40	\$0	\$415
Other	\$30	\$0	\$0	\$0	\$0	\$0	\$0	\$30
Total	\$350	\$50	\$50	\$50	\$60	\$60	\$0	\$620

Capital Improvement Project Summary Report

Strategy	System-Wide Improvements
Program	Flood Control Facilities
Project	System-wide Construction of Drain Structures
Project ID:	FC6
Priority	1
Project Description	Improve drainage along the top of embankment by construction of drain structures (drain inlets, cross drain piping and outfall structures).
Justification	Water collects in V-ditches along the top of embankments must be conveyed to the channels. There are a number of reaches of flood control channels where the numbers of drain structures are inadequate, causing ponding and overflow. At these locations, new drain structures must be constructed in order to resolve the drainage problem and improve the embankment stability.
Responsible Section	FCE Flood Control Engineering
Operating Impact	Increase in long-term renewal and replacement costs but decrease in short-term maintenance costs.
In Service Date	Month: Year: Ongoing
Total Project Cost In 2007 dollars	\$620,000 \$575,000
Source of Funds	Fund 50 Flood Control/ General Fund 100%

(\$1,000)

Appropriation	Prior	FY 08-09	FY 09-10	FY 10-11	FY 11-12	12/13	Future	Total
Planning	\$40	\$10	\$10	\$10	\$10	\$10	\$0	\$90
Design	\$35	\$10	\$10	\$10	\$10	\$10	\$0	\$85
Construction	\$245	\$30	\$30	\$30	\$40	\$40	\$0	\$415
Other	\$30	\$0	\$0	\$0	\$0	\$0	\$0	\$30
Total	\$350	\$50	\$50	\$50	\$60	\$60	\$0	\$620

Capital Improvement Project Summary Report

Strategy	System-Wide Improvements
Program	Flood Control Facilities
Project	System-wide Vegetation Abatement
Project ID:	FC10
Priority	1
Project Description	Provide chemical and mechanical vegetation abatement at Zone 7 flood control facilities.
Justification	Comply with local fire department regulations, enhance Zone 7's public appearance and provide cleanliness and functionality of facilities.
Responsible Section	FCE Flood Control Engineering
Operating Impact	Increase operation and maintenance efficiencies.
In Service Date	Month: Year: Ongoing
Total Project Cost	\$2,400,000
In 2007 dollars	\$2,220,000
Source of Funds	Fund 50 Flood Control/ General Fund 100%

(\$1,000)

Appropriation	Prior	FY 08-09	FY 09-10	FY 10-11	FY 11-12	12/13	Future	Total
Planning	\$40	\$15	\$15	\$15	\$15	\$0	\$0	\$100
Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$1,350	\$225	\$225	\$225	\$225	\$0	\$0	\$2,250
Other	\$50	\$0	\$0	\$0	\$0	\$0	\$0	\$50
Total	\$1,440	\$240	\$240	\$240	\$240	\$0	\$0	\$2,400