WATER SUPPLY ~ WATER QUALITY ~ FLOOD PROTECTION

New Solar Panels at the Del Valle Water Treatment Plant

Zone 7 Water Agency

Fiscal Year 2012/13
Capital Improvement Program
Ten-Year Water System Plan
Five-Year Flood Protection Plan

October 2011

Zone 7 Water Agency
Mission Statement

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

Fiscal Year 2012/13
Capital Improvement Program

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

Prepared by:

Zone 7 Finance and Engineering Staff

Adopted by the Zone 7 Board of Directors
on October 19, 2011

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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
COL	Chain of Lakes
CCI	Construction Cost Index
CWS	California Water Service
cfs	cubic feet per second
CIP	Capital Improvement Program
CUWA	California Urban Water Agencies
DIF	Development Impact Fee
DSRSD	Dublin San Ramon Services District
DV	Dougherty Valley
DVWTP	Del Valle Water Treatment Plant
DWR	California Department of Water Resources
ENR	Engineering New Record
FY	Fiscal year
ISA	Installment Sale Agreement
gpd	Gallons per day
gpcd	Gallons per capita per day
GWMP	Groundwater Management Plan
LAVWMA	Livermore Amador Valley Water Management Authority
LDV	Lake Del Valle
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	Operations and Maintenance

Acronyms and Terms Glossary

PPWTP	Patterson Pass Water Treatment Plant
R/R	Renewal/Replacement
SBA	South Bay Aqueduct
SDA	Special Drainage Area
SMMP	Stream Management Master Plan
SNMP	Salt Nutrient Management Plan
SWI	System-Wide Improvements
SWP	State Water Project
SWRU	Stored Water Recovery Unit
UWMP	Urban Water Management Plan
WSE	Water Supply Evaluation
WTP	Water Treatment Plant
Zone 7	Zone 7 Water Agency

WATER SUPPLY ~ WATER QUALITY ~ FLOOD PROTECTION

EXECUTIVE SUMMARY

LIVERMORE-AMADOR VALLEY ZONE 7 19 57 WATER SUPPLY • FLOOD PROTECTION

EXECUTIVE SUMMARY

Background

On a biennial basis, Zone 7 Water Agency (Zone 7) prepares a Capital Improvement Program (CIP) document, which outlines the plans for capital projects and programs needed to carry out the goals and policy objectives of the agency. The CIP incorporates the projects, costs, schedules, and priorities for the next five and ten years starting with FY 12/13, for the Flood Protection and Water Systems, respectively.

The last CIP was adopted in October 2009, whereby the Zone 7 Board of Directors (Board) resolved to review and adopt the CIP document on a biennial basis. Since 2009, Zone 7 has undertaken many planning efforts, specifically the Asset Management Program (AMP) Update, 2010 Urban Water Management Plan (UWMP) and Water Supply Evaluation (WSE). Collectively, these studies have identified: 1) the types of renewal/replacement and improvement projects needed maintain a reliable and efficient water system; 2) current and projected demands on our water system and Zone 7's facilities needed to meet such demands and; 3) operational improvements and additional studies that will minimize near-term risks of water supply shortages and maximize long-term flexibility. These studies provided a roadmap for the scope and scheduling of new water system projects recommended in this CIP.

Purpose

This Executive Summary provides an overview of the proposed Water and Flood Protection capital plan, changes since the last CIP, key projects and the financial condition of the various capital funds.

Systems and Sources of Funds

The CIP plans for two Systems (Water System and Flood Protection) and is funded by four sources of funds:

- Water System
  - Expansion – Fund 73 – Connection Fees
  - Renewal/Replacement – Fund 72 – Indirectly from Water Rates
  - System-Wide Improvements – Fund 72 – Indirectly from Water Rates
- Flood Protection
  - General Flood Protection – Fund 50 – Property Taxes
  - Flood Protection and Stormwater Drainage – Fund 76 – Development Impact Fees

Water System CIP Overview

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

Various capital projects and programs are needed to ensure a reliable and high quality water supply in accordance with the mission, goals and policy objectives established by the Board. These projects anticipate the need to renew, replace and improve existing infrastructure (paid from Fund 72, Renewal/Replacement and System-Wide Improvements) and to construct new facilities needed to accommodate future growth (Fund 73, Expansion).

For the Ten-Year Water System CIP period (FY 12/13 through FY 21/22), eighty-five Water System projects have been identified totaling $468 million. Projects are categorized into the following eight program areas shown in the table below.

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

Water System CIP Breakdown by Program ($ Millions)

Program / Fiscal Year	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22	Total
Buildings & Grounds	1.35	1.37	1.93	1.98	2.02	2.07	2.11	0.00	0.00	0.00	12.83
Groundwater Basin Management	0.77	0.32	0.00	0.74	0.00	0.13	0.00	0.13	0.75	0.14	2.98
Program Management	0.79	0.65	0.16	0.47	0.17	0.26	0.19	0.26	0.50	0.28	3.73
Regulatory Compliance Monitoring	0.17	0.16	0.12	0.13	0.13	0.13	0.14	0.15	0.16	0.16	1.45
Transmission & Distribution	0.00	0.68	0.00	0.06	0.00	0.00	0.28	1.37	5.00	14.25	21.64
Water Supply & Conveyance	20.86	23.22	23.62	24.21	31.67	30.87	25.42	29.11	44.11	28.61	281.72
Water Treatment Facilities	10.97	4.95	5.98	9.97	10.59	7.51	1.83	4.89	15.49	33.05	105.23
Wells	0.33	0.00	0.20	1.89	11.24	18.85	1.64	0.56	1.23	2.58	38.52
Total	**35.24**	**31.35**	**32.02**	**39.45**	**55.83**	**59.82**	**31.61**	**36.47**	**67.24**	**79.07**	**468.10**

The planned FY 12/13 Ten-Year Water System CIP appropriations total $468 million, which is approximately $174 million or about 27% less than the FY 10/11 Ten-Year CIP total of $642 million. This is due to the scheduling of many Expansion projects outside of the ten-year CIP planning horizon as result of the slowdown in growth.

The table below presents the appropriations for the Ten-Year Water System CIP by Fund.

Water System CIP Fund Breakdown

Strategy	Ten-Year Total ($ Millions)	Percentage
Expansion*	$349	74%
Renewal/Replacement	$48	10%
System-Wide Improvements**	$71	15%
Total	**$468**	**100%**

*Includes $194 million in non-discretionary obligations further described on page four.
**Includes $43 million for ozonation at DVWTP and PPWTP. The total cost is estimated at $54.3 million; in-service date is June 2023.

Fund 73 - Expansion Program

Over the past five years new connections to our water system have slowed significantly from the rapid growth experienced in the early 2000's. Recent demand analysis projects service area build-out sometime between 2035 and 2040, which is ten years later than the previous estimate of 2025-2030. Most major Expansion projects have been deferred correspondingly by 8 to10 years to mirror projected demands on our system. As an example, the Water Supply Evaluation determined that Zone 7 can meet projected maximum day demands through 2022. This allows Zone 7 to defer construction of additional surface water treatment capacity until sometime after 2022. Other major Expansion project deferrals are listed in Table ES-1 below.

Table ES-1. Changes in Recommended In-Service Dates of Major Expansion Projects

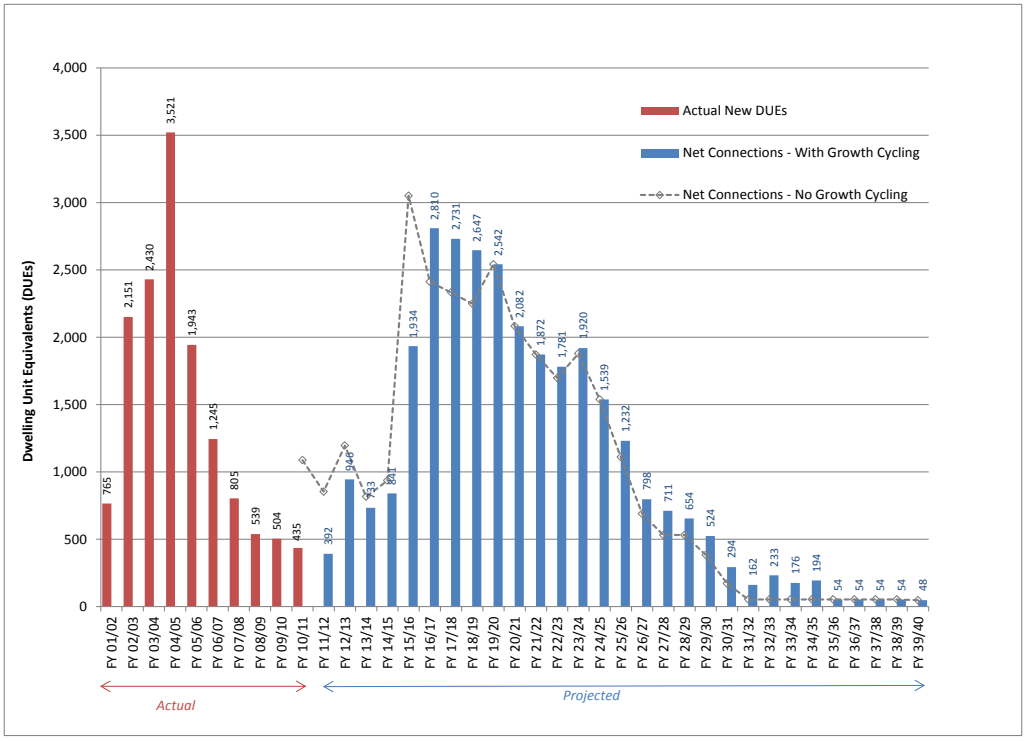
Project	Previous CIP In-Service Date	Recommended CIP In-Service Date
Altamont Water Treatment Plant (24 MGD) Phase 1	2016	Water Treatment Plant Expansion–2025
Altamont Pipeline – County Reach	2015	New Transmission System Pipeline – 2025
Chain of Lakes Wells 3, 4 and 5	2016	2020
Bernal Wells 1 and 2	2019	2030
Busch Valley Well 1	2020	2025
Second Demineralization Facility	2018	2028

Fund 73 - Expansion Program Funding

Concurrent with the development of this CIP, staff also completed an update to the current Treated Water Connection Fee Program. The Treated Water Connection Fee Program was established to ensure that Zone 7 is able to fund the necessary projects within Zone 7's Water System Expansion Program, which serves the demands of new growth over the next 30 years (2011-2040).

Based on connection and water demand projections provided by the Retailers, staff developed a valley-wide projection of connections through build-out. Actual connections from FY 01/02 through FY 10/11, and projected connections from FY 11/12 through build-out are shown in Figure ES-1.

Figure ES-1. Actual and Projected Net Connections with and without Growth Cycling*



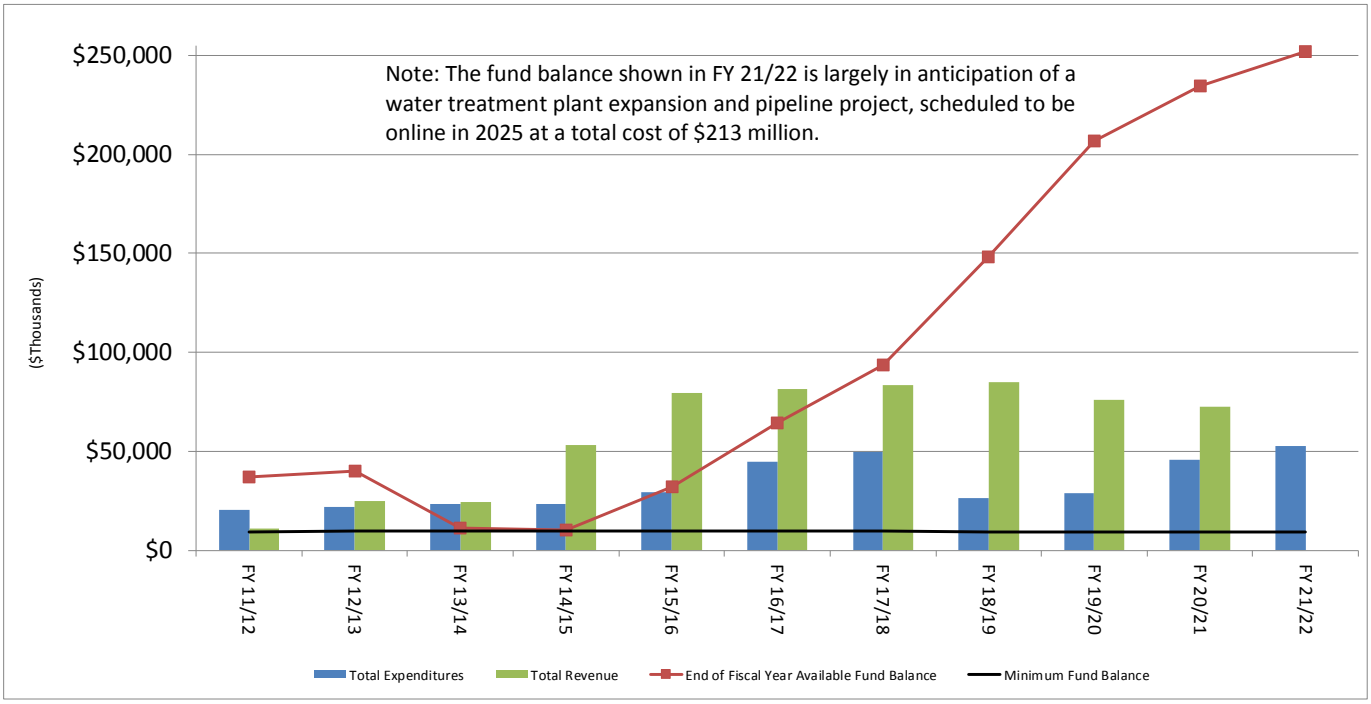
*Net connections are calculated from the gross connections adjusted for prepaid connections and credits. Net connections with growth cycling was used for the revenue projections. This growth cycling concept assumes only 70% of the first five years' projections are assumed to occur at that time and the remaining 30% are assumed to occur over FY 25/26 through FY 34/35.

This CIP plans for a total expenditure of $348 million in Expansion projects starting in FY 12/13 through FY 21/22. Of this amount, non-discretionary obligations total $194 million. These projects are payments to other agencies, such as the Department of Water Resources, that Zone 7 is obligated to pay. These include:

- South Bay Aqueduct (SBA) Enlargement
- Fourth Contactor's Share of the SBA
- Fixed Cost of Water Entitlement
- State Water Project Peaking Payment (Lost Hills and Belridge Water Districts)
- Cawelo Groundwater Banking Program
- Semitropic Stored Water Recovery Unit
- Bay-Delta Conservation Plan & Delta Habitat Conservation and Conveyance Program
- Administrative and Engineering Building Lease
- Interest on Credit Line with Wells Fargo

In the scheduling and prioritization of Expansion projects, the first priority was to ensure there are adequate funds to pay non-discretionary obligations. For planning purposes, a minimum fund balance was set at 50% of the following year's non-discretionary obligations (~$9.8) million annually). In accordance with Zone 7's current pay-as-you-go funding policy, the remaining projects were scheduled as projected demands on our system dictate and as funding is available. Figure ES-2 below shows projected available funding in Fund 73 for the next ten years. Sufficient funding is projected to fund Expansion projects as planned in the CIP. The fund balance shown in FY 21/22 is largely in anticipation of a water treatment plant expansion and pipeline project, scheduled to be online in 2025 at a total cost of $213 million.

Figure ES-2. Fund 73 Preliminary Funding Outlook



Fund 72 - Renewal/Replacement/System-Wide Improvements Program

On June 15, 2011, the Zone 7 Board adopted resolution 11-4092 accepting the Asset Management Program (AMP) Update. The principal goal of this update was to develop a rational and comprehensive plan that is consistent with utility practice, while building Retailer support for the program and its recommendations. The major objectives included identification of near-term renewal capital projects and development of a long-term renewal forecast and associated annual funding level necessary to implement future renewal and improvement needs. The Board-approved funding level targets resulting from this update have been incorporated in this CIP.

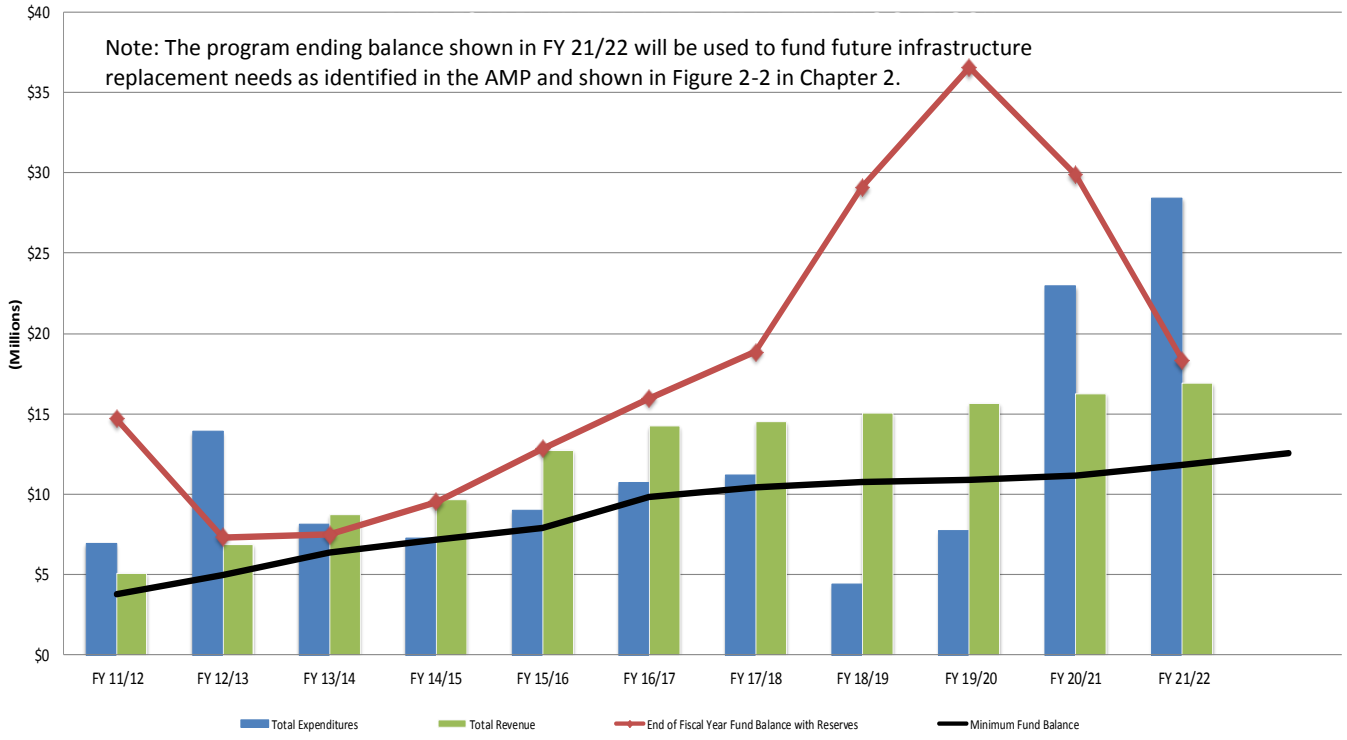
The planned Fund 72 projects in this CIP total $119M. A large number of these projects are new projects identified in the AMP, WSE or new developments. A list of these new projects is below.

New Projects

- Arroyo del Valle Permit Extension
- Asset Management Program Management
- Chain of Lakes Facilities and Improvements - Water Supply
- CWS Turnout #4 Relocation/Replacement
- Distribution System Control Station Replacement
- DVWTP Chemical Tanks and Feed Pumps Replacement
- DVWTP Filter Media and Underdrain Replacement
- DVWTP Filter Valves Replacement (Phase 2)
- DVWTP HVAC Replacement
- DVWTP Rehabilitation Project
- DVWTP Superpulsator Rehabilitation
- DVWTP Valve Replacements for 3 MG Clearwell
- DWR Land Acquisition adjacent to PPWTP
- Hopyard Wellfield Pipeline – Connection with Hopyard Well No. 9
- Lakes H, I and Cope Facility Planning
- Maximize Yield from Existing Contract with BBID Study
- MGDP R.O. Membrane Replacement
- Mocho 2 Well Improvements/Rehabilitation
- Mocho Well 2 - VFD Retrofit
- PPWTP Chemical Tanks and Pumps Replacement Phase I
- PPWTP Filter System Rehabilitation
- PPWTP Instrumentation Upgrades
- PPWTP Maintenance Yard and Building Improvements
- Reliability Intertie
- Water System Master Plan
- Wellfield Switchboard Replacement

The AMP transfer amounts approved by the Board in June 2011 provide sufficient funding for the Renewal/Replacement and System-Wide Improvement projects scheduled in CIP. The preliminary funding outlook for Fund 72 is shown in Figure ES-3 below.

Figure ES-3. Fund 72 Preliminary Funding Outlook



Flood Protection CIP Overview

Zone 7 plans and designs flood protection and stormwater drainage facilities that enhance management and control of stormwater runoff and drainage in the Livermore-Amador Valley. The agency conducts capital improvement activities that protect life and property from damage caused by stormwater runoff and drainage generated during large rainfall events. Zone 7's capital improvements include renewal/replacement and repair of existing facilities to maintain the integrity of the existing flood protection system, system-wide improvements that integrate local stormwater channels into one regional flood protection system, and developing capital projects to accommodate new impervious surface areas caused by new development.

Zone 7 projects $40.5 million in capital expenditures over the next five years to support these programs. A breakdown by year is shown in the table below.

Flood Protection System
Planned Annual Appropriations

Strategy	12/13	13/14	14/15	15/16	16/17	Total
Expansion	1.19	2.08	1.02	4.68	5.98	14.96
Renewal/Replacement	1.39	1.43	1.56	1.62	1.68	7.68
System-Wide Improvements	2.69	4.46	1.42	4.16	5.17	17.89
Total	**5.27**	**7.96**	**4.01**	**10.45**	**12.84**	**40.53**

Zone 7 staff conducts a bi-annual review of capital improvement activities required for existing facilities. Based on this review, Zone 7 staff has identified the following capital improvement activities that will be conducted over the next five years:

- Administrative & Engineering Building
- Administrative & Engineering Building – Sinking Fund
- Access Roads
- Sediment Removal from Existing Channels
- Fences and Gates
- Landscaping and Hydroseeding
- Embankment Repair
- Asphalt Driveways
- Concrete V-Ditches
- New Drain Structures
- Vegetation Abatement
- Arroyo de la Laguna Improvement
- Stream Management Master Plan (SMMP) Update
- Development Impact Fee Update
- El Charro Specific Plan Improvements (R.5-2/R.5-3 – Portions)
- Flood Facilities – Chain of Lakes
- Lakes H, I, and Cope Lake Facility Planning
- R.1-7: Arroyo Las Positas at N. Vasco Improvements
- R.3-5: Arroyo Mocho - Stanley Reach Pilot Project
- R.8-3: Lower Arroyo Mocho
- Sediment Transport Study
- Steelhead and Related Studies

Fund 76 – Flood Protection and Storm Water Drainage Development Impact Fee

Of the projects listed, $15 million of the total are funded by Fund 76. Fund 76 - Flood Protection and Storm Water Drainage Development Impact Fee Fund holds all fees collected from future development in support of Zone 7's flood protection and stormwater drainage activities.

The Zone 7 Board approved the Stream Management Master Plan (SMMP) in August 2006. Subsequently, Zone 7 adopted Ordinance 2009-01 to establish the new development impact fee (DIF) necessary to support SMMP projects within the Alameda Creek Watershed. This study recommended a fee of $1.423 per square-foot of impervious area created by new development. The calculation included $11,981,769 as the starting balance (to be transferred from existing SDA funds). This fee was subsequently capped at $1.10. Over the next few years, Zone 7 will undergo updates to the SMMP and DIF studies. These updates will reassess the projects and costs proposed in SMMP and also reevaluate the current fee structure.

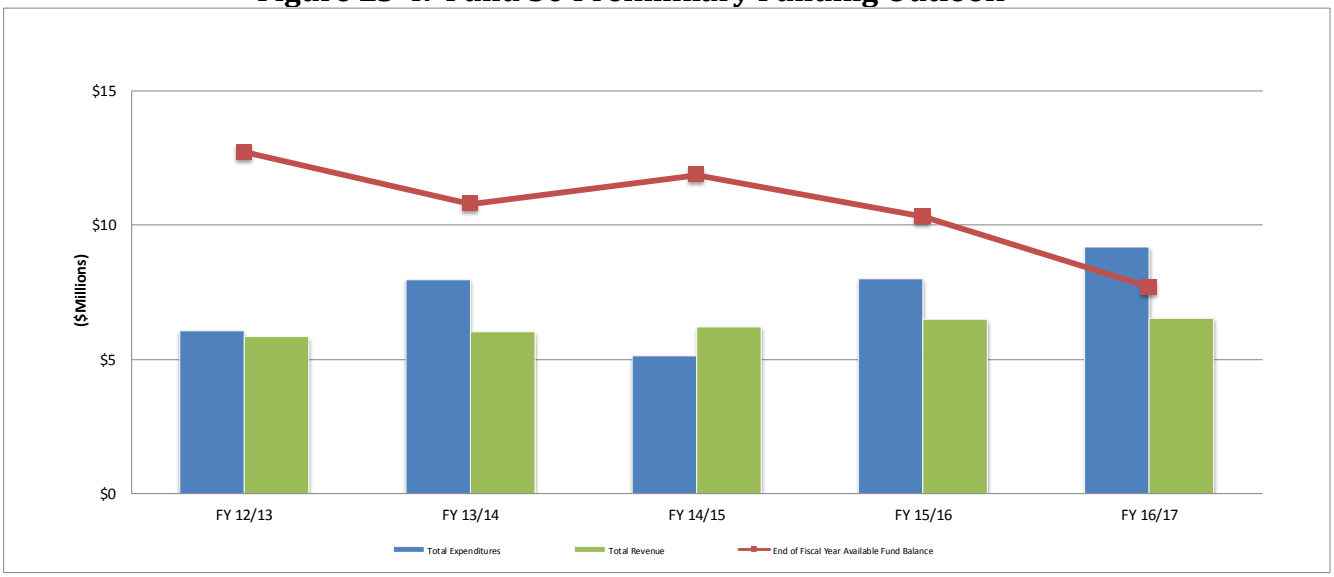
The SMMP and DIF identified $222 million in flood protection projects to be funded by this fund. Incorporating the projected expenditures planned within this CIP, Zone 7 projects a fund balance of $14.5 million in FY 16/17. This fund balance, along with other funding sources (to be examined in the DIF and SMMP updates) will be used to fund future flood protection and stormwater drainage projects identified in the SMMP.

Fund 50 – Flood Protection General Fund

Alameda County provides Zone 7 a portion of the taxes levied based on one percent (1%) of the assessed value of all properties within Zone 7's service area. The revenues that Zone 7 receives from Alameda County are placed into Fund 50, and are used to fund Flood Protection operations and maintenance, renewal/replacement and improvement projects. Of the projects listed above, Fund 50 will share $26 million of the $40.5 million in project costs identified.

Projected available funding for Fund 50 is shown in Figure ES-4. This outlook includes projected property tax revenue, interest earnings and projected expenditures as planned in the CIP. As with Fund 76, the fund balance shown in FY 16/17, along with other funding sources (to be examined in the DIF and SMMP updates) will be used to fund future flood protection projects identified in the SMMP.

Figure ES-4. Fund 50 Preliminary Funding Outlook



Wente Vineyard and Golf Course in Livermore

SECTION ONE

INTRODUCTION

SECTION 1 ~ INTRODUCTION

ABOUT ZONE 7

Zone 7 provides flood protection to all of eastern Alameda County and supplies treated drinking water to retailers serving 220,000 people in Pleasanton, Livermore, Dublin and, through special agreement with the Dublin San Ramon Services District, to the Dougherty Valley area. Zone 7 also supplies untreated water to 3,500 acres, primarily South Livermore Valley farms and vineyards. Figure 1-1 below shows the Zone 7 Service Area (in orange).

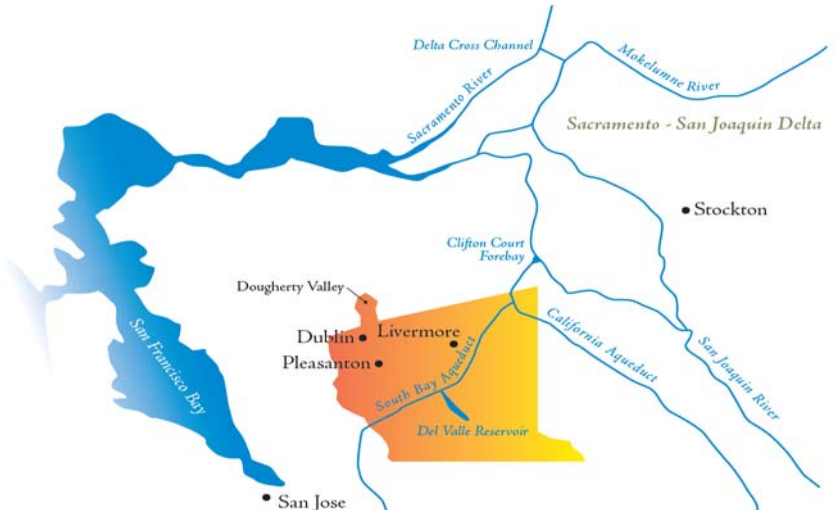
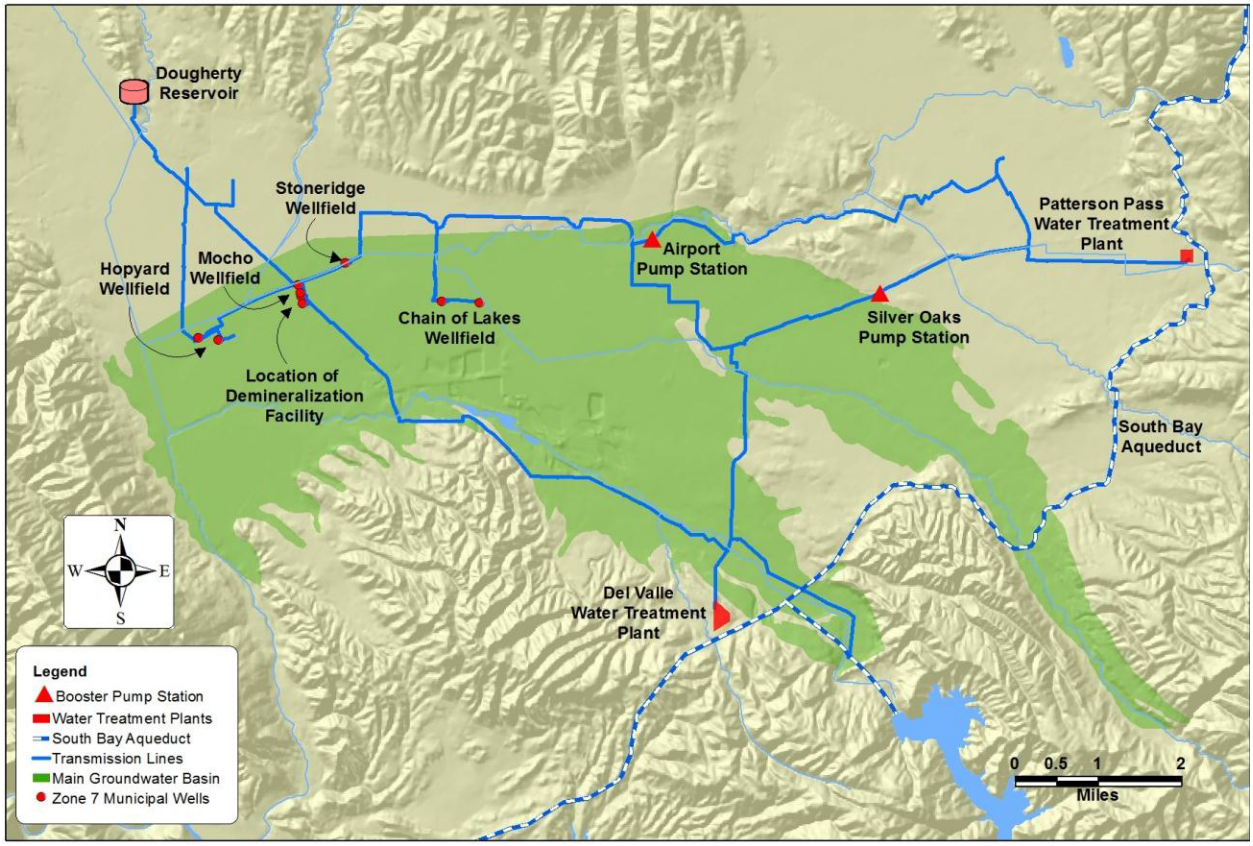


Figure 1-1. Zone 7 Service Area (shown in orange)

WATER SYSTEM

Zone 7's water supply originates as snowmelt in the Sierra Nevada, and makes its way here using the Sacramento-San Joaquin Delta (Delta) as a conveyance system. [The water is imported to the Livermore-Amador Valley through State Water Project's South Bay Aqueduct. Roughly 80% of Zone 7's water supplies are conveyed through the Delta and the remaining comes from local rain runoff stored at Lake Del Valle and from groundwater pumped from the Valley's groundwater basin.] Surface water is treated either at the Patterson Pass Conventional Water Treatment Plant, the Patterson Pass Ultrafiltration Water Treatment Plant or the Del Valle Water Treatment Plant. Groundwater production wells located in the Hopyard, Mocho, and Stoneridge wellfields provide 32 million gallons per day (MGD) of peak capacity, while the new Chain of Lakes Wells 1 and 2 supply an additional 9 MGD for use during emergencies or drought conditions. The Mocho Groundwater Demineralization Facility helps to reduce the total dissolved solids (salts) and hardness of groundwater supplies. Figure 1-2 on the following page shows Zone 7's major treated water system facilities.

Figure 1-2. Zone 7's Major Treated Water System Facilities



FLOOD PROTECTION

Arroyo Mocho in Livermore

In addition to providing water to the Livermore-Amador Valley, Zone 7 owns and maintains 37 miles of local flood-protection channels, which is about a third of all the Valley's channels and creeks. The remaining channels are owned either privately or by other public agencies, which are responsible for repairs and maintenance. The Valley's storm drainage system begins at city-owned storm drains on local streets. Storm water flows through underground pipelines into creeks or man-made channels feeding into Arroyo Mocho, Arroyo las Positas and Arroyo del Valle. These larger channels converge with Arroyo de la Laguna, which ultimately drains into San Francisco Bay through Alameda Creek. In addition to flood protection, the channels also have recreational benefits and provide natural habitat.

PURPOSE

On a biannual[1] basis, Zone 7 prepares the Capital Improvement Program document, which lays out the plan for the capital projects and programs needed to carry out the goals and policy objectives of the agency.

Specifically, this document:

- Communicates the projects, costs, schedules and priorities of Zone 7's capital improvement program for both the Flood Protection and Water Systems.
- Facilitates decision-making relative to project scheduling and resource allocations.
- Identifies how capital projects and programs will be paid for.

This document includes:

- A description of the CIP and the process used to develop the plan.
- Highlights of key projects; including the status of major capital projects.
- A description of each capital improvement project, including planned goals, justification, priority, operational impact, responsible section, in-service date, project costs, source of funds and cash flow.
- Cash flow projections for the various capital funds based on anticipated revenue and planned expenditures.

[1] With the adoption of resolution no. 10-3349, the Zone 7 Board approved updating and adopting the CIP on a biannual basis.

CIP STRUCTURE

The CIP consists of four primary levels. In descending order, these levels are: System, Strategy, Program, and Project.

SYSTEM

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, planning, design, distribution, land acquisition and construction of water supply facilities; treatment (for Municipal and Industrial customers), and maintenance of water supply facilities. This system also includes management of the groundwater basin and Chain of Lakes.

Flood Protection System – provides for the management, engineering, land acquisition, construction and operation and maintenance of flood protection facilities and the protection of watercourses, watersheds, public highways and life and property from damage or destruction from flooding. Also provides community (e.g., recreational) and environmental uses of the Valley's streams.

STRATEGY

The second level in the CIP structure is a "Strategy." A Strategy is a grouping of several programs that address the need to renew/ replace, improve or expand Zone 7's Systems and have a common source of funding. 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. [The Water System projects are funded by water rates, while Flood Protection Projects are funded by property taxes.]

- **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. [The Water System projects are funded by Water Rates, while Flood Protection projects are funded by Property Taxes.]

- **Expansion** identifies the capital projects needed to meet the needs of new customers within Zone 7's service area. [The Water System projects are funded by water connection fees, while Flood Protection projects are funded by Development Impact Fees.]

PROGRAM

The third level in the CIP structure is a "Program." Programs represent a group of related projects combined to support various components of the Water System. There are currently ten capital programs:

- **Buildings & Grounds** addresses structures and supports 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 Monitoring** ensures compliance with a range of existing and future regulatory and/or permitting requirements.

- **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.

- **Wells** identifies facilities required to reliably maintain the production of groundwater deliveries during drought periods, peak demand periods and planned and unplanned outages of surface water treatment plants; also identifies facilities required to optimize conjunctive use and facilitate groundwater basin management.

PROJECT

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 12/13 CIP has eighty-five Water System projects and twenty-five Flood Protection projects. The Water System CIP covers FY 12/13 – FY 21/22 and the Flood Protection CIP covers FY 12/13 – FY 16/17. Descriptions of the capital projects associated with the Water and Flood Protection System are located at the end of Sections 2 and 3, respectively.

CIP PREPARATION

The CIP document is prepared as a part of Zone 7's overall capital planning and 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 bi-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 identify resource constraints or conflicts.

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 among the CIP Review Group, CIP Prioritization Group, Section Heads and Project Managers.
- Ensuring CIP Review Group decisions are reflected in the CIP.
- Reviewing the adequacy of Zone 7 financial and staffing resources to complete proposed projects.

CIP Review Group is made up of internal agency staff that are responsible for ensuring that the CIP meets the goals and objectives of Zone 7's Mission Statement and policies. The group is comprised of the General Manager, Assistant General Manager of Operations & Engineering and Assistant General Manager of Finance, Engineering Manager, Operations Manager, Maintenance Manager, Facilities Supervisors, key Section Heads, Project Managers and a Finance Staff Analyst. The responsibilities of the group include:

- 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.
- Recommending necessary changes to project scope, schedule and budget that are within staff's administrative authority.

CIP Prioritization Group is an internal agency group consisting of the Assistant General Manager of Operations and Engineering, Engineering Manager, Operations Manager, Maintenance Manager and Finance Staff Analyst. This group's role is to:

- Prioritize and recommend the final list of projects to be presented within the CIP document to the General Manager and Board of Directors based on resources, available funding, and priority.

- Confirm proposed spending amounts for projects and programs and ensure appropriate justification is provided.

- Meet on a quarterly basis to review the status of the CIP, including the financial condition of the various capital funds.

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. The criteria (attached as Appendix C) were developed as an outgrowth of the recent Asset Management Program Update, and are used to prepare preliminary rankings of CIP projects. The criteria provides 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 ten-year span of the CIP.

STRATEGIC PLANNING PRIORITIES

As part of Zone7's recent strategic planning efforts and with input from Staff, the Zone 7 Board identified five general strategic planning priorities. These priorities were developed to ensure all Zone 7 efforts are focused on fulfilling the mission of the agency; and to further ensure the most immediate needs are addressed in an efficient and cost-effective manner. The five general priorities (listed below) include a number of specific strategic planning sub-priorities.

1. Assist retailers in providing their customers with a reliable, cost-effective and safe water supply.
2. Provide the valley with an effective system of flood protection.
3. Provide the Agency with effective organization, administration and governance.
4. Operate the Agency in a cost-effective manner.
5. Improve public understanding of the Agency and the challenges it faces with respect to accomplishing its core functions of water supply and flood protection.

The specific priorities assist Zone 7 staff in focusing its capital improvement project efforts while ensuring that each project pursued is aligned with the mission of the agency. To this end, each CIP project summary (at the ends of Sections 2 and 3), include the strategic planning sub-priorities that particular project fulfills. See Appendix D, Zone 7 Water Agency Strategic Planning Priorities, for more details and a listing of the priorities.

SOURCES OF FUNDING

Funding for Zone 7's Water System CIP is primarily from Municipal & Industrial (M&I) Connection Fees and Water Rates, while Flood Protection is funded by Property Taxes and Development Impact Fees (DIFs). Revenue derived from these rates and fees are deposited into the funds listed below. The rates and fees are reviewed and, if necessary, adjusted annually. When determining the funding source for each project, the relative benefit to each system and 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 Sections 2 and 3.

Fund 72 – Renewal/ Replacement & 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 Fund 72. 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. Effective January 1, 2012 the facility use will be $2,890 per new dwelling unit equivalent (DUE) 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 meters for a development. As of January 2012, the Zone 7 connection fee will be $22,930 per DUE, based on a 5/8" meter. A separate connection fee of $21,230 per DUE 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.
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 76 – Flood Protection and Storm Water Drainage Development Impact Fee	On March 18, 2009, the Zone 7 Board of Directors adopted Ordinance 2009-01, which replaced the Special Drainage Area (SDA) 7-1 development impact fee previously adopted by Zone 7.[2] The new ordinance also established the Flood Protection and Storm Water Drainage Development Impact Fee Fund (Fund 76); consequently, all funds from SDA Operations (Fund 71) and the SDA 7-1 Trust Fund (Fund 90) were transferred to Fund 76, while all of the outstanding SDA 7-1 exemption credits were liquidated.[3] As of January 2011, this fee is $1 per square foot of impervious surface area created. Fund 76 holds all fees collected from future development in support of Zone 7's flood protection and storm water drainage activities. Section 3, Flood Protection describes Fund 76 in more detail.

[2] Ordinance No. 00-2004-42 was repealed on March 18, 2009, the effective date of Ordinance 2009-01.

[3] Per Ordinance 2009-01, the funds were transferred and existing exemption credits were liquidated on May 18, 2009.

A Recently Recoated Clearwell at DVWTP

SECTION TWO

WATER SYSTEM

SECTION II – WATER SYSTEM

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 12/13.

WATER SYSTEM GOALS

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

Water Reliability

Two water policy goals help guide Zone 7's capital and resource planning efforts. Adherence to these goals results in Zone 7 maintaining a highly reliable water supply system for existing and future water demands under varying hydrologic conditions.

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 year, a single dry water year, and multiple dry water years.
	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.
	Planning and Operational Criteria	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.

Groundwater Basin Management

The Livermore-Amador Valley's main groundwater basin has an estimated storage capacity of 250,000 acre-feet. The Groundwater Basin supplies about 20% of Valley-wide water demands and provides local storage to meet demands during dry years.

WATER QUALITY	*GROUNDWATER MANAGEMENT PLAN (RESOLUTION NO. 06-2796)*	
	Purpose	The Groundwater Management Plan (GMP) integrates various Zone 7 groundwater management policies and programs. One of these is the May 2004 Salt Management Plan (SMP), which was incorporated into the GMP and 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:
	Goal 1:	Protect and enhance the quality of groundwater.
	Goal 2:	Offset current and future salt loading, while facilitating reasonable regional recycled water use.
	Goal 3:	Maintain or improve groundwater mineral quality.
	Goal 4:	Provide more comparable delivered water quality to Retailers.
	Goal 5:	Utilize Water Operations Plans to achieve these goals.

Water Quality

All of water Zone 7's delivers to its Retailers meets or beats State and Federal health standards. However, surface water and groundwater taste, odor and/or appearance can often vary depending on the source, season or customer's location. To address these aesthetic concerns, Zone 7 has; 1) established self-imposed water quality targets which are more stringent than State and Federal regulations; and 2) developed a Water Quality Management Plan to assist in setting policies to address drinking and agricultural water-quality issues, shape operational decisions, establish capital facilities and set design standards.

WATER QUALITY	*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 Levels[1] (MCLs) for potable water delivered to the M&I Contractors' turnouts, in accordance with existing water supply agreements.
	Goal 2:	Zone 7 shall meet all state and federal secondary MCLs[1] 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 $CaCO_3$. Also, Zone 7 shall optimize its treatment processes to minimize chlorinous odors by maintaining consistent disinfectant dosage and residual.
	Goal 3:	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.

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

Water Quality (continued)

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 No. 06-2783). This resolution establishes policy principles which 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.

Zone 7's water quality team works to ensure a safe, high quality water supply.

OVERVIEW OF THE WATER SYSTEM CIP

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

Various capital projects and programs are needed to ensure a reliable and high quality water supply in accordance with the mission, goals and policy objectives established by the Board. These projects anticipate the need to renew, replace and improve existing infrastructure (paid from Fund 72, Renewal/Replacement and System-Wide Improvements) and to construct new facilities needed to accommodate future growth (Fund 73, Expansion).

For the Ten-Year Water System CIP period (FY 12/13 through FY 21/22), eighty-five Water System projects have been identified totaling $468 million. Projects are categorized into the following eight program areas shown in the table below.

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

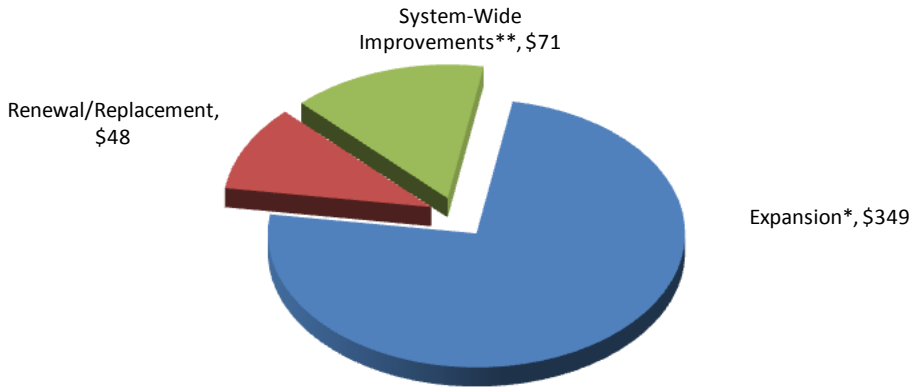
Water System CIP Breakdown by Program ($ Millions)

Program / Fiscal Year	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22	Total
Buildings & Grounds	1.35	1.37	1.93	1.98	2.02	2.07	2.11	0.00	0.00	0.00	12.83
Groundwater Basin Management	0.77	0.32	0.00	0.74	0.00	0.13	0.00	0.13	0.75	0.14	2.98
Program Management	0.79	0.65	0.16	0.47	0.17	0.26	0.19	0.26	0.50	0.28	3.73
Regulatory Compliance Monitoring	0.17	0.16	0.12	0.13	0.13	0.13	0.14	0.15	0.16	0.16	1.45
Transmission & Distribution	0.00	0.68	0.00	0.06	0.00	0.00	0.28	1.37	5.00	14.25	21.64
Water Supply & Conveyance	20.86	23.22	23.62	24.21	31.67	30.87	25.42	29.11	44.11	28.61	281.72
Water Treatment Facilities	10.97	4.95	5.98	9.97	10.59	7.51	1.83	4.89	15.49	33.05	105.23
Wells	0.33	0.00	0.20	1.89	11.24	18.85	1.64	0.56	1.23	2.58	38.52
Total	**35.24**	**31.35**	**32.02**	**39.45**	**55.83**	**59.82**	**31.61**	**36.47**	**67.24**	**79.07**	**468.10**

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

The following charts and tables present the planned annual and ten-year total appropriations for the Ten-Year CIP by Strategy, Fiscal Year and Program.

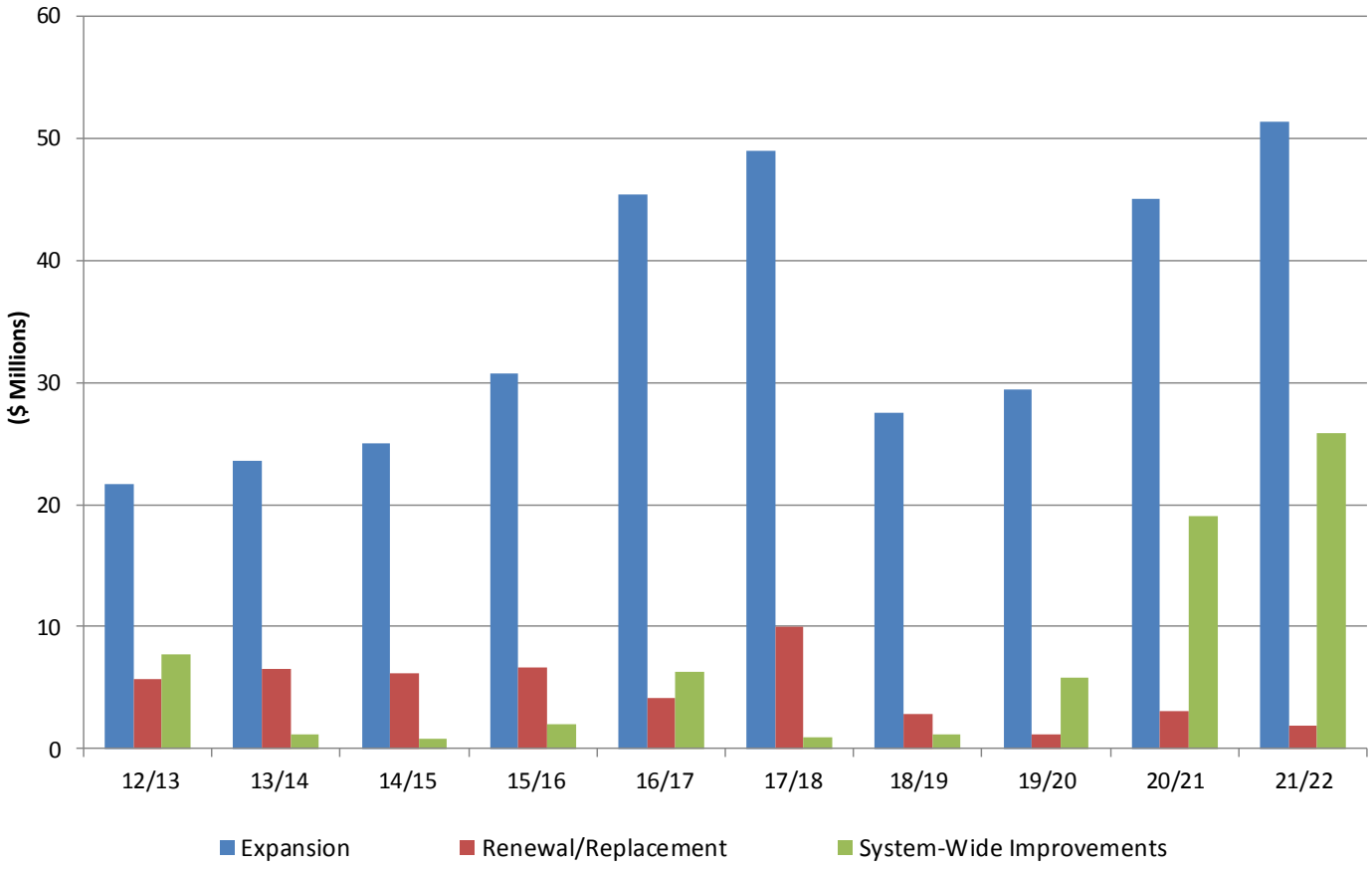
Water System
Ten-Year CIP 12/13 – FY 21/22)
Strategy Breakdown (shown in millions)



Strategy	Ten-Year Total ($ Millions)	Percentage
Expansion*	$349	74%
Renewal/Replacement	$48	10%
System-Wide Improvements**	$71	15%
Total	**$468**	**100%**

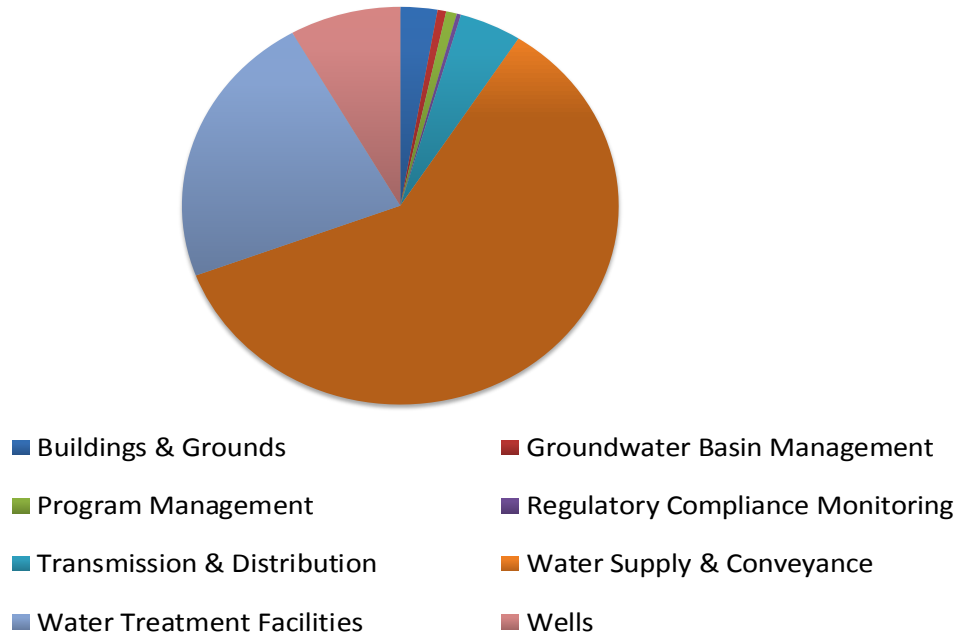
*Includes $194 million in non-discretionary obligations further described on page 2-25.
**Includes $43 million for ozonation at DVWTP and PPWTP. The total project cost, including cost beyond FY 21/22, is estimated at $54.3 million; in-service date is June 2023.

Water System
Ten-Year CIP (FY 12/13 – FY 21/22)
Planned Appropriations by Strategy and Fiscal Year
($ Millions)



Strategy (FY)	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22	Total
Expansion	21.69	23.52	25.07	30.76	45.44	48.92	27.50	29.47	45.01	51.34	348.70
Renewal/Replacement	5.77	6.59	6.13	6.67	4.12	10.01	2.89	1.20	3.14	1.94	48.45
System-Wide Improvements	7.79	1.24	0.82	2.03	6.27	0.89	1.23	5.81	19.10	25.79	70.95
Total	**35.24**	**31.35**	**32.02**	**39.45**	**55.83**	**59.82**	**31.61**	**36.47**	**67.24**	**79.07**	**468.10**

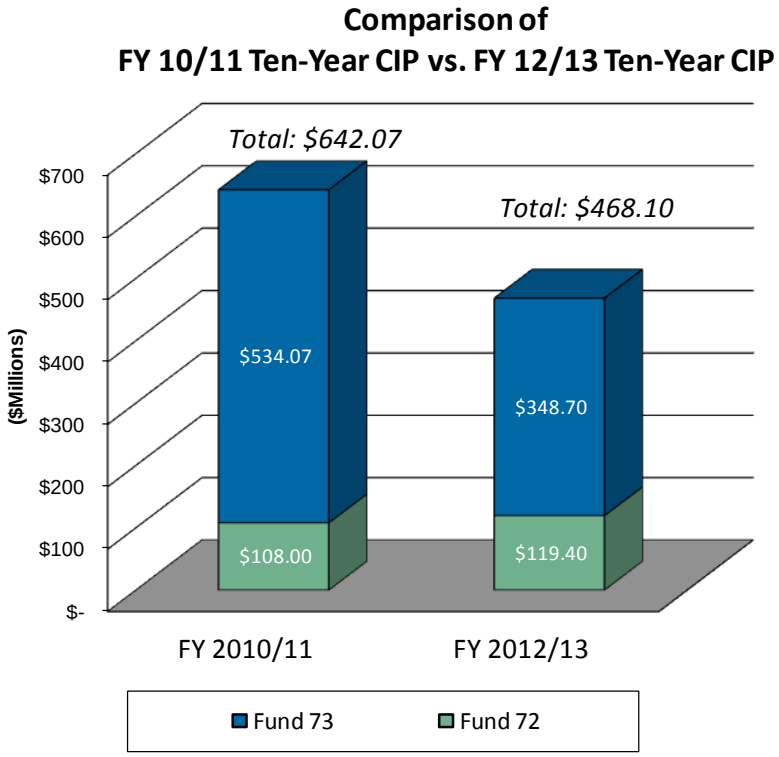
Water System
Ten-Year CIP (FY 12/13 – FY 21/22)
Program Breakdown
($ Millions)



Program	Ten-Year Total ($Millions)	Percentage
Buildings & Grounds	12.83	2.7%
Groundwater Basin Management	2.98	0.6%
Program Management	3.73	0.8%
Regulatory Compliance Monitoring	1.45	0.3%
Transmission & Distribution	21.64	4.6%
Water Supply & Conveyance	281.72	60.2%
Water Treatment Facilities	105.23	22.5%
Wells	38.52	8.2%
Total	**$468.10**	**100%**

OVERVIEW OF THE WATER SYSTEM CIP – CHANGES

The planned FY 2012/13 Ten-Year CIP appropriations total $468 million, which is approximately $174 million or about 27% less than the FY 10/11 Ten-Year CIP total of $642 million. This decrease is mainly due to the deferral of major Expansion projects outside of the ten-year CIP planning horizon due to the slowdown in growth. The other major changes are further detailed in the following pages.



OVERVIEW OF THE WATER SYSTEM - MAJOR CHANGES (Fund 72)

New Projects – Fund 72

On June 15, 2011, the Zone 7 Board adopted resolution 11-4092 (attached as Appendix B) accepting the Asset Management Program (AMP) Update. The principal goal of this update was to develop a rational and comprehensive plan that is consistent with utility practice, while building Retailer support for the program and its recommendations. Some of the major objectives were to identify near-term renewal needs and develop a 15-year renewal CIP; and to develop a long term renewal forecast and associated annual funding level necessary to implement future renewal and improvement needs.

The funding analysis included short and long-term project needs through FY 49/50. The initial funding recommendation (transfer target from Fund 52 to Fund 72) was $12.5M (in 2011 dollars) annually starting in FY 14/15. However, after discussions with the Retailers and Zone 7 Finance Committee, a level of $11.4M (in 2011 dollars) was accepted, with an eventual ramp-up to this amount (adjusted for inflation) by FY 16/17. These targets have been incorporated as the primary source of revenue for Fund 72.

The planned Fund 72 projects in this CIP total $119M. A large number of these projects are new projects identified in the AMP or Water Supply Evaluation (WSE), and other efforts. A list of these new projects is presented below.

New Fund 72 Projects

- Arroyo del Valle Permit Extension
- Asset Management Program Management
- Chain of Lakes Facilities and Improvements - Water Supply
- CWS Turnout #4 Relocation/Replacement
- Distribution System Control Station Replacement
- DVWTP Chemical Tanks and Feed Pumps Replacement
- DVWTP Filter Media and Underdrain Replacement
- DVWTP Filter Valves Replacement (Phase 2)
- DVWTP HVAC Replacement
- DVWTP Rehabilitation Project
- DVWTP Superpulsator Rehabilitation
- DVWTP Valve Replacements for 3 MG Clearwell
- DWR Land Acquisition adjacent to PPWTP
- Hopyard Wellfield Pipeline – Connection with Hopyard Well No. 9
- Lakes H, I and Cope Facility Planning
- Maximize Yield from Existing Contract with BBID Study
- MGDP R.O. Membrane Replacement
- Mocho 2 Well Improvements/Rehabilitation
- Mocho Well 2 - VFD Retrofit
- PPWTP Chemical Tanks and Pumps Replacement Phase I
- PPWTP Filter System Rehabilitation
- PPWTP Instrumentation Upgrades
- PPWTP Maintenance Yard and Building Improvements
- Reliability Intertie
- Water System Master Plan
- Wellfield Switchboard Replacement

OVERVIEW OF THE WATER SYSTEM - MAJOR CHANGES (Fund 73)

Over the past five years, new connections to our water system have slowed significantly from the rapid growth experienced in the early 2000's. Recent demand analysis projects service area build-out sometime between 2035 and 2040, which is ten years later than the previous estimate of 2025-2030. Most major Expansion projects have been deferred correspondingly by 8 to10 years to mirror projected demands on our system. As an example, the 2011 WSE determined that based on current demand projections, Zone 7 can meet projected maximum day demands through 2022. This allows Zone 7 to defer construction of additional surface water treatment capacity until sometime after 2022. Other major Expansion project deferrals are listed in Table 2-1 below.

Table 2-1. Changes in Recommended In-Service Dates of Major Expansion Projects

Project	Previous CIP In-Service Date	Recommended CIP In-Service Date
Altamont Water Treatment Plant (24 MGD) Phase 1	2016	Water Treatment Plant Expansion – 2025
Altamont Pipeline – County Reach	2015	New Transmission System Pipeline – 2025
Chain of Lakes Wells 3, 4 and 5	2016	2020
Bernal Wells 1 and 2	2019	2030
Busch Valley Well 1	2020	2025
Second Demineralization Facility	2018	2028

A key planning effort that provided a framework for many of the Expansion projects included in this CIP is the 2011 WSE. For the WSE Zone 7 staff developed a risk-based water supply model to help assess near-term and long-term risks of water supply shortages within the water system. [Zone 7 receives 80% of its water supply from the State Water Project (SWP) and due to the legal and environmental constraints in the Sacramento-San Joaquin Delta (Delta), the future reliability of the SWP is uncertain.] Zone 7 completed the WSE in 2011 to help identify operational improvements and additional studies that will minimize near-term risks of water supply shortages and maximize long-term flexibility by evaluating potential new supply sources. The WSE recommends an action plan that includes a mix of operational and capital improvement projects. While the WSE evaluated a number of portfolios, Zone 7's current plan is centered on a Delta fix restoring the reliability of the SWP. Until the future of the Delta fix is determined, Zone 7 is continuing to investigate other potential water supply options. Findings of the report that have been incorporated as projects into this CIP are presented in Table 2-2 below.

Table 2-2 – WSE Goals and Corresponding Projects Recommended in this CIP

Goal	Project Name	Funding Source
Confirm water supply available from the existing contract with Byron Bethany Irrigation District (BBID)	Maximize Yield from Existing Contract with BBID (new)	Fund 72
Arroyo del Valle: Perfection of Existing Water Rights Permit	Arroyo de Valle Right Permit Extension (new)	Fund 72
Phase 2 Demineralization Facility	Deferred out of the CIP planning horizon due to funding availability. New in-service date is 2028	Fund 73
Increase Surface Water Treatment and Transmission System Capacity by 2022	New Water Treatment Plant Expansion New Transmission System Pipeline Construction of Dual Media Filters to Expand PPWTP (new) Westside Transmission System Improvements (new)	Fund 73
Work with Retailers to develop Additional Water Conservation and Recycled Water Programs	Various Water Conservation Programs	Funds 52 and 73
Understand Water Quality Implications Associated with Additional Recycled Water Use	Groundwater Management/Salt Nutrient Management Plan (new)	Funds 72 and 73
Continue Implementing the Well Master Plan and Chain of Lakes Projects	Busch-Valley Well 1 Chain of Lakes Well 5 Chain of Lakes Wells 3 & 4 El Charro Pipeline Phase 2 Chain of Lakes Facilities and Improvements Chain of Lakes Master Planning Lakes H, I and Cope Facility Planning	Fund 73 Fund 50,72,73,76
Continued Participation in Delta Fix Efforts	Bay-Delta Conservation Plan Delta Habitat Conservation and Conveyance Program Bay-Delta Outreach	Funds 52 and 73
Identify Feasible Options for a New Intertie with another Water Agency	Reliability Intertie (new)	Funds 72 and 73
Continued Participation in Planning Efforts for Regional Desalination	Bay Area Regional Desalination Project (new)	Fund 73
Identify Potential Normal/Wet Year Supply Options Available; Determine the Availability of Dry Year Water Supplies and Refine Wheeling Costs	Water Supply Replacement Project (new) Bay Area Regional Desalination Project (new)	Fund 73

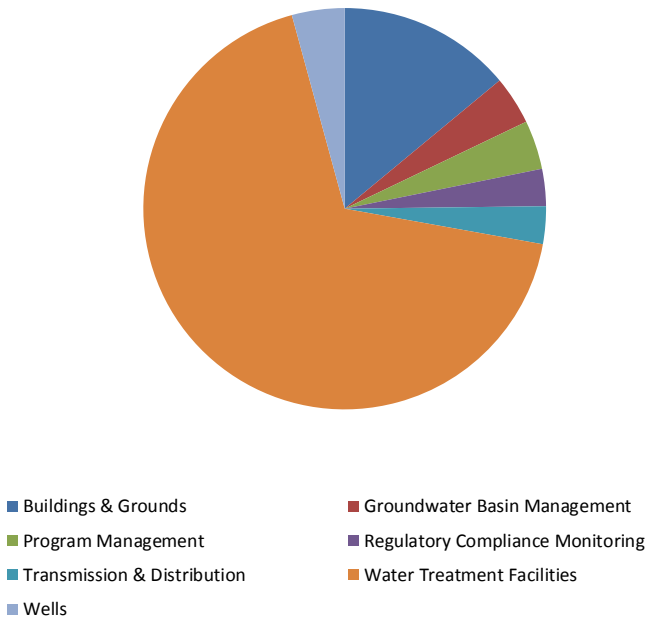
OVERVIEW OF WATER SYSTEM CIP BY STRATEGY

Renewal/ Replacement Strategy

This Strategy identifies the projects needed for the Renewal and Replacement of the existing capital assets of Zone 7's Water System.

The specific projects that comprise the Renewal/Replacement Strategy are listed below with respect to their associated programs. The first year appropriation requirement for this strategy is $5.8 million, and the ten-year total is $48 million. A breakdown by program for the ten-year total is shown on the following pages.

Water System
Renewal/Replacement Strategy
Ten-Year Total



Program	Ten-Year Total ($ Millions)	Percentage
Buildings & Grounds	6.77	14%
Groundwater Basin Management	1.89	4%
Program Management	1.91	4%
Regulatory Compliance Monitoring	1.45	3%
Transmission & Distribution	1.47	3%
Water Treatment Facilities	32.91	68%
Wells	2.05	4%
Total	**48.45**	**100%**

Renewal/Replacement Strategy Breakdown

	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22	Total
Buildings & Grounds											
Administrative & Engineering Building - Sinking Fund (Fund 72)	$0.386	$0.395	$0.406	$0.416	$0.427	$0.437	$0.448	$0.000	$0.000	$0.000	$2.915
Administrative & Engineering Building Lease (Water System)	$0.518	$0.528	$0.539	$0.550	$0.561	$0.572	$0.584	$0.000	$0.000	$0.000	$3.851
Subtotal	**$0.904**	**$0.923**	**$0.945**	**$0.966**	**$0.988**	**$1.009**	**$1.032**	**$0.000**	**$0.000**	**$0.000**	**$6.766**
Groundwater Basin Management											
MGDP RO Membrane Replacement	$0.000	$0.000	$0.000	$0.620	$0.000	$0.000	$0.000	$0.000	$0.750	$0.000	$1.370
Monitoring Well Replacements & Abandonments	$0.000	$0.000	$0.000	$0.120	$0.000	$0.130	$0.000	$0.130	$0.000	$0.140	$0.520
Subtotal	**$0.000**	**$0.000**	**$0.000**	**$0.740**	**$0.000**	**$0.130**	**$0.000**	**$0.130**	**$0.750**	**$0.140**	**$1.890**
Program Management											
Asset Management Program Management	$0.040	$0.040	$0.040	$0.290	$0.050	$0.050	$0.050	$0.050	$0.360	$0.060	$1.030
Capital Improvement Program Management	$0.013	$0.028	$0.015	$0.030	$0.015	$0.033	$0.018	$0.035	$0.018	$0.038	$0.240
System-Wide Improvement, Renewal/Replacement Program Management	$0.050	$0.050	$0.060	$0.060	$0.060	$0.080	$0.070	$0.070	$0.070	$0.070	$0.640
Subtotal	**$0.103**	**$0.118**	**$0.115**	**$0.380**	**$0.125**	**$0.163**	**$0.138**	**$0.155**	**$0.448**	**$0.168**	**$1.910**
Regulatory Compliance Monitoring											
Laboratory Equipment Replacement	$0.170	$0.160	$0.120	$0.130	$0.130	$0.130	$0.140	$0.150	$0.160	$0.160	$1.450
Subtotal	**$0.170**	**$0.160**	**$0.120**	**$0.130**	**$0.130**	**$0.130**	**$0.140**	**$0.150**	**$0.160**	**$0.160**	**$1.450**
Transmission & Distribution											
CWS Turnout #4 Relocation/Replacement	$0.000	$0.460	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.460
Distribution System Control Station Replacement	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$1.010	$0.000	$1.010
Subtotal	**$0.000**	**$0.460**	**$0.000**	**$0.000**	**$0.000**	**$0.000**	**$0.000**	**$0.000**	**$1.010**	**$0.000**	**$1.470**
Water Treatment Facilities											
Dougherty Reservoir Access Road Rehabilitation	$0.000			$0.050							$0.050
Dougherty Reservoir Recoating	$0.000		$0.000	$1.860	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$1.860
DVWTP Ammonia System Replacement	$1.020	$0.780	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$1.800
DVWTP Chemical Tanks and Feed Pumps Replacement	$0.000	$0.000	$0.000	$0.180	$0.910	$0.000	$0.000	$0.000	$0.000	$0.000	$1.090
DVWTP Filter Media and Underdrain Replacement	$0.000	$0.000	$0.000	$0.000	$0.250	$1.600	$0.000	$0.000	$0.000	$0.000	$1.850
DVWTP Filter Valves Replacement	$0.000	$0.000	$0.000	$0.410	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.410
DVWTP HVAC Replacement	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.110	$0.640	$0.750
DVWTP Instrumentation Upgrades	$0.000	$0.000	$0.030	$0.350	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.380

Renewal/Replacement Strategy Breakdown

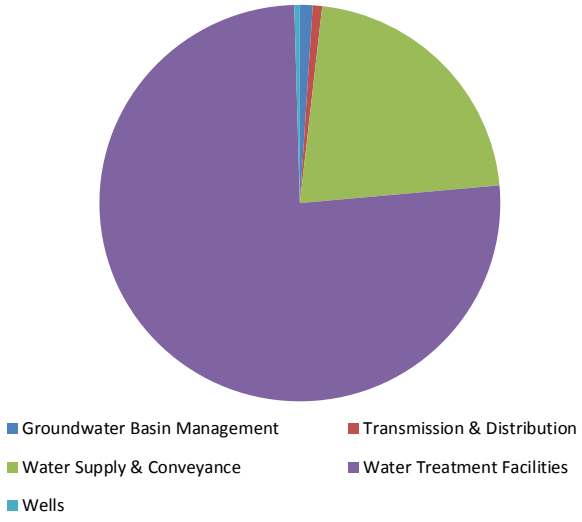
	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22	Total
DVWTP Interior Coating Improvements to the 4.5 MG Steel Clearwell	$1.630	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$1.630
DVWTP Rehabilitation Project	$0.000	$0.000	$0.000	$0.000	$0.360	$2.310	$0.000	$0.000	$0.000	$0.000	$2.670
DVWTP Roof Replacement and Rehabilitation for 3.0 MG Clearwell	$0.000	$0.000	$0.080	$0.500	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.580
DVWTP Superpulsator Rehabilitation	$0.000	$2.560	$2.400	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$4.960
DVWTP Valve Replacements for 3 MG Clearwell	$0.170	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.170
Minor Renewal/Replacement Projects	$0.260	$0.270	$0.280	$0.290	$0.300	$0.320	$0.330	$0.340	$0.360	$0.370	$3.120
PPWTP Ammonia Facility Replacement	$0.900	$0.680	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$1.580
PPWTP Filter System Rehabilitation	$0.000	$0.000	$0.450	$0.000	$0.210	$1.670	$0.000	$0.000	$0.000	$0.000	$2.330
PPWTP Instrumentation Upgrades	$0.000	$0.000	$0.000	$0.000	$0.120	$0.440	$0.000	$0.000	$0.000	$0.000	$0.560
PPWTP Ultrafiltration Membrane Replacement	$0.390	$0.410	$0.440	$0.450	$0.480	$0.500					$2.670
SCADA Enhancements	$0.220	$0.230	$1.070	$0.250	$0.250	$0.270	$1.250	$0.290	$0.300	$0.320	$4.450
Subtotal	**$4.590**	**$4.930**	**$4.750**	**$4.340**	**$2.880**	**$7.110**	**$1.580**	**$0.630**	**$0.770**	**$1.330**	**$32.910**
Wells											
Mocho 2 Well Improvements/Rehabilitation	$0.000	$0.000	$0.200	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.200
Well Pump, Motor and Casing Inspections	$0.000	$0.000	$0.000	$0.110	$0.000	$0.120	$0.000	$0.130	$0.000	$0.140	$0.500
Wellfield Switchboard Replacement Project	$0.000	$0.000	$0.000	$0.000	$0.000	$1.350	$0.000	$0.000	$0.000	$0.000	$1.350
Subtotal	**$0.000**	**$0.000**	**$0.200**	**$0.110**	**$0.000**	**$1.470**	**$0.000**	**$0.130**	**$0.000**	**$0.140**	**$2.050**
Total	**$5.767**	**$6.591**	**$6.130**	**$6.666**	**$4.123**	**$10.011**	**$2.889**	**$1.195**	**$3.138**	**$1.938**	**$48.446**

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 $8 million, and the ten-year total for this strategy is $71 million. A breakdown of the related programs for the ten-year total is shown on the following pages.

Water System
System-Wide Improvements Strategy
Ten-Year Total



Program	Ten-Year Total ($ Millions)	Percentage
Groundwater Basin Management	0.76	1.1%
Transmission & Distribution	0.56	1%
Water Supply & Conveyance	12.98	18%
Water Treatment Facilities	56.33	79%
Wells	0.33	0%
Total	**70.96**	**100%**

System-Wide Improvements Strategy Breakdown

Programs	Appropriations ($Millions) FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22	Total
Groundwater Basin Management											
Groundwater Management Plan/SNMP Update	$0.539	$0.224	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.763
Subtotal	**$0.539**	**$0.224**	**$0.000**	**$0.000**	**$0.000**	**$0.000**	**$0.000**	**$0.000**	**$0.000**	**$0.000**	**$0.763**
Transmission & Distribution											
Corrosion Master Plan Update	$0.000	$0.220	$0.000	$0.000	$0.000	$0.000	$0.280	$0.000	$0.000	$0.000	$0.500
System-Wide Installation of Line Valves	$0.000	$0.000	$0.000	$0.060	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.060
Subtotal	**$0.000**	**$0.220**	**$0.000**	**$0.060**	**$0.000**	**$0.000**	**$0.280**	**$0.000**	**$0.000**	**$0.000**	**$0.560**
Water Supply & Conveyance											
Arroyo Del Valle Water Right Permit Extension	$0.450										$0.450
Chain of Lakes Facilities and Improvements - Water Supply	$0.042	$0.639	$0.423	$0.225	$1.824	$0.036	$0.396	$0.000	$0.000	$0.000	$3.585
Hopyard Wellfield Pipeline – Connection with Hopyard Well No. 9	$0.000	$0.000	$0.000	$0.230	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.230
Lakes H, I and Cope Facility Planning	$0.155	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.155
Maximize Yield from Existing Contract with BBID Study	$0.100										$0.100
PPWTP Clearwell Improvements	$0.000	$0.000	$0.000	$0.100	$0.540	$0.000	$0.000	$0.000	$0.000	$0.000	$0.640
Reliability Intertie	$0.000	$0.000	$0.000	$0.000	$0.219	$0.456	$0.354	$1.848	$4.611	$0.000	$7.488
Water System Master Plan	$0.040	$0.140	$0.148	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.328
Subtotal	**$0.787**	**$0.779**	**$0.571**	**$0.555**	**$2.583**	**$0.492**	**$0.750**	**$1.848**	**$4.611**	**$0.000**	**$12.976**
Water Treatment Facilities											
DVWTP Chemical Systems Improvements	$3.430	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$3.430
DVWTP Sludge Handling Improvements	$2.390	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$2.390
DWR Land Acquisition adjacent to PPWTP	$0.364										$0.364
PPWTP Chemical Improvements/Replacement Project	$0.000	$0.000	$0.220	$0.580	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.800
PPWTP Maintenance Yard and Building Improvements	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.091	$0.686	$0.672		$1.449
PPWTP Sludge Handling Improvements	$0.000	$0.000	$0.000	$0.820	$3.650	$0.380	$0.000	$0.000	$0.000	$0.000	$4.850
Safety Improvements at Water Treatment Plants	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.070	$0.000	$0.000	$0.000	$0.070
Water Quality - Ozonation at PPWTP & DVWTP	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$3.260	$13.700	$25.780	$42.740
Water Quality Management Program	$0.028	$0.014	$0.028	$0.014	$0.035	$0.014	$0.035	$0.014	$0.042	$0.014	$0.238
Subtotal	**$6.212**	**$0.014**	**$0.248**	**$1.414**	**$3.685**	**$0.394**	**$0.196**	**$3.960**	**$14.414**	**$25.794**	**$56.331**
Wells											
Mocho Well 2 - VFD Retrofit	$0.330	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.330
Subtotal	**$0.330**	**$0.000**	**$0.000**	**$0.000**	**$0.000**	**$0.000**	**$0.000**	**$0.000**	**$0.000**	**$0.000**	**$0.330**
Total	**$7.868**	**$1.237**	**$0.819**	**$2.029**	**$6.268**	**$0.886**	**$1.226**	**$5.808**	**$19.025**	**$25.794**	**$70.960**

FUND 72 - FUNDING ANALYSIS

The Water System CIP 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.

In the 2004 Asset Management Program (AMP) Study, it was determined that the then-current $4 million annual water rate contribution would no longer be adequate to fund the program. That study included an evaluation of Zone 7's inventory of capital assets, asset service life as determined through condition assessments, economic life of the asset, asset risk, criticality, and vulnerability, true replacement costs under current conditions, and the annual allowance necessary to adequately fund Renewal/Replacement projects over the long term. In the 2004 study, Zone 7 obtained a current asset valuation of its existing facilities and recommended an annual funding allowance of $10 million to adequately fund the program. In order to meet this $10 million target, water rates would need to be raised. To lessen the impact of water rate increases, a gradual ramp-up to $10 million by FY 14/15 was proposed. Over the past three fiscal years, the transfer has been around $5 million.

Beginning in 2010, staff revaluated the AMP and on June 15, 2011, the Zone 7 Board adopted resolution 11-4092 accepting the Asset Management Program (AMP) Update (attached as Appendix B). The major objectives were to 1) identify near-term renewal needs and a 15-year renewal CIP; 2) develop a long-term renewal forecast and associated annual

funding level necessary to implement future renewal and improvement needs.

The funding analysis included short and long term project needs through FY 49/50. The initial funding recommendation was $12.5M (in 2011 dollars) annually. However, after discussions with the Retailers and Finance Committee, a level of $11.4M (in 2011 dollars) was accepted, with an eventual ramp-up to this amount (adjusted for inflation) by FY 16/17. This allowance does not include funding for the Third Demineralization Facility or water conservation programs. The Third Demineralization Facility will be evaluated in the upcoming Groundwater Management/Salt Nutrient Management Plan update. Funding for water conservation programs, originally in Fund 72, will be shifted to the Water Enterprise Fund (Fund 52), while the funding provided by Fund 73 will remain.

Incorporating the Board-approved AMP transfer targets, Table 2-3 and Figure 2-1 below show the projected funding outlook for this Fund through FY 21/22. A minimum fund balance of 75% of the following years' Water Rate Contribution is maintained. This minimum is set so sufficient funding is available at the beginning of the following fiscal year to fund project needs. At the end of FY 21/22, the program end balance is approximately $8 million. The R/R and SWI programs extend through FY 49/50. Therefore, the program ending balance shown will be used to fund future infrastructure replacement needs as identified in the AMP and shown in Figure 2-2.

TABLE 2-3
Fund 72 (Water Rates)
PROJECTED FUNDING OUTLOOK
($ Millions)

	Fiscal year (FY)	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22
2	Beginning Available Fund Balance	17.74	16.54	14.61	7.22	7.39	9.41	12.75	15.87	18.77	29.43	37.80	31.58
3	Revenue												
4	Water Rate Contribution	5.41	5.04	6.60	8.50	9.50	10.50	13.13	13.91	14.35	14.53	14.83	15.75
5	Facility Use Fees	0.41	0.29	0.03	0.03	0.00	1.05	0.62	0.00	0.42	0.42	0.42	0.42
6	Interest Income	0.11	0.08	0.29	0.22	0.22	0.38	0.51	0.63	0.75	1.18	1.51	1.26
7	Other Income	0.10					0.86						
8	Total Revenue	6.03	5.41	6.92	8.74	9.72	12.79	14.26	14.54	15.52	16.13	16.76	17.43
9	Expenditures												
10	R&R Expenditures	2.57	2.98	5.38	6.20	5.72	6.25	3.70	9.57	2.44	1.20	3.14	1.94
11	SWI Expenditures	4.30	3.23	7.79	1.24	0.82	2.03	6.27	0.89	1.23	5.81	19.10	25.79
12	Contingency		0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
13	Total Expenditures	6.8646	6.97	13.92	8.18	7.29	9.03	10.71	11.21	4.42	7.75	22.98	28.48
14	*Fund Balance with Reserves*	*16.91*	*14.99*	*7.61*	*7.78*	*9.82*	*13.17*	*16.30*	*19.21*	*29.87*	*37.80*	*31.58*	*20.53*
15	Reserved Funds												
16	Annual Building Sinking Fund Contribution	0.37	0.38	0.39	0.40	0.41	0.42	0.43	0.44	0.45	0.00	0.00	0.00
17	75% of Following Years' Contribution	3.78	4.95	6.38	7.13	7.88	9.85	10.43	10.76	10.90	11.12	11.81	12.56
18	*Net Estimated Available Fund Balance*	*12.76*	*9.66*	*0.85*	*0.26*	*1.53*	*2.90*	*5.44*	*8.01*	*18.53*	*26.68*	*19.77*	*7.97*

Key Assumptions

Line 2 Beginning fund balance excludes prior year encumbrance carryovers and sinking fund balance of $2.3M.
Line 4 Projected annual RR/SWI allowance transfer from Fund 52, Water Enterprise to Fund 72.
Line 5 Facility use fees are charged to the Dougherty Valley Service Area to compensate Zone 7 for the use of Zone 7's existing facilities to provide water to this area.
Line 6 Assumes 1% interest in FY 11/12 gradually increasing to 4% by FY 15/16.
Line 7 Other income includes reimbursement from DSRSD for its share (50%) of the Dougherty Reservoir Recoating and Access Road Rehabilitation Project.
Line 9 Expenditures are shown in actual dollars (current dollars adjusted by a 4% annual inflation factor).
Line 17 A minimum fund balance of 75% of the following years' Water Rate Contribution is reserved so sufficient funding is available at the beginning of the following fiscal year.

Figure 2-1
Fund 72 - Funding Outlook through FY 2021/22
Projected Available Fund Balance

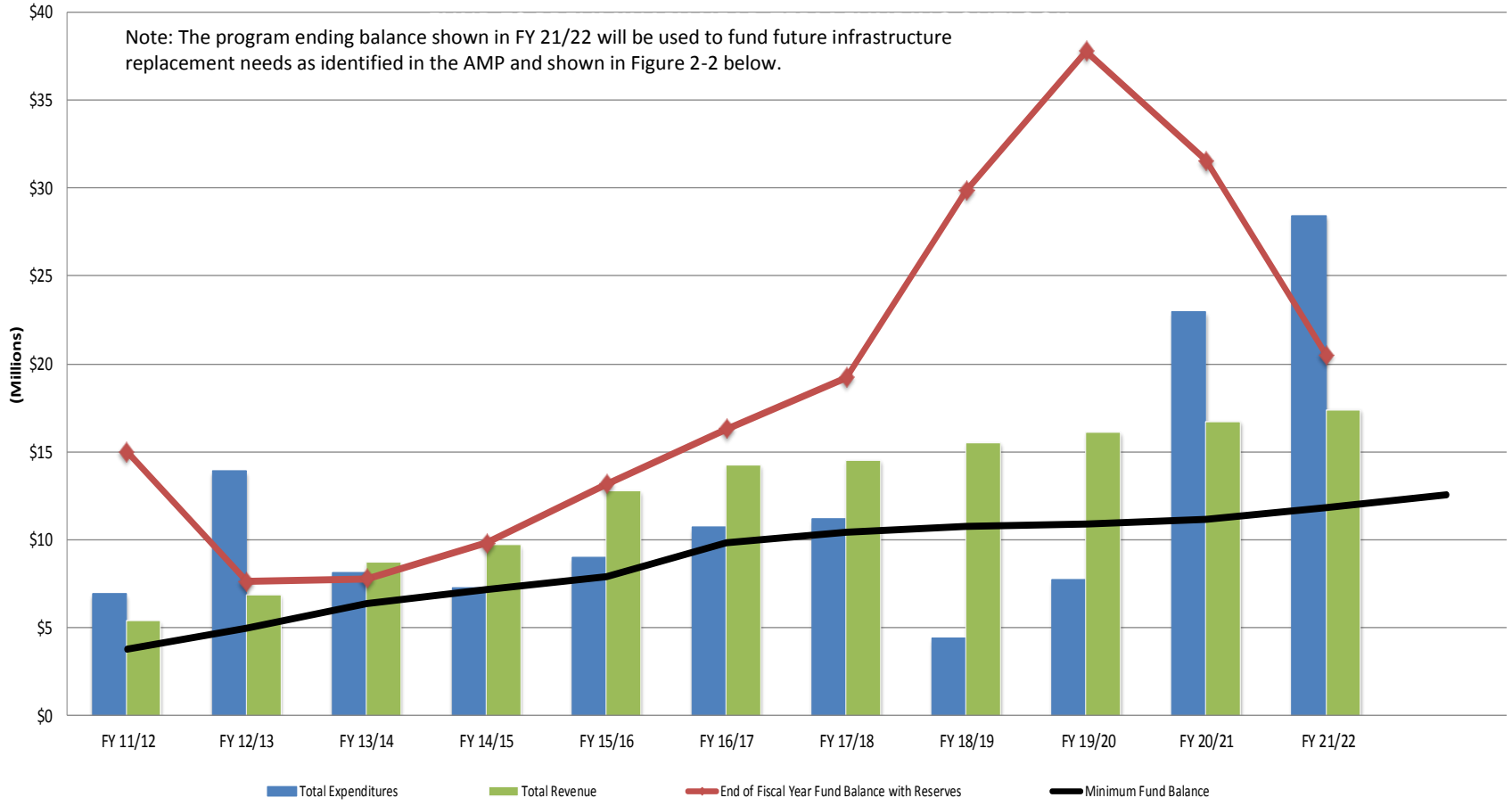
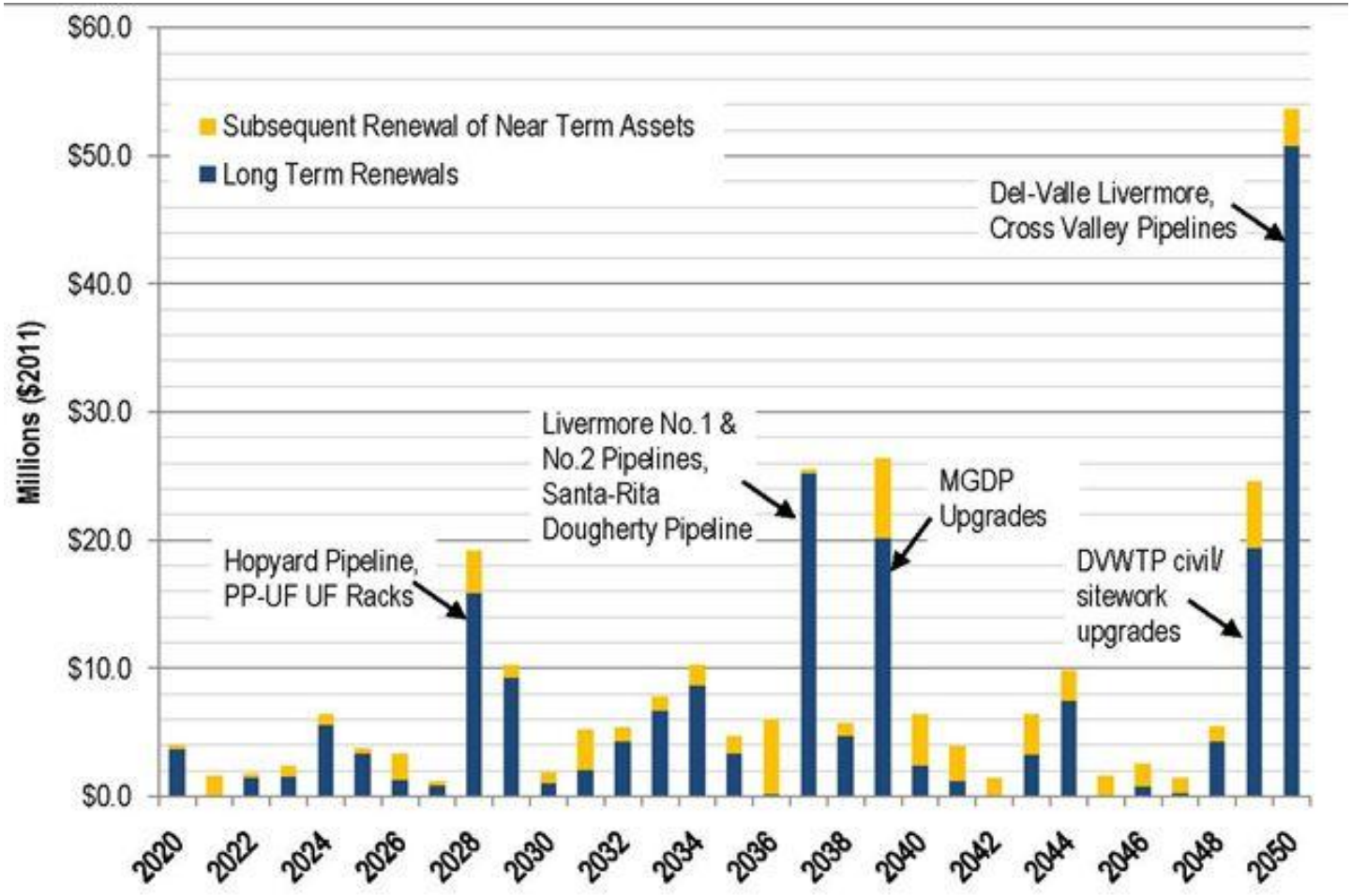


Figure 2-2
2011 AMP Long-term Renewal Forecast through 2050

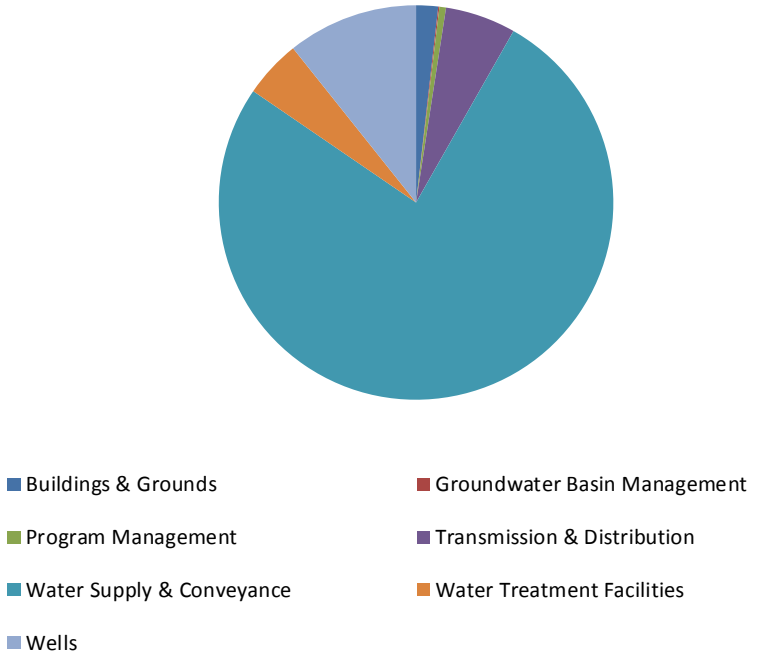


Source: Zone 7 Asset Management Plan 2011 Update

Fund 73 – Expansion Strategy

The specific projects that comprise the Expansion Strategy are described in the following pages with respect to their associated programs. The first year appropriation requirement is $19 million while the ten-year total for this strategy is $349 million, which is 74% of the $468 million total estimated expenditures planned in this ten-year Water System CIP.

Water System
Expansion Strategy
Ten-Year Total by Program



Program	Ten-Year Total ($ Millions)	Percentage
Buildings & Grounds	6.06	2%
Groundwater Basin Management	0.33	0%
Program Management	1.82	0.5%
Transmission & Distribution	19.54	6%
Water Supply & Conveyance	268.82	77%
Water Treatment Facilities	15.99	5%
Wells	36.14	10%
Total	**348.70**	**100%**

Expansion Strategy Breakdown

Programs	Appropriations ($Millions) FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22	Total
Buildings & Grounds											
Administrative & Engineering Building - Sinking Fund (Fund 73)	$0.035	$0.036	$0.564	$0.578	$0.593	$0.608	$0.623	$0.000	$0.000	$0.000	$3.037
Administrative & Engineering Building Lease (Water System)	$0.407	$0.415	$0.423	$0.432	$0.441	$0.449	$0.458	$0.000	$0.000	$0.000	$3.026
Subtotal	**$0.442**	**$0.451**	**$0.987**	**$1.010**	**$1.034**	**$1.057**	**$1.081**	**$0.000**	**$0.000**	**$0.000**	**$6.063**
Groundwater Basin Management											
Groundwater Management Plan/SNMP Update	$0.231	$0.096	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.327
Subtotal	**$0.231**	**$0.096**	**$0.000**	**$0.000**	**$0.000**	**$0.000**	**$0.000**	**$0.000**	**$0.000**	**$0.000**	**$0.327**
Program Management											
Capital Improvement Program Management	$0.038	$0.083	$0.045	$0.090	$0.045	$0.098	$0.053	$0.105	$0.053	$0.113	$0.720
Expansion Program Management (ISA interest costs)	$0.653	$0.450	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$1.103
Subtotal	**$0.691**	**$0.533**	**$0.045**	**$0.090**	**$0.045**	**$0.098**	**$0.053**	**$0.105**	**$0.053**	**$0.113**	**$1.823**
Transmission & Distribution											
New Water Treatment Plant Transmission Pipeline	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$1.370	$3.920	$14.250	$19.540
Subtotal	**$0.000**	**$0.000**	**$0.000**	**$0.000**	**$0.000**	**$0.000**	**$0.000**	**$1.370**	**$3.920**	**$14.250**	**$19.540**
Water Supply & Conveyance											
Arroyo Mocho Diversion Facility Coordination & Implementation	$0.110	$0.120	$0.240	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.470
Arroyo Mocho Low Flow Crossings	$0.070	$0.630	$0.110	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.810
Bay Area Regional Desalination Project - Planning	$0.210	$0.220	$0.220	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.650
Bay-Delta Conservation Planning (Zone 7)	$0.060	$0.060	$0.060	$0.060	$0.070	$0.000	$0.000	$0.000	$0.000	$0.000	$0.310
Cawelo Groundwater Banking Program	$1.296	$1.293	$1.294	$1.295	$1.294	$1.293	$1.297	$1.299	$1.299	$1.298	$12.958
Chain of Lakes Facilities and Improvements - Water Supply	$0.098	$1.491	$0.987	$0.525	$4.256	$0.084	$0.924	$0.000	$0.000	$0.000	$8.365
Chain of Lakes Master Planning	$0.050	$0.050	$0.110	$1.400	$0.910	$0.250	$0.130	$0.070	$0.500	$0.070	$3.540
CUWA Membership	$0.020	$0.020	$0.020	$0.020	$0.020	$0.020	$0.020	$0.020	$0.030	$0.030	$0.220
Delta Habitat Conservation and Conveyance Program	$0.010	$0.010	$0.010	$0.020	$0.020	$0.020	$0.020	$0.020	$0.030	$0.030	$0.190
Delta Outreach Program	$0.030	$0.030	$0.030	$0.040	$0.040	$0.040	$0.000	$0.000	$0.000	$0.000	$0.210
Fixed Cost of Water Entitlement	$0.652	$0.647	$0.648	$0.620	$0.570	$0.521	$0.475	$0.424	$0.369	$0.317	$5.243
Fourth Contractor's Share of the SBA - Sinking Fund	$0.028	$0.028	$0.527	$0.548	$0.570	$0.593	$0.617	$0.641	$0.667	$0.694	$4.913
Fourth Contractor's Share of the SBA (capital costs)	$2.100	$2.100	$2.100	$2.100	$2.100	$2.100	$2.100	$2.100	$2.100	$2.100	$21.000
High-Efficiency Toilet Rebate Program	$0.030	$0.030	$0.030	$0.030	$0.030	$0.030	$0.000	$0.000	$0.000	$0.000	$0.180
High-Efficiency Washing Machine Rebate Program	$0.090	$0.100	$0.100	$0.090	$0.070	$0.080	$0.060	$0.060	$0.040	$0.040	$0.730
Lakes H, I and Cope Facility Planning	$0.078	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.078
Reliability Intertie	$0.000	$0.000	$0.000	$0.000	$0.511	$1.064	$0.826	$4.312	$10.759	$0.000	$17.472
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 Enlargement Project - Sinking Fund	$0.166	$0.170	$1.074	$1.117	$1.161	$1.208	$1.256	$1.306	$1.359	$1.413	$10.230

Expansion Strategy Breakdown (Continued)

Programs	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22	Total
	Appropriations ($Millions)										
South Bay Aqueduct Enlargement Project	$14.890	$15.125	$15.123	$15.124	$15.123	$15.118	$15.117	$15.123	$15.123	$15.124	$150.990
SWP Peaking Payment (Lost Hills & Belridge Water Districts)	$0.038	$0.036	$0.070	$0.062	$0.059	$0.051	$0.048	$0.040	$0.036	$0.029	$0.469
Water Conservation Best Management Practices	$0.020	$0.020	$0.030	$0.030	$0.020	$0.020	$0.020	$0.020	$0.020	$0.020	$0.220
Water Supply Replacement	$0.000	$0.000	$0.000	$0.000	$1.580	$1.640	$1.710	$1.780	$7.120	$7.400	$21.230
Water System Master Plan	$0.060	$0.210	$0.222	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.492
Westside Transmission System Improvements	$0.000	$0.000	$0.000	$0.530	$0.640	$6.200					$7.370
Subtotal	**$20.154**	**$22.438**	**$23.053**	**$23.659**	**$29.092**	**$30.380**	**$24.668**	**$27.263**	**$39.500**	**$28.613**	**$268.819**
Water Treatment Facilities											
Construction of Three Dual Media Filters to Expand PPWTP	$0.000	$0.000	$0.970	$4.210	$4.010	$0.000	$0.000	$0.000	$0.000	$0.000	$9.190
DWR Land Acquisition adjacent to PPWTP	$0.156										$0.156
PPWTP Maintenance Yard and Building Improvements	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.039	$0.294	$0.288		$0.621
Water Quality Management Program	$0.012	$0.006	$0.012	$0.006	$0.015	$0.006	$0.015	$0.006	$0.018	$0.006	$0.102
Water Treatment Plant Expansion	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$5.920	$5.920
Subtotal	**$0.168**	**$0.006**	**$0.982**	**$4.216**	**$4.025**	**$0.006**	**$0.054**	**$0.300**	**$0.306**	**$5.926**	**$15.989**
Wells											
Busch-Valley Well 1	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.430	$1.230	$2.440	$4.100
Chain of Lakes Well 5	$0.000	$0.000	$0.000	$0.000	$1.880	$5.700	$0.660	$0.000	$0.000	$0.000	$8.240
Chain of Lakes Wells 3 & 4	$0.000	$0.000	$0.000	$1.220	$2.950	$11.070	$0.980	$0.000	$0.000	$0.000	$16.220
El Charro Pipeline Phase 2	$0.000	$0.000	$0.000	$0.560	$6.410	$0.610	$0.000	$0.000	$0.000	$0.000	$7.580
Subtotal	**$0.000**	**$0.000**	**$0.000**	**$1.780**	**$11.240**	**$17.380**	**$1.640**	**$0.430**	**$1.230**	**$2.440**	**$36.140**
Total	**$21.685**	**$23.523**	**$25.067**	**$30.755**	**$45.435**	**$48.921**	**$27.496**	**$29.468**	**$45.009**	**$51.342**	**$348.701**

FUND 73 - FUNDING ANALYSIS

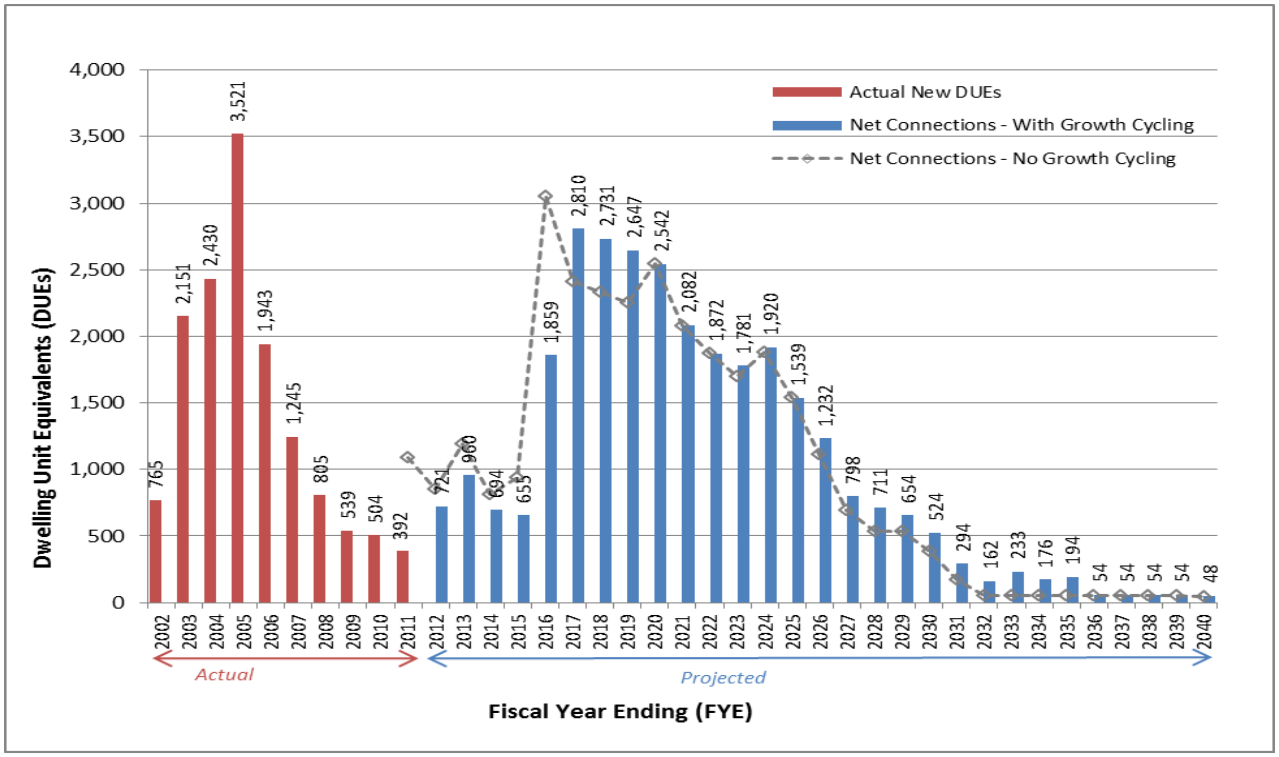
Fund 73 funds projects, or portions thereof, that are needed because of additional demands on the Water System from new development. This includes all water purchases, conveyance facilities (e.g., SBA Improvement & Enlargement Project), treatment and transmission facilities.

On January 15, 2008, Zone 7 completed the necessary documents required to close on a $60 million Installment Sale Agreement (ISA), a form of lease financing which functions similarly to a line of credit. This funding was acquired to bridge a short-term funding gap between anticipated expenditures and revenue. In February 2010, Zone 7 drew $30.5M from the $60M ISA with Wells Fargo to fund the Altamont Pipeline, Livermore Reach. Interest-only payments are made quarterly while the principal amount will be due at the end of December 2013.

Concurrent with the development of this CIP, staff also completed an update to the current Municipal and Industrial (M&I) Treated Water Connection Fee Program (Engineering Study). The M&I Connection Fee Program was established to ensure that Zone 7 is able to fund the necessary projects within Zone 7's Water System Expansion Program, which will serve the demands of new growth over the next 30 years (2011-2040). More details about on the 2011 Water System Expansion Program and Connection Fees can be found in the M&I 2011 Connection Fee Program Update (Zone 7 Water Agency, 2011).

Based on connection and water demand projections provided by the Retailers, staff developed a valley-wide projection of connections through build-out. Actual connections from FY 01/02 through FY 10/11, and projected connections from FY 11/12 through build-out (projected to be sometime between 2035 and 2040) are shown in Figure 2-3.

Figure 2-3 – Actual and Projected Net Connections with and without Growth Cycling*



*Net connections are calculated from the gross connections adjusted for prepaid connections and credits. Net connections with growth cycling was used for the revenue projections. This growth cycling concept assumes only 70% of the first five years' projections are assumed to occur at that time and the remaining 30% are assumed to occur over FY 25/26 through FY 34/35.

This CIP plans for a total expenditure of $348 million in Expansion projects starting in FY 12/13 through FY 21/22. Of this amount, non-discretionary obligations total $194 million. These projects are payments to other agencies, such as the Department of Water Resources, that Zone 7 is obligated to pay. These include:

- South Bay Aqueduct (SBA) Enlargement
- Fourth Contactor's Share of the SBA
- Fixed Cost of Water Entitlement
- State Water Project Peaking Payment (Lost Hills and Belridge Water Districts)
- Cawelo Groundwater Banking Program
- Semitropic Stored Water Recovery Unit
- Bay-Delta Conservation Plan & Delta Habitat Conservation and Conveyance Program
- Administrative and Engineering Building Lease
- Interest on Credit Line with Wells Fargo

In the scheduling and prioritization of Expansion projects, the first priority was to ensure that there were adequate funds to pay non-discretionary obligations. For planning purposes, a minimum fund balance was set at 50% of the following year's non-discretionary obligations (~$9.8 million annually). In accordance with Zone 7's current pay-as-you-go funding policy, the remaining projects were scheduled as projected demands on our system dictate and as funding is available. Table 2-4 below shows projected available funding in Fund 73 through FY 21/22. Based on inflationary adjustments to the existing fees, sufficient funding is projected to fund Expansion projects as planned in the CIP. The fund balance shown in FY 21/22 is largely in anticipation of a water treatment plant expansion and pipeline project, scheduled to be online in 2025 at a total cost of $213 million. Figure 2-4 shows the projected available fund balance through FY 2021/22.

TABLE 2-4
Fund 73 – Connection Fees
PROJECTED FUNDING OUTLOOK
($ Millions)

	Fiscal year (FY)	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	FY 18/19	19/20	20/21	21/22
1	**Beginning Available Fund Balance**	**59.77**	**55.61**	**46.15**	**49.38**	**20.65**	**22.04**	**45.86**	**80.55**	**112.33**	**169.30**	**225.27**	**255.06**
2	**Revenue**												
3	**Connection Fees**	9.29	8.67	22.05	17.70	21.02	49.37	74.86	75.51	75.76	75.31	63.79	59.34
4	**Other**	2.57	2.41	3.00	7.72	3.64	3.91	4.86	6.25	7.52	9.80	12.04	13.23
5	**Total Revenue**	11.86	11.08	25.05	25.42	24.67	53.27	79.72	81.75	83.28	85.10	75.82	72.56
6	**Expenditures**												
7	**Discretionary Project Expenditures**	2.04	3.87	1.69	3.94	3.58	9.80	25.44	30.41	7.26	10.13	27.08	34.00
8	**ISA Payoff**				30.50								
9	**Non-Discretionary Expenditues**	13.99	16.67	20.12	19.72	19.70	19.65	19.60	19.56	19.05	19.01	18.95	18.87
10	**Total Expenditures**	16.03	20.54	21.81	54.15	23.28	29.45	45.04	49.97	26.31	29.13	46.03	52.87
11	**Annual Sinking Fund Contributions**	0.096	0.130	0.166	0.170	1.074	1.117	1.161	1.208	1.256	1.306	1.359	1.413
12	**Total Sinking Fund Contributions Plus Reserves**	8.81	8.99	9.22	9.46	11.62	13.86	16.19	18.60	21.09	18.58	20.61	22.71
13	***Net Estimated Available Fund Balance***	***46.80***	***37.16***	***40.16***	***11.20***	***10.42***	***32.00***	***64.36***	***93.73***	***148.20***	***206.69***	***234.45***	***252.04***

Footnotes/Assumptions

Line 3 - Revenue assumes annual inflationary adjustments to connection fees to keep pace with inflation.

Line 4 - Other revenue includes refunds from DWR and interest. Interest earnings assume 1% interest earned on beginning cash and sinking fund balances in FY11/12, gradually increasing to 4% by FY 15/16.

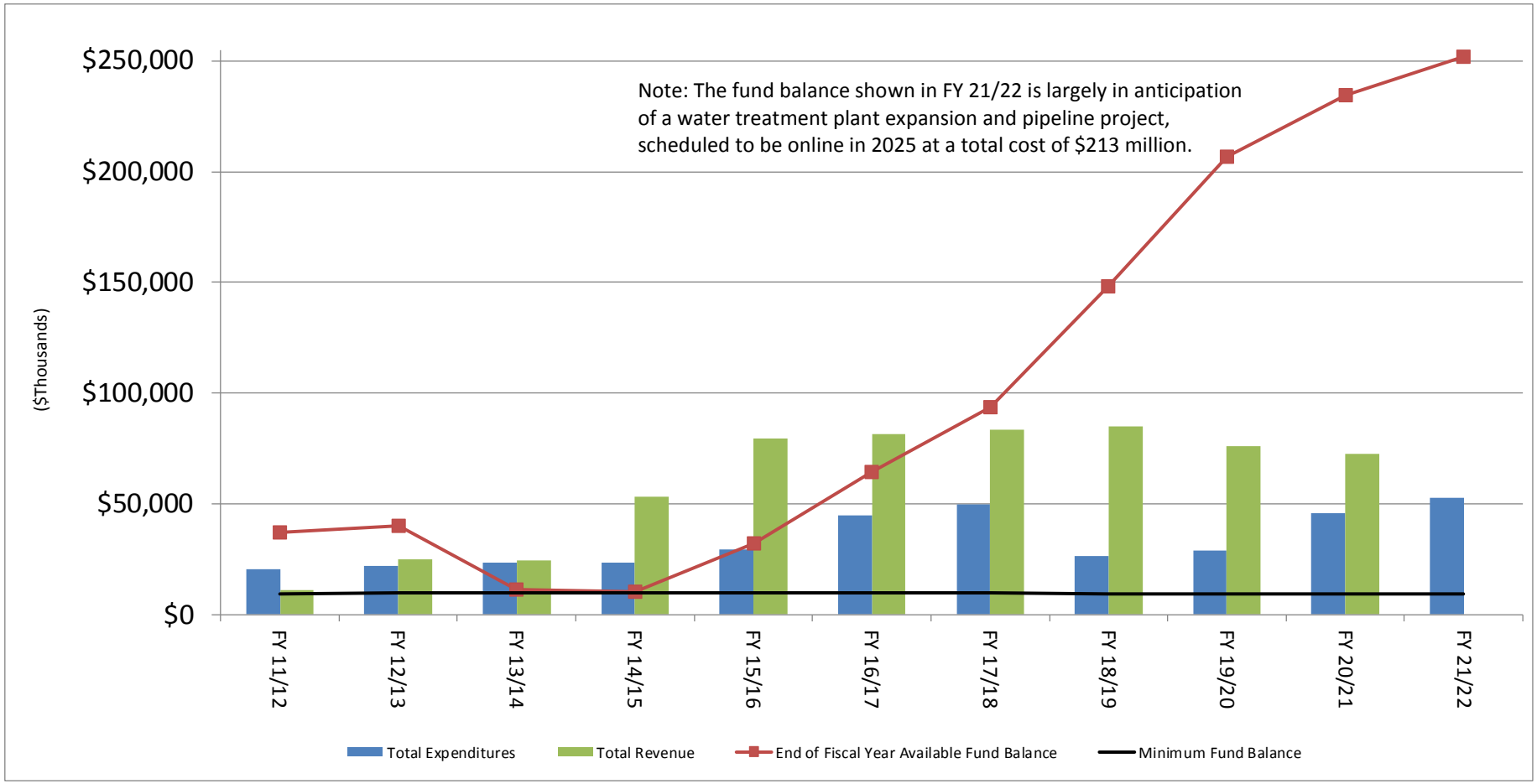
Line 7 - Discretionary expenditures include: project expenditures (adjusted by 4% annual inflation); administrative fee (1% of connection fee revenue) to Retailers;
$500K program contingency for FY 11/12, increasing to 5% of total annual expenditures for FY 12/13 -16/17, 10% FY 17/18 -29/30 and $5M thereafter.

Line 8 - Reflects pay-off of ISA in December 2013.

Line 12 - Sinking Fund Contributions/Reserves includes: balance of Future Contractor's Share of the SBA, SBA Enlargement and Administration & Engineering Building sinking funds plus the annual sinking fund contributions.

Line 13 - Fund Balance Target is 50% of the following year's non-discretionary expenditures or ~$9.8M.
Note: For normal planning purposes a growth cycling concept is used. It assumes 70% of projected connections FY 10-11 - FY 14/15, 100% of projected through FY 29/30 and the remaining 30% unrealized in the first five years will materialize in FY 25/26 - FY 34/35.

FIGURE 2-4
Fund 73 – Connection Fees
Projected Funding Outlook until FY 2021/22



CAPITAL PROJECTS APPROPRIATION SUMMARY BY PROGRAM

This section contains a ten-year estimated appropriation summary for the Water System capital projects included in the FY 2012/13 through FY 2021/22 CIP, a project summary sheet for each project and an alphabetical project listing. Note that projects that that are split between Funds 72 and 73 are shown twice on the following table, displaying the allocation to each fund as a separate line item.

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

Programs	Appropriations ($Millions) FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22	Total
Administrative & Engineering Building - Sinking Fund (Fund 72)	$0.386	$0.395	$0.406	$0.416	$0.427	$0.437	$0.448	$0.000	$0.000	$0.000	$2.915
Administrative & Engineering Building - Sinking Fund (Fund 73)	$0.035	$0.036	$0.564	$0.578	$0.593	$0.608	$0.623	$0.000	$0.000	$0.000	$3.037
Administrative & Engineering Building Lease (Water System)	$0.407	$0.415	$0.423	$0.432	$0.441	$0.449	$0.458	$0.000	$0.000	$0.000	$3.026
Administrative & Engineering Building Lease (Water System)	$0.518	$0.528	$0.539	$0.550	$0.561	$0.572	$0.584	$0.000	$0.000	$0.000	$3.851
Subtotal	**$1.346**	**$1.374**	**$1.932**	**$1.976**	**$2.022**	**$2.066**	**$2.113**	**$0.000**	**$0.000**	**$0.000**	**$12.829**
Groundwater Basin Management											
Groundwater Management Plan/SNMP Update	$0.231	$0.096	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.327
Groundwater Management Plan/SNMP Update	$0.539	$0.224	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.763
MGDP RO Membrane Replacement	$0.000	$0.000	$0.000	$0.620	$0.000	$0.000	$0.000	$0.000	$0.750	$0.000	$1.370
Monitoring Well Replacements & Abandonments	$0.000	$0.000	$0.000	$0.120	$0.000	$0.130	$0.000	$0.130	$0.000	$0.140	$0.520
Subtotal	**$0.770**	**$0.320**	**$0.000**	**$0.740**	**$0.000**	**$0.130**	**$0.000**	**$0.130**	**$0.750**	**$0.140**	**$2.980**
Program Management											
Asset Management Program Management	$0.040	$0.040	$0.040	$0.290	$0.050	$0.050	$0.050	$0.050	$0.360	$0.060	$1.030
Capital Improvement Program Management	$0.038	$0.083	$0.045	$0.090	$0.045	$0.098	$0.053	$0.105	$0.053	$0.113	$0.720
Capital Improvement Program Management	$0.013	$0.028	$0.015	$0.030	$0.015	$0.033	$0.018	$0.035	$0.018	$0.038	$0.240
Expansion Program Management (ISA interest costs)	$0.653	$0.450	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$1.103
System-Wide Improvement, Renewal/Replacement Program Management	$0.050	$0.050	$0.060	$0.060	$0.060	$0.080	$0.070	$0.070	$0.070	$0.070	$0.640
Subtotal	**$0.793**	**$0.650**	**$0.160**	**$0.470**	**$0.170**	**$0.260**	**$0.190**	**$0.260**	**$0.500**	**$0.280**	**$3.733**
Regulatory Compliance Monitoring											
Laboratory Equipment Replacement	$0.170	$0.160	$0.120	$0.130	$0.130	$0.130	$0.140	$0.150	$0.160	$0.160	$1.450
Subtotal	**$0.170**	**$0.160**	**$0.120**	**$0.130**	**$0.130**	**$0.130**	**$0.140**	**$0.150**	**$0.160**	**$0.160**	**$1.450**
Transmission & Distribution											
Corrosion Master Plan Update	$0.000	$0.220	$0.000	$0.000	$0.000	$0.000	$0.280	$0.000	$0.000	$0.000	$0.500
CWS Turnout #4 Relocation/Replacement	$0.000	$0.460	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.460
Distribution System Control Station Replacement	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$1.010	$0.000	$1.010
New Water Treatment Plant Transmission Pipeline	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$1.370	$3.920	$14.250	$19.540
System-Wide Installation of Line Valves	$0.000	$0.000	$0.000	$0.060	$0.000	$0.000	$0.000	$0.000	$0.070	$0.000	$0.130
Subtotal	**$0.000**	**$0.680**	**$0.000**	**$0.060**	**$0.000**	**$0.000**	**$0.280**	**$1.370**	**$5.000**	**$14.250**	**$21.640**
Water Supply & Conveyance											
Arroyo Del Valle Water Right Permit Extension	$0.450	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.450
Arroyo Mocho Diversion Facility Coordination & Implementation	$0.110	$0.120	$0.240	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.470
Arroyo Mocho Low Flow Crossings	$0.070	$0.630	$0.110	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.810

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

	Appropriations ($Millions)										
Programs	**FY 12/13**	**FY 13/14**	**FY 14/15**	**FY 15/16**	**FY 16/17**	**FY 17/18**	**FY 18/19**	**FY 19/20**	**FY 20/21**	**FY 21/22**	**Total**
Bay Area Regional Desalination Project - Planning	$0.210	$0.220	$0.220	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.650
Bay-Delta Conservation Planning (Zone 7)	$0.060	$0.060	$0.060	$0.060	$0.070	$0.000	$0.000	$0.000	$0.000	$0.000	$0.310
Cawelo Groundwater Banking Program	$1.296	$1.293	$1.294	$1.295	$1.294	$1.293	$1.297	$1.299	$1.299	$1.298	$12.958
Chain of Lakes Facilities and Improvements - Water Supply	$0.042	$0.639	$0.423	$0.225	$1.824	$0.036	$0.396	$0.000	$0.000	$0.000	$3.585
Chain of Lakes Facilities and Improvements - Water Supply	$0.098	$1.491	$0.987	$0.525	$4.256	$0.084	$0.924	$0.000	$0.000	$0.000	$8.365
Chain of Lakes Master Planning	$0.050	$0.050	$0.110	$1.400	$0.910	$0.250	$0.130	$0.070	$0.500	$0.070	$3.540
CUWA Membership	$0.020	$0.020	$0.020	$0.020	$0.020	$0.020	$0.020	$0.020	$0.030	$0.030	$0.220
Delta Habitat Conservation and Conveyance Program	$0.010	$0.010	$0.010	$0.020	$0.020	$0.020	$0.020	$0.020	$0.030	$0.030	$0.190
Delta Outreach Program	$0.030	$0.030	$0.030	$0.040	$0.040	$0.040	$0.000	$0.000	$0.000	$0.000	$0.210
Fixed Cost of Water Entitlement	$0.652	$0.647	$0.648	$0.620	$0.570	$0.521	$0.475	$0.424	$0.369	$0.317	$5.243
Fourth Contractor's Share of the SBA - Sinking Fund	$0.028	$0.028	$0.527	$0.548	$0.570	$0.593	$0.617	$0.641	$0.667	$0.694	$4.913
Fourth Contractor's Share of the SBA (capital costs)	$2.100	$2.100	$2.100	$2.100	$2.100	$2.100	$2.100	$2.100	$2.100	$2.100	$21.000
High-Efficiency Toilet Rebate Program	$0.030	$0.030	$0.030	$0.030	$0.030	$0.030	$0.000	$0.000	$0.000	$0.000	$0.180
High-Efficiency Washing Machine Rebate Program	$0.090	$0.100	$0.100	$0.090	$0.070	$0.080	$0.060	$0.060	$0.040	$0.040	$0.730
Hopyard Wellfield Pipeline – Connection with Hopyard Well No. 9	$0.000	$0.000	$0.000	$0.230	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.230
Lakes H, I and Cope Facility Planning	$0.078	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.078
Lakes H, I and Cope Facility Planning	$0.078	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.078
Maximize Yield from Existing Contract with BBID Study	$0.100										$0.100
PPWTP Clearwell Improvements	$0.000	$0.000	$0.000	$0.100	$0.540	$0.000	$0.000	$0.000	$0.000	$0.000	$0.640
Reliability Intertie	$0.000	$0.000	$0.000	$0.000	$0.511	$1.064	$0.826	$4.312	$10.759	$0.000	$17.472
Reliability Intertie	$0.000	$0.000	$0.000	$0.000	$0.219	$0.456	$0.354	$1.848	$4.611	$0.000	$7.488
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 Enlargement Project	$14.890	$15.125	$15.123	$15.124	$15.123	$15.118	$15.117	$15.123	$15.123	$15.124	$150.990
South Bay Aqueduct Enlargement Project - Sinking Fund	$0.166	$0.170	$1.074	$1.117	$1.161	$1.208	$1.256	$1.306	$1.359	$1.413	$10.230
SWP Peaking Payment (Lost Hills & Belridge Water Districts)	$0.038	$0.036	$0.070	$0.062	$0.059	$0.051	$0.048	$0.040	$0.036	$0.029	$0.469
Water Conservation Best Management Practices	$0.020	$0.020	$0.030	$0.030	$0.020	$0.020	$0.020	$0.020	$0.020	$0.020	$0.220
Water Supply Replacement	$0.000	$0.000	$0.000	$0.000	$1.580	$1.640	$1.710	$1.780	$7.120	$7.400	$21.230
Water System Master Plan	$0.040	$0.140	$0.148	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.328
Water System Master Plan	$0.060	$0.210	$0.222	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.492
Westside Transmission System Improvements	$0.000	$0.000	$0.000	$0.530	$0.640	$6.200					$7.370
Subtotal	**$20.863**	**$23.217**	**$23.624**	**$24.214**	**$31.675**	**$30.872**	**$25.418**	**$29.111**	**$44.111**	**$28.613**	**$281.718**
Water Treatment Facilities											
Construction of Three Dual Media Filters to Expand PPWTP	$0.000	$0.000	$0.970	$4.210	$4.010	$0.000	$0.000	$0.000	$0.000	$0.000	$9.190
Dougherty Reservoir Access Road Rehabilitation	$0.000			$0.050							$0.050
Dougherty Reservoir Recoating	$0.000		$0.000	$1.860	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$1.860
DVWTP Ammonia System Replacement	$1.020	$0.780	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$1.800
DVWTP Chemical Systems Improvements	$3.430	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$3.430

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

	Appropriations ($Millions)										
Programs	**FY 12/13**	**FY 13/14**	**FY 14/15**	**FY 15/16**	**FY 16/17**	**FY 17/18**	**FY 18/19**	**FY 19/20**	**FY 20/21**	**FY 21/22**	**Total**
DVWTP Chemical Tanks and Feed Pumps Replacement	$0.000	$0.000	$0.000	$0.180	$0.910	$0.000	$0.000	$0.000	$0.000	$0.000	$1.090
DVWTP Filter Media and Underdrain Replacement	$0.000	$0.000	$0.000	$0.000	$0.250	$1.600	$0.000	$0.000	$0.000	$0.000	$1.850
DVWTP Filter Valves Replacement	$0.000	$0.000	$0.000	$0.410	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.410
DVWTP HVAC Replacement	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.110	$0.640	$0.750
DVWTP Instrumentation Upgrades	$0.000	$0.000	$0.030	$0.350	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.380
DVWTP Interior Coating Improvements to the 4.5 MG Steel Clearwell	$1.630	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$1.630
DVWTP Rehabilitation Project	$0.000	$0.000	$0.000	$0.000	$0.360	$2.310	$0.000	$0.000	$0.000	$0.000	$2.670
DVWTP Roof Replacement and Rehabilitation for 3.0 MG Clearwell	$0.000	$0.000	$0.080	$0.500	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.580
DVWTP Sludge Handling Improvements	$2.390	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$2.390
DVWTP Superpulsator Rehabilitation	$0.000	$2.560	$2.400	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$4.960
DVWTP Valve Replacements for 3 MG Clearwell	$0.170	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.170
DWR Land Acquisition adjacent to PPWTP	$0.364										$0.364
DWR Land Acquisition adjacent to PPWTP	$0.156										$0.156
Minor Renewal/Replacement Projects	$0.260	$0.270	$0.280	$0.290	$0.300	$0.320	$0.330	$0.340	$0.360	$0.370	$3.120
PPWTP Ammonia Facility Replacement	$0.900	$0.680	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$1.580
PPWTP Chemical Improvements Project	$0.000	$0.000	$0.220	$0.580	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.800
PPWTP Filter System Rehabilitation	$0.000	$0.000	$0.450	$0.000	$0.210	$1.670	$0.000	$0.000	$0.000	$0.000	$2.330
PPWTP Instrumentation Upgrades	$0.000	$0.000	$0.000	$0.000	$0.120	$0.440	$0.000	$0.000	$0.000	$0.000	$0.560
PPWTP Maintenance Yard and Building Improvements	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.039	$0.294	$0.288		$0.621
PPWTP Maintenance Yard and Building Improvements	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.091	$0.686	$0.672		$1.449
PPWTP Sludge Handling Improvements	$0.000	$0.000	$0.000	$0.820	$3.650	$0.380	$0.000	$0.000	$0.000	$0.000	$4.850
PPWTP Ultrafiltration Membrane Replacement	$0.390	$0.410	$0.440	$0.450	$0.480	$0.500					$2.670
Safety Improvements at Water Treatment Plants	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.070	$0.000	$0.000	$0.000	$0.070
SCADA Enhancements	$0.220	$0.230	$1.070	$0.250	$0.250	$0.270	$1.250	$0.290	$0.300	$0.320	$4.450
Water Quality - Ozonation at PPWTP & DVWTP	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$3.260	$13.700	$25.780	$42.740
Water Quality Management Program	$0.012	$0.006	$0.012	$0.006	$0.015	$0.006	$0.015	$0.006	$0.018	$0.006	$0.102
Water Quality Management Program	$0.028	$0.014	$0.028	$0.014	$0.035	$0.014	$0.035	$0.014	$0.042	$0.014	$0.238
Water Treatment Plant Expansion (24 MGD)	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$5.920	$5.920
Subtotal	**$10.970**	**$4.950**	**$5.980**	**$9.970**	**$10.590**	**$7.510**	**$1.830**	**$4.890**	**$15.490**	**$33.050**	**$105.230**
Wells											
Busch-Valley Well 1	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.430	$1.230	$2.440	$4.100
Chain of Lakes Well 5	$0.000	$0.000	$0.000	$0.000	$1.880	$5.700	$0.660	$0.000	$0.000	$0.000	$8.240
Chain of Lakes Wells 3 & 4	$0.000	$0.000	$0.000	$1.220	$2.950	$11.070	$0.980	$0.000	$0.000	$0.000	$16.220
El Charro Pipeline Phase 2	$0.000	$0.000	$0.000	$0.560	$6.410	$0.610	$0.000	$0.000	$0.000	$0.000	$7.580
Mocho 2 Well Improvements/Rehabilitation	$0.000	$0.000	$0.200	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.200
Mocho Well 2 - VFD Retrofit	$0.330	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.330
Well Pump, Motor and Casing Inspections	$0.000	$0.000	$0.000	$0.110	$0.000	$0.120	$0.000	$0.130	$0.000	$0.140	$0.500
Wellfield Switchboard Replacement Project	$0.000	$0.000	$0.000	$0.000	$0.000	$1.350	$0.000	$0.000	$0.000	$0.000	$1.350
Subtotal	**$0.330**	**$0.000**	**$0.200**	**$1.890**	**$11.240**	**$18.850**	**$1.640**	**$0.560**	**$1.230**	**$2.580**	**$38.520**
Total	**$35.242**	**$31.351**	**$32.016**	**$39.450**	**$55.827**	**$59.818**	**$31.611**	**$36.471**	**$67.241**	**$79.073**	**$468.100**

Water Project Summary Listing

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

Project Summaries

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

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Buildings & Grounds

Project **Administrative & Engineering Building - Sinking Fund (Fund 72)**

Project ID: SP21

Strategic Plan Priority **1.3**

Project Description In addition to the scheduled lease payment for the new building, an annual contribution is made to a sinking fund in order to cover the purchase cost of the building after the lease payments have been completed in 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.

Origin: Capital Improvement Program

Responsible Section ASD Administrative Services Division

Operating Impact None.

In Service Date **Month**: June **Year**: 2019

Total Project Cost $5,606,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	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	$2,691	$386	$395	$406	$416	$427	$437	$448	$0	$0	$0	$0	$5,606
Total	**$2,691**	**$386**	**$395**	**$406**	**$416**	**$427**	**$437**	**$448**	**$0**	**$0**	**$0**	**$0**	**$5,606**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Buildings & Grounds

Project **Administrative & Engineering Building - Sinking Fund (Fund 73)**

Project ID: SP11

Strategic Plan Priority **1.3**

Project Description In addition to the scheduled lease payment for the new building, an annual contribution is made to a sinking fund in order to cover the purchase cost of the building after the lease payments have been completed in 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.

Origin: Capital Improvement Program

Responsible Section ASD Administrative Services Division

Operating Impact None.

In Service Date **Month**: June **Year**: 2019

Total Project Cost $4,428,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	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	$1,391	$35	$36	$564	$578	$593	$608	$623	$0	$0	$0	$0	$4,428
Total	**$1,391**	**$35**	**$36**	**$564**	**$578**	**$593**	**$608**	**$623**	**$0**	**$0**	**$0**	**$0**	**$4,428**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion
Renewal/Replacement

Program Buildings & Grounds

Project **Administrative & Engineering Building Lease (Water System)**

Project ID: SP1

Strategic Plan Priority **1.3**

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, an annual contribution is made to a sinking fund in order to cover the purchase cost of the building after the lease payments have been completed in FY 2018/19.

Justification Engineering, administrative and operations staff were at different locations. This project has brought administrative and engineering at one site and brings both closer to operations. This project also accommodates future expansion. It reduces overall agency travel times, improves communications and staff productivity.

Origin: Capital Improvement Program

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**: June **Year**: 2019

Total Project Cost $11,538,000

Source of Funds

Fund 72	Water Rates	56%
Fund 73	Connection Fees	44%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	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	$4,661	$925	$943	$962	$982	$1,002	$1,021	$1,042	$0	$0	$0	$0	$11,538
Total	**$4,661**	**$925**	**$943**	**$962**	**$982**	**$1,002**	**$1,021**	**$1,042**	**$0**	**$0**	**$0**	**$0**	**$11,538**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy System-Wide Improvements

Program Water Supply & Conveyance

Project **Arroyo Del Valle Water Right Permit Extension**

Project ID: WP26

Strategic Plan Priority **1.1,1.2,1.4**

Project Description Zone 7 Water Agency has an existing permit with the State Water Resources Control Board – Division of Water Rights to divert water from Arroyo del Valle. The permit was set to expire on December 31, 2007. Zone 7 filed a petition for extension of time on December 19, 2007. The purpose of this project is to secure an extension through 2040. As part of this work, Zone 7 will need to complete a hydrologic and environmental study.

Justification Zone 7 has been diligently pursuing and constructing the necessary facilities to perfect its existing water right permit on Arroyo del Valle. The majority of the project is complete and in use. However, Zone 7 cannot finish the project until a number of gravel mining pits are completed – completion of the gravel mining pits is outside of Zone 7's control. The completion of the water rights permit extension is necessary to avoid the loss of approxinmately 3000 AF of long-term water supply. Several organizations have filed a protest against the petition for extension of time. This project is required to complete the extension, and ensure Zone 7 does not lose existing water supplies.

Origin: 2011 Water Supply Evaluation Report

Responsible Section FE Facilities Engineering

Operating Impact Protects existing water supplies and water system reliability.

In Service Date **Month**: December **Year**: 2013

Total Project Cost $1,003,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$553	$450	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,003
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	**$553**	**$450**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,003**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Supply & Conveyance

Project **Arroyo Mocho Diversion Facility Coordination & Implementation**

Project ID: COL9

Strategic Plan Priority **1.1,1.4**

Project Description This project is located along Arroyo Mocho near Cope Lake and Lake H. The diversion structure would consist of a concrete foundation within Arroyo Mocho equipped with a diversion facility (e.g., Obermeyer gates or an inflatable rubber dam), along with other appurtenances necessary to accomplish water management in an environmentally sensitive way. The project would also include pipelines and other equipment necessary to control the diversion facility and move water into the chain of lakes. Hansen Aggregates is responsible for designing, permitting, and constructing the diversion facility at no cost to Zone 7; therefore, the costs below only reflect Zone 7 staff time to assist Hanson, as necessary, and costs for other necessary facilities (e.g., such as SCADA).

Justification Completion of this project is necessary to allow Zone 7 to manage water as described in the Specific Plan for Livermore-Amador Valley Quarry Area Reclamation.

Origin: Livermore-Amador Valley Quarry Area Reclamation Specific Plan, 2006 Stream Management Master Plan

Responsible Section IP Integrated Planning

Operating Impact Adds new O&M and repair & replacement expenses for Zone 7.

In Service Date **Month**: October **Year**: 2014

Total Project Cost $871,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$402	$110	$120	$240	$0	$0	$0	$0	$0	$0	$0	$0	$872
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	**$402**	**$110**	**$120**	**$240**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$872**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, 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

Strategic Plan Priority **1.4,1.1**

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 cubic feet per second (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.

Origin: Arroyo Mocho Diversion Project

Responsible Section FE Facilities Engineering

Operating Impact Increases water supply reliability. Increases channel maintenance costs.

In Service Date **Month**: October **Year**: 2014

Total Project Cost $1,185,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$70	$40	$0	$0	$0	$0	$0	$0	$0	$0	$0	$110
Design	$375	$0	$120	$0	$0	$0	$0	$0	$0	$0	$0	$0	$495
Construction	$0	$0	$470	$110	$0	$0	$0	$0	$0	$0	$0	$0	$580
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$375**	**$70**	**$630**	**$110**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,185**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Program Management

Project **Asset Management Program Management**

Project ID: SP18

Strategic Plan Priority **1.3**

Project Description Ongoing program management of the Asset Management Program (AMP). Activities include facilitating condition assessments, maintaining the asset database, regular updates of the AMP, and other ongoing implementation tasks.

Justification Assures that assets in need of repair or replacement are identifed and corrected.

Origin: 2011 Asset Management Plan Update Report

Responsible Section FE Facilities Engineering

Operating Impact Increased operational effectiveness.

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $4,020,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$310	$40	$40	$40	$290	$50	$50	$50	$50	$360	$60	$2,680	$4,020
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	**$310**	**$40**	**$40**	**$40**	**$290**	**$50**	**$50**	**$50**	**$50**	**$360**	**$60**	**$2,680**	**$4,020**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Supply & Conveyance

Project **Bay Area Regional Desalination Project - Planning**

Project ID: WP21

Strategic Plan Priority **1.1,1.5**

Project Description The Bay Area Regional Desalination Project (BARDP) is a joint effort with the San Francisco Public Utilities Commission (SFPUC), Santa Clara Valley Water District (SCVWD), East Bay Municipal Utility District (EBMUD), and Contra Costa Water District (CCWD) to develop a regional desalination facility. The facility would likely be located in eastern Contra Costa County with water wheeled to Zone 7 through a new intertie with EBMUD. The total project cost presented below includes Zone 7's share of estimated costs for the preliminary design and environmental permitting process; it assumes that the five-agency partnership moves forward with the BARDP after completion of the ongoing site-specific analysis.

Justification For Zone 7, the BARDP is a potential source of future water supply being evaluated along with other water supply options. The BARDP offers the benefit of a drought-resistant and high-quality water supply that reduces reliance on the SWP and diversifies Zone 7's existing water supply mix. Zone 7 can potentially receive up to 5,600 acre-foot of water every year, or only during normal/wet years, from the BARDP starting sometime between 2020 and 2025.

Origin: 2010 Urban Water Management Plan, 2011 Water Supply Evaluation Report

Responsible Section IP Integrated Planning

Operating Impact Increased water reliability.

In Service Date **Month**: December **Year**: 2015

Total Project Cost $931,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$281	$210	$220	$220	$0	$0	$0	$0	$0	$0	$0	$0	$931
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	**$281**	**$210**	**$220**	**$220**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$931**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Supply & Conveyance

Project **Bay-Delta Conservation Planning (Zone 7)**

Project ID: WP17

Strategic Plan Priority **1.7**

Project Description This project covers Zone 7's internal staff time and legal costs associated with participating in the development of the Bay Delta Conservation Plan (BDCP). The BDCP is a Habitat Conservation Plan/Natural Community Conservation Plan that provides a more flexible basis for endangered species protection. This project is split 70% Fund 52 and 30% Fund 73. The costs reflected here are Fund 73's share only.

Justification Develops a long-term plan for the Delta that ensures water supply reliablility 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, siesmic risk, climate change and uncertain environmental regulations.

Origin: Capital Improvement Program

Responsible Section OGM Office of the General Manager

Operating Impact Improved reliability.

In Service Date **Month**: June **Year**: 2017

Total Project Cost $858,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$548	$60	$60	$60	$60	$70	$0	$0	$0	$0	$0	$0	$858
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	**$548**	**$60**	**$60**	**$60**	**$60**	**$70**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$858**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Wells

Project **Busch-Valley Well 1**

Project ID: W38

Strategic Plan Priority **1.4,1.8**

Project Description This project is Phase 3 of the Well Master Plan, and consists of one new municipal water supply well and additional pipelines. The estimated project cost includes planning, land acquisition, well design and drilling, facility design and construction, pipeline additions, and miscellaneous site work. The costs also include construction of a new pipeline, which is required for Phase 3 to connect the new well to Zone 7's existing transmission system.

Justification Additional municipal water supply wells are required to maximize existing local storage in the Livermore Valley Groundwater Basin during droughts and facility outages. Maximizing local storage during drought and facility outages allows Zone 7 to meet projected water demands, even during worse-case drought conditions, as established in Zone 7 Resolutions 04-2662 and 06-2786. These wells will also provide Zone 7 more control over groundwater levels, groundwater flow, and dissolved salt build-up/removal.

Origin: 2003 Well Master Plan and 2011 WSE

Responsible Section FE Facilities Engineering

Operating Impact System reliability.

In Service Date **Month**: April **Year**: 2025

Total Project Cost $15,940,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$430	$0	$0	$430
Design	$0	$0	$0	$0	$0	$0	$0	$0	$430	$0	$590	$620	$1,640
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$800	$1,850	$11,220	$13,870
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$430**	**$1,230**	**$2,440**	**$11,840**	**$15,940**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion
Renewal/Replacement

Program Program Management

Project **Capital Improvement Program Management**

Project ID: SP13

Strategic Plan Priority **1.3**

Project Description Ongoing program management of the Capital Improvement Program (CIP) including annual report preparation, Zone 7 labor and other CIP related efforts.

Justification Provides for better tracking of program management costs.

Origin: Capital Improvement Program

Responsible Section ASD Administrative Services Division
FE Facilities Engineering

Operating Impact None

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $5,103,000

Source of Funds

Fund 50	Flood Control/General Fund	3%
Fund 72	Water Rates	20%
Fund 73	Connection Fees	75%
Fund 76	Flood Protection and Special Drainage Area	2%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$1,313	$50	$110	$60	$120	$60	$130	$70	$140	$70	$150	$2,830	$5,103
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	**$1,313**	**$50**	**$110**	**$60**	**$120**	**$60**	**$130**	**$70**	**$140**	**$70**	**$150**	**$2,830**	**$5,103**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Supply & Conveyance

Project **Cawelo Groundwater Banking Program**

Project ID: WP11

Strategic Plan Priority **1.1,1.8**

Project Description 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. Zone 7 will be able to store up to 120,000 acre-feet of water within the Cawelo Water District area. Cawelo financed this program by a $21.55 million sale of Certificates of Participation (COP) on August 15, 2006. The COPs run through 2035 with an interest rate of 4% that increases 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.

Justification Increases reliability by providing additional water supplies during drought years.

Origin: 1999 Water Supply Plan

Responsible Section FE Facilities Engineering

Operating Impact Increased operational reliability.

In Service Date **Month**: June **Year**: 2035

Total Project Cost $38,515,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$7,268	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$7,268
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	$1,296	$1,293	$1,294	$1,295	$1,294	$1,293	$1,297	$1,299	$1,299	$1,298	$18,289	$31,247
Total	**$7,268**	**$1,296**	**$1,293**	**$1,294**	**$1,295**	**$1,294**	**$1,293**	**$1,297**	**$1,299**	**$1,299**	**$1,298**	**$18,289**	**$38,515**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy System-Wide Improvements
Expansion

Program Water Supply & Conveyance

Project **Chain of Lakes Facilities and Improvements - Water Supply**

Project ID: COL10

Strategic Plan Priority **1.2,1.4,1.1,2.7**

Project Description This project consists of the design and construction of elements of the Chain of Lakes identified and recommended for water supply needs by near-term and long-term planning efforts completed as part of the Chain of Lakes Program Management and Planning project, or projects required to operate and maintain the Chain of Lakes for water supply purposes. Examples of projects that could be completed under this project include, but are not limited to, diversion structure related improvements, pump stations, pipelines, flow meters, water level meters, recharge monitoring piezometers, fencing, access roads, and slope re-grading and landscaping. Projects related to Flood Control are included in the CIP as separate projects (not part of this project).

Justification The Chain of Lakes are a series of gravel mining pits that will be dedicated to Zone 7 over the next 20 to 30 years for water management purposes. More specifically, these series of lakes will allow Zone 7 to reduce evaporative losses and implement mitigative measures for salt loading in the Livermore Valley Groundwater Basin, and enhance artificial recharge and flood protection activities. All of these activites are necessary to providing a reliable supply of high quality water and an effective flood control system to the Livermore-Amador Valley. This project will allow Zone 7 to design and implement the projects necessary for Zone 7 to use the Chain of Lakes for water supply after dedication.

Origin: 2006 Stream Management Master Plan, 2011 Water Supply Evaluation Report

Responsible Section FE Facilities Engineering

Operating Impact Increase of water supply reliability. Increased O&M costs.

In Service Date **Month**: December **Year**: 2035

Total Project Cost $77,947,000

Source of Funds

Fund 72	Water Rates	30%
Fund 73	Connection Fees	70%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$3,367	$30	$20	$80	$290	$0	$60	$0	$0	$0	$0	$2,940	$6,787
Design	$220	$40	$0	$70	$280	$0	$60	$0	$0	$0	$0	$3,780	$4,450
Construction	$90	$70	$2,110	$1,260	$180	$6,080	$0	$1,320	$0	$0	$0	$55,600	$66,710
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$3,677**	**$140**	**$2,130**	**$1,410**	**$750**	**$6,080**	**$120**	**$1,320**	**$0**	**$0**	**$0**	**$62,320**	**$77,947**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Supply & Conveyance

Project **Chain of Lakes Master Planning**

Project ID: COL6

Strategic Plan Priority **1.1**

Project Description This project consists of the near-term and long-term management and planning necessary to integrate the Chain of Lakes into Zone 7's water supply system, and into various general plans, specific plans, on-going construction, or other activities in the Livermore-Amador Valley. Program elements may include coordinating with the California High Speed Rail Authority. Master planning will incorporate the recommendations from other Zone 7 planning efforts, including the Stream Management Master Plan and the Water System Master Plan update.

Justification The Chain of Lakes are a series of gravel mining pits that will be dedicated to Zone 7 over the next 20 to 30 years for water management purposes. More specifically, these series of lakes will allow Zone 7 to reduce evaporative losses and implement mitigative measures for salt loading in the Livermore Valley Groundwater Basin, and enhance artificial recharge and flood protection activities. All of these activites are necessary to providing a reliable supply of high quality water and an effective flood control system to the Livermore-Amador Valley. This project will allow Zone 7 to design and implement the projects necessary for Zone 7 to use the Chain of Lakes for water supply after dedication.

Origin: 2006 Stream Management Master Plan, 2011 Water Supply Evaluation Report

Responsible Section IP Integrated Planning

Operating Impact Enhances Zone 7's ability to manage water.

In Service Date **Month**: June **Year**: 2013

Total Project Cost $6,175,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$595	$50	$50	$110	$1,050	$910	$250	$130	$70	$70	$70	$2,040	$5,395
Design	$0	$0	$0	$0	$350	$0	$0	$0	$0	$430	$0	$0	$780
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	**$595**	**$50**	**$50**	**$110**	**$1,400**	**$910**	**$250**	**$130**	**$70**	**$500**	**$70**	**$2,040**	**$6,175**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Wells

Project **Chain of Lakes Well 5**

Project ID: W37

Strategic Plan Priority **1.4,1.8**

Project Description This project is Phase 2A of the Well Master Plan, and consists of one new municipal water supply well and additional pipelines. The estimated project cost includes planning, easement acquisition, well design and drilling, facility design and construction, pipeline additions, and miscellaneous site work.

Justification Additional municipal water supply wells are required to maximize existing local storage in the Livermore Valley Groundwater Basin for use during droughts and facility outages. This allows Zone 7 to meet projected water demands, even during worse-case drought conditions, as established in Zone 7 Resolutions 04-2662 and 06-2786. These wells will also provide Zone 7 more control over groundwater levels, groundwater flow, dissolved salt build-up/removal.

Origin: 2003 Well Master Plan and 2011 WSE

Responsible Section FE Facilities Engineering

Operating Impact System reliability.

In Service Date **Month**: April **Year**: 2020

Total Project Cost $8,240,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$0	$0	$0	$0	$120	$0	$0	$0	$0	$0	$0	$120
Design	$0	$0	$0	$0	$0	$360	$380	$0	$0	$0	$0	$0	$740
Construction	$0	$0	$0	$0	$0	$1,400	$5,320	$660	$0	$0	$0	$0	$7,380
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,880**	**$5,700**	**$660**	**$0**	**$0**	**$0**	**$0**	**$8,240**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Wells

Project **Chain of Lakes Wells 3 & 4**

Project ID: W36

Strategic Plan Priority **1.4,1.8**

Project Description This project is Phase 2 of the Well Master Plan, and consists of two new municipal water supply wells and additional connecting pipelines. The estimated project cost includes planning, land acquisition, well design and drilling, facility design and construction, pipeline additions, and miscellaneous site work.

Justification Additional municipal water supply wells are required to maximize existing local storage in the Livermore Valley Groundwater Basin for use during droughts and facility outages. This allows Zone 7 to meet projected water demands, even during worse-case drought conditions, as established in Zone 7 Resolutions 04-2662 and 06-2786. These wells will also provide Zone 7 more control over groundwater levels, groundwater flow, dissolved salt build-up/removal.

Origin: 2003 Well Master Plan and 2011 WSE

Responsible Section FE Facilities Engineering

Operating Impact System reliability.

In Service Date **Month**: April **Year**: 2020

Total Project Cost $16,220,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$0	$0	$0	$350	$60	$0	$0	$0	$0	$0	$0	$410
Design	$0	$0	$0	$0	$520	$550	$630	$0	$0	$0	$0	$0	$1,700
Construction	$0	$0	$0	$0	$350	$2,340	$10,440	$980	$0	$0	$0	$0	$14,110
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$0**	**$0**	**$0**	**$1,220**	**$2,950**	**$11,070**	**$980**	**$0**	**$0**	**$0**	**$0**	**$16,220**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Treatment Facilities

Project **Construction of Three Dual Media Filters to Expand PPWTP**

Project ID: PP62

Strategic Plan Priority **1.11**

Project Description The 8 mgd Patterson Pass Ultrafiltration Plant (UF Plant) was constructed as a temporary plant to enable Zone 7 to assess membranes for a future larger plant expansion. This project includes construction of three new dual media filters similar to the filtration system at the existing Patterson Pass conventional plant (PPWTP). The capacity provided by two of these filters will make the temporary 8 mgd capacity of the UF filtration permanent and the third filter will provide an additional mgd of filtration capacity to allow the UF clarifier to be fully utilized for its design capacity of 12 mgd. The project will also include filter backwash/washwater system expansion.

Justification Under normal operations, there is extra capacity available for the next few years before demand growth catches up. It would be advantageous to use this near-term window to make the temporary UF capacity permanent by adding new conventional filters. In addition to power, chemical and maintenance costs, the UF plant is costing Zone 7 approximately $350,000 annually to replace membrane modules. As the UF plant uses proprietary membrane modules, Zone 7 is potentially vulnerable to excessive cost increases and/or obsolescence of the membrane module. The additional filtration capacity provided by the filters will also provide an additional 4 mgd of surface water treatment capacity for anticipated future demands.

Origin: 2000 Treated Water Facilities Master Plan, 2009 Peer Review of the Altamont Water Treatment Plant Site and Treatment Process Study, 2011 PPWTP Expansion Feasibility Evaluation (in progress)

Responsible Section FE Facilities Engineering

Operating Impact Increased operational reliability and production capacity, extension of filter systems service life.

In Service Date **Month**: May **Year**: 2017

Total Project Cost $9,190,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$0	$0	$630	$0	$0	$0	$0	$0	$0	$0	$0	$630
Design	$0	$0	$0	$340	$350	$0	$0	$0	$0	$0	$0	$0	$690
Construction	$0	$0	$0	$0	$3,510	$3,650	$0	$0	$0	$0	$0	$0	$7,160
Other	$0	$0	$0	$0	$350	$360	$0	$0	$0	$0	$0	$0	$710
Total	**$0**	**$0**	**$0**	**$970**	**$4,210**	**$4,010**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$9,190**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy System-Wide Improvements

Program Transmission & Distribution

Project **Corrosion Master Plan Update**

Project ID: DS31

Strategic Plan Priority **1.3**

Project Description This project includes periodic updates to the Corrosion Master Plan and the evaluation of current condition of Zone 7's facilities with respect to corrosion and cathodic protection. It will recommend future studies and implement projects to repair and upgrade cathodic protection to ensure that the service lives of facilities are 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 and helps to minimize water rate increases.

Origin: Corrosion Master Plan

Responsible Section FE Facilities Engineering

Operating Impact Lengthen service life and improve reliability.

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $3,280,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$0	$60	$0	$0	$0	$0	$80	$0	$0	$0	$670	$810
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$160	$0	$0	$0	$0	$200	$0	$0	$0	$2,110	$2,470
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$0**	**$220**	**$0**	**$0**	**$0**	**$0**	**$280**	**$0**	**$0**	**$0**	**$2,780**	**$3,280**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Supply & Conveyance

Project **CUWA Membership**

Project ID: WP15

Strategic Plan Priority **1.7**

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.

This project is split 70% Fund 52 and 30% Fund 73. The costs reflected here are Fund 73's share only.

Justification CUWA membership dues will complement on-going Delta studies, which are intended to maintain and improve Delta water quality and reliability, even as Delta exports increase.

Origin: Capital Improvement Program

Responsible Section FE Facilities Engineering

Operating Impact Increased reliability and water quality.

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $1,283,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$553	$20	$20	$20	$20	$20	$20	$20	$20	$30	$30	$510	$1,283
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	**$553**	**$20**	**$20**	**$20**	**$20**	**$20**	**$20**	**$20**	**$20**	**$30**	**$30**	**$510**	**$1,283**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Transmission & Distribution

Project **CWS Turnout #4 Relocation/Replacement**

Project ID: TO14

Strategic Plan Priority **1.3**

Project Description This project involves the design and construction of a new turnout. The new turnout replaces the existing turnout which is located in a heavily trafficked intersection of Livermore. The new and relocated turnout will be upgraded to present design standards including SCADA capability.

Justification The current turnout was constructed in 1969 at the intersection of Railroad Ave and L St. in Livermore. Because of the significant increase in traffic at this location since construction, access to the turnout for monthly flow meter information retrieval and maintenance purposes is now extremely difficult and potentially hazardous. The 2011 AMP Update Report recommended replacement of this turnout because it is approaching the end of its useful life.

Origin: 2011 Asset Management Plan Update Report

Responsible Section FE Facilities Engineering

Operating Impact Improves access to turnout for both routine monthly visits and maintenance. Upgrades the turnout to present design standard ssafety and operational reliability and effectiveness.

In Service Date **Month**: April **Year**: 2014

Total Project Cost $460,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$0	$30	$0	$0	$0	$0	$0	$0	$0	$0	$0	$30
Design	$0	$0	$50	$0	$0	$0	$0	$0	$0	$0	$0	$0	$50
Construction	$0	$0	$270	$0	$0	$0	$0	$0	$0	$0	$0	$0	$270
Other	$0	$0	$110	$0	$0	$0	$0	$0	$0	$0	$0	$0	$110
Total	**$0**	**$0**	**$460**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$460**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Supply & Conveyance

Project **Delta Habitat Conservation and Conveyance Program**

Project ID: WP19

Strategic Plan Priority **1.7**

Project Description The purpose of the Delta Habitat Conservation and Conveyance Program (DHCCP) is to develop alternatives for reliably conveying State Water Project (SWP) and Central Valley Project (CVP) water across or around the Delta in an environmentally sound manner. The information produced by the DHCCP will be incorporated into the Bay Delta Conservation Plan.

This project is split 70% Fund 52 and 30% Fund 73. The costs reflected here are Fund 73's share only.

Justification The Delta Conveyance Facility is needed to restore SWP Reliability to previously anticipated levels (about 75% long-term average yield) of SWP Contract Table A amounts. Currently, Endangered Species Act (State and Federal) concerns have limited SWP diversion exports. The Delta Conveyance Facilities will reduce the conflict between Delta exports and Delta habitat values. Additionally, the Delta Conveyance Facility will improve SWP water quality to Zone 7. There will be water quality improvements in salinity (TDS), toxics, disinfection by-products, etc.

Origin: Capital Improvement Program

Responsible Section OGM Office of the General Manager

Operating Impact Increased SWP reliability and improved water quality.

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $872,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$682	$10	$10	$10	$20	$20	$20	$20	$20	$30	$30	$0	$872
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	**$682**	**$10**	**$10**	**$10**	**$20**	**$20**	**$20**	**$20**	**$20**	**$30**	**$30**	**$0**	**$872**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Supply & Conveyance

Project **Delta Outreach Program**

Project ID: WP18

Strategic Plan Priority **1.7**

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 quality.

This project is split 70% Fund 52 and 30% Fund 73. The costs reflected here are Fund 73's share only.

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 the Sierra Nevada. The system is threatened by fragile levees, seismic risk, climate change and uncertain environmental regulations.

Origin: Capital Improvement Program

Responsible Section OGM Office of the General Manager

Operating Impact Improved reliability.

In Service Date **Month**: June **Year**: 2018

Total Project Cost $378,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$168	$30	$30	$30	$40	$40	$40	$0	$0	$0	$0	$0	$378
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	**$168**	**$30**	**$30**	**$30**	**$40**	**$40**	**$40**	**$0**	**$0**	**$0**	**$0**	**$0**	**$378**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Transmission & Distribution

Project **Distribution System Control Station Replacement**

Project ID: DS48

Strategic Plan Priority **1.3**

Project Description This is a conceptual project recommended in the 2011 AMP study for condition assessment to better define the project scope, schedule, and cost. This project consists of the replacement of valves and ancillary equipment at the Cross Valley, Dougherty, Livermore (Station 220), and Vineyard Rate Control Stations.

Justification According to the 2011 AMP Update, the valves at these rate control stations are reaching the end of their useful life. Zone 7's control stations are critical to delivering an adequate water supply to Retailer turnouts.

Origin: 2011 Asset Management Plan Update Report

Responsible Section FE Facilities Engineering

Operating Impact Maintains operational functionality and reliability.

In Service Date **Month**: June **Year**: 2021

Total Project Cost $1,010,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$40	$0	$0	$40
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$100	$0	$0	$100
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$870	$0	$0	$870
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,010**	**$0**	**$0**	**$1,010**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Water Treatment Facilities

Project **Dougherty Reservoir Access Road Rehabilitation**

Project ID: DV122

Strategic Plan Priority **1.3,1.8**

Project Description Surface maintenance and road repairs to the Dougherty Reservoir access road is needed. This project consists of a completed pavement condition assessment and involves recommended pavement surface coating (slurry coat or chip seal), filling cracks, and repairing damaged pavement and base areas.

Justification This project will maintain the Dougherty Reservoir access road in a safe and serviceable condition, extending the time period for which repaving and replacement repairs would be needed.

Origin: 2007 DVWTP Access Road and Parking Lot/Dougherty Reservoir Access Road Pavement Rehabilitation Report and staff's 2011 field inspection

Responsible Section FE Facilities Engineering

Operating Impact Decrease maintenance, increase safety.

In Service Date **Month**: June **Year**: 2016

Total Project Cost $50,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	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	$50	$0	$0	$0	$0	$0	$0	$0	$50
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$0**	**$0**	**$0**	**$50**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$50**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Water Treatment Facilities

Project **Dougherty Reservoir Recoating**

Project ID: DV150

Strategic Plan Priority **1.3,1.8**

Project Description This project involves the recoating of the exterior and interior of the 4 MG steel tank, including all submerged metals and piping appurtenances, such as the interior ladder, manways, inlet/outlet and overflow pipes. A new, more-efficient cathodic protection system will be installed. As this facility is jointly owned with the Dublin San Ramon Services District, Zone 7's project cost is $930,000, which reflects a 50 percent share for both Zone 7 and DSRSD. Scope includes a coating consultant to provide a coating system design. A heavy metals analysis for both the interior and exterior coatings should also be completed.

Justification The steel tank was constructed in 1984 and the original coating systems are nearing the end of their useful life. The 2011 bi-annual diver inspection found pockets of small blistering throughout the floor area, of which 10% are broken, which can lead to rusted nodules and steel damage. The walls and structural columns were reported to be in good condition. The roof panels and steel supports show rust bleeding. This project has been deferred from FY 11/12 to accommodate the delayed AMP funding ramp-up. The next bi-annual inspection (in FY 12/13) will help determine if the interior tank re-coating can be further deferred.

Origin: 2011 Dougherty Reservoir Diver Inspection Report

Responsible Section FE Facilities Engineering

Operating Impact A new coating will provide better corrosion protection of the steel substrate and prolong the useful life of the storage reservoir.

In Service Date **Month**: June **Year**: 2016

Total Project Cost $1,860,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$0	$0	$0	$20	$0	$0	$0	$0	$0	$0	$0	$20
Design	$0	$0	$0	$0	$60	$0	$0	$0	$0	$0	$0	$0	$60
Construction	$0	$0	$0	$0	$1,690	$0	$0	$0	$0	$0	$0	$0	$1,690
Other	$0	$0	$0	$0	$90	$0	$0	$0	$0	$0	$0	$0	$90
Total	**$0**	**$0**	**$0**	**$0**	**$1,860**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,860**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Water Treatment Facilities

Project **DVWTP Ammonia System Replacement**

Project ID: DV125

Strategic Plan Priority **1.3**

Project Description Replacement of the 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 could be upgraded with improved safety measures. While this project is recommended in the 2011 AMP study, its schedule is being moved up for these reasons.

Origin: 2011 Asset Management Plan Update Report

Responsible Section FE Facilities Engineering

Operating Impact Increase safety.

In Service Date **Month**: June **Year**: 2014

Total Project Cost $1,800,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$120	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$120
Design	$0	$140	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$140
Construction	$0	$680	$700	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,380
Other	$0	$80	$80	$0	$0	$0	$0	$0	$0	$0	$0	$0	$160
Total	**$0**	**$1,020**	**$780**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,800**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy System-Wide Improvements

Program Water Treatment Facilities

Project **DVWTP Chemical Systems Improvements**

Project ID: DV129

Strategic Plan Priority **1.2,1.3**

Project Description This project upgrades existing caustic soda and ferric chloride chemical storage facilities at DVWTP due to inadequate capacity. Project may involve new storage tanks with secondary containment structure, a new temperature-controlled storage building, chemical fill line and feed system improvements, SCADA coordination, chemical delivery truck roadway access improvements, and removal of existing under-sized tank.

Justification As confirmed in the 2010 Asset Management Plan Condition Assessment, the chemical storage tank is not sized to properly and efficiently schedule chemical deliveries. Also, existing chemical feed systems are subject to constant mechanical failure. Replacement of the DVWTP parking lot is needed to return it to an acceptable standard; thereby ensuring safe conditions including chemical deliveries.

Origin: 2011 Asset Management Plan Update Report

Responsible Section FE Facilities Engineering

Operating Impact Improves ability to comply with regulatory requirements, increases operational effectiveness, increases reliability and safety, and decreases maintenance.

In Service Date **Month**: June **Year**: 2013

Total Project Cost $3,430,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	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	$3,120	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,120
Other	$0	$310	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$310
Total	**$0**	**$3,430**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$3,430**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Water Treatment Facilities

Project **DVWTP Chemical Tanks and Feed Pumps Replacement**

Project ID: DV145

Strategic Plan Priority **1.3**

Project Description This is a project recommended in the 2011 AMP study for condition assessment to better define the project scope, schedule, and cost. Key chemical metering and storage tank systems to be assessed and replaced include, but are not limited to:

(1) Sodium hypochlorite metering pumps for pre- and post- chlorination and for CT compliance
(2) Ferric chloride metering pumps for conventional plant and DAF
(3) Anionic polymer metering pumps for Pulsators and gravity thickener
(4) Cationic polymer tank
(5) Ancillary support for each chemical feed system

The sodium hydroxide storage and feed system and ferric chloride storage tanks will be replaced in the DVWTP Chemical Systems Improvements in FY 11/12. The sodium hypochlorite storage tanks were replaced in 2010.

Justification According to the 2011 AMP Update, the above listed systems have either reached or are nearing the end of their original useful life.

Origin: 2011 Asset Management Plan Update Report

Responsible Section FE Facilities Engineering

Operating Impact Increases ability to comply with regulatory requirements, increases operational effectiveness and reliability, and decreases maintenance.

In Service Date **Month**: April **Year**: 2017

Total Project Cost $1,090,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$0	$0	$0	$40	$0	$0	$0	$0	$0	$0	$0	$40
Design	$0	$0	$0	$0	$130	$0	$0	$0	$0	$0	$0	$0	$130
Construction	$0	$0	$0	$0	$0	$880	$0	$0	$0	$0	$0	$0	$880
Other	$0	$0	$0	$0	$10	$30	$0	$0	$0	$0	$0	$0	$40
Total	**$0**	**$0**	**$0**	**$0**	**$180**	**$910**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,090**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Water Treatment Facilities

Project **DVWTP Filter Media and Underdrain Replacement**

Project ID: DV104

Strategic Plan Priority **1.3**

Project Description Replacement of the filter media and underdrain system for Filter Nos. 2 to 4 and the underdrain system for Filter 1. The media for Filter 1 was replaced in 2001 and should not need replacement. The original vitrified clay tile underdrain blocks are no longer manufactured and alternative systems such as a high density polyethylene block or a stainless steel system will need to be evaluated. An air scour system to supplement or replace the surface wash spray system should also be evaluated. Project should also evaluate epoxy coating the filter walls to protect the concrete and rebars.

Justification This project is recommended in the 2011 AMP study since the filter media in Filters Nos. 2 to 4 and the underdrains in Filter Nos. 1 to 4 have reached the end of their useful life. This project will extend the useful life of the filters by another 25years. The anthracite media degrades and breaks down in size and angularity over time from backwashes. A new air scour system will improve the media cleaning, filter backwash efficiency, and conserve water for each backwash.

Origin: 2011 Asset Management Plan Update Report

Responsible Section FE Facilities Engineering

Operating Impact Improves filter operations and reliability.

In Service Date **Month**: April **Year**: 2018

Total Project Cost $1,850,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$0	$0	$0	$0	$60	$0	$0	$0	$0	$0	$0	$60
Design	$0	$0	$0	$0	$0	$180	$0	$0	$0	$0	$0	$0	$180
Construction	$0	$0	$0	$0	$0	$0	$1,460	$0	$0	$0	$0	$0	$1,460
Other	$0	$0	$0	$0	$0	$10	$140	$0	$0	$0	$0	$0	$150
Total	**$0**	**$0**	**$0**	**$0**	**$0**	**$250**	**$1,600**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,850**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, 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

Strategic Plan Priority **1.3**

Project Description This project consists of the replacement of the isolation valves and associated appurtenances on the eight filters at DVWTP, and is being completed in two phases. All 32 isolation valves (eight per filter) on Filter Nos. 1 to 4 were replaced in 2010. In Phase 2, all 32 isolation valves on Filter Nos. 5 to 8 will be replaced. Each isolation valve system consists of a wafer style butterfly valve with a pneumatic actuator, limit switches, and solenoid valves. Piping and valve appurtenances, such as flexible couplings or adaptors, valve gaskets and bolts, and harness rods, will also be replaced. The extent of the rehabilitation of the original pipe spools will not be determined until the cement lining and any exposed steel are inspected during the installation. A filter-aid feed control panel, located at each filter, will need to be temporarily re-located to gain access to the filter pipe spools and valves. The filter rate-of-control valve on each filter was replaced in 2004.

Justification This project is recommended in the 2011 AMP study since the isolation valves on Filter Nos. 5 to 8 are reaching the end of their useful lives. It has been necessary to raise the plant air pressure in order to operate the actuators and valves.

Origin: 2011 Asset Management Plan Update Report

Responsible Section FE Facilities Engineering

Operating Impact Maintain plant capacity and reliability, improve operational effectiveness and flexibility, and decrease valve system maintenance.

In Service Date **Month**: May **Year**: 2016

Total Project Cost $410,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$0	$0	$0	$10	$0	$0	$0	$0	$0	$0	$0	$10
Design	$0	$0	$0	$0	$60	$0	$0	$0	$0	$0	$0	$0	$60
Construction	$0	$0	$0	$0	$320	$0	$0	$0	$0	$0	$0	$0	$320
Other	$0	$0	$0	$0	$20	$0	$0	$0	$0	$0	$0	$0	$20
Total	**$0**	**$0**	**$0**	**$0**	**$410**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$410**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Water Treatment Facilities

Project **DVWTP HVAC Replacement**

Project ID: DV146

Strategic Plan Priority **1.3**

Project Description This project was recommended in the 2011 AMP for condition assessment to better define the project scope, schedule, and cost. Key equipment to be assessed and replaced include, but are not limited to the following: two boilers and appurtenances; air handling units and exhaust fans; air cooled chiller for the Laboratory Building; associated system control and pressure valves, switches, appurtenances; etc., and digital control systems for the HVAC.

Justification According to the 2011 AMP Update, the heating, ventilation, and air conditioning system will have reached the ends of its original useful life by FY 21/22. It is expected that more state-of-art technology and more efficient compressors and boilers, etc., will replace the equipment installed in the 2003 HVAC project. The project will continue to provide comfortable, safe and energy efficient operations and protect plant and laboratory personnel, equipment and instrumentation, SCADA system and servers against higher heating and colder temperatures throughout the year.

Origin: 2011 Asset Management Plan Update Report

Responsible Section FE Facilities Engineering

Operating Impact Increases operational reliability.

In Service Date **Month**: June **Year**: 2022

Total Project Cost $750,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$10	$0	$0	$10
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$90	$0	$0	$90
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$610	$0	$610
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$10	$30	$0	$40
Total	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$110**	**$640**	**$0**	**$750**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Water Treatment Facilities

Project **DVWTP Instrumentation Upgrades**

Project ID: DV106

Strategic Plan Priority **1.3**

Project Description Repair or replace/upgrade instrumentation (i.e. turbidimeters, counters, analyzers) at the Del Valle Water Treatment Plant (DVWTP). An AMP condition assessment in December 2003 confirmed the instruments to be in good condition, and in FY 07/08 about 80% of turbidimeters were replaced. 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 useful life is approximately eight to ten years.

Justification Properly functioning, reliable instrumentation is integral to water treatment process control and monitoring performance. To ensure delivery of high quality water in compliance with drinking water standards, instrumentationnees to be replaced on a regular basis.

Origin: 2011 Asset Management Plan Update Report

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**: 2016

Total Project Cost $380,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$0	$0	$30	$0	$0	$0	$0	$0	$0	$0	$0	$30
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$350	$0	$0	$0	$0	$0	$0	$0	$350
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$0**	**$0**	**$30**	**$350**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$380**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Water Treatment Facilities

Project **DVWTP Interior Coating Improvements to the 4.5 MG Steel Clearwell**

Project ID: DV102

Strategic Plan Priority **1.3**

Project Description This project involves the recoating of the interior of the 4.5 MG steel clearwell at DVWTP. This project will also replace the interior and exterior impressed-current cathodic protection systems.

Justification The interior coating has exceeded its original useful life. The 2011 bi-annual diver inspection report recommended a recoat project to minimize steel damage. The report indicated the floor is in poor condition. Approximately 25% of the floor area has pockets of blisters, of which 10% are broken. Steel corrosion accelerates when the blisters break, leading to rust nodules and steel damage. The walls have blisters covering approximately 5% of the area. Support columns have severe coating failure. The roof and supports were reported to be in good condition, but have rust staining.

Origin: 2011 DVWTP 4.5 MG Clearwell Diver Inspection Report

Responsible Section FE Facilities Engineering

Operating Impact A new coating system will provide better corrosion protection of the steel substrate and prolong the useful life of the clearwell.

In Service Date **Month**: April **Year**: 2013

Total Project Cost $1,630,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$20	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$20
Design	$0	$100	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$100
Construction	$0	$1,410	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,410
Other	$0	$100	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$100
Total	**$0**	**$1,630**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,630**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Water Treatment Facilities

Project **DVWTP Rehabilitation Project**

Project ID: DV147

Strategic Plan Priority **1.3**

Project Description This is a project recommended in the 2011 AMP study for condition assessment to better define the project scope, schedule, and cost. It consolidates a number of asset replacements or rehabilitations for key treatment process facilities or equipment at DVWTP including, but not limited to:

(1) Rapid mix chamber system
(2) Plant air system replacement
(3) Backwash pump No. 1 and backwash rate control valve replacement
(4) Backwash pump No. 2 replacement
(5) Washwater recovery pond system, including control gates and valves and upgrade control structures
(6) Ancillary support system, including mechanical, electrical, and instrumentation, for above items

Justification According to the 2011 AMP Update, the above listed systems have either reached or reached the end of their original useful life. Also, the control gates at drain valves on the washwater recovery system have been high maintenance, characterized by frequent replacements.

2011 Asset Management Plan Update Report

Responsible Section FE Facilities Engineering

Operating Impact Improve system reliability and enable Zone 7 to take advantage of the maximum treated water production capacity at DVWTP.

In Service Date **Month**: April **Year**: 2018

Total Project Cost $2,670,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$0	$0	$0	$0	$30	$0	$0	$0	$0	$0	$0	$30
Design	$0	$0	$0	$0	$0	$300	$0	$0	$0	$0	$0	$0	$300
Construction	$0	$0	$0	$0	$0	$0	$2,230	$0	$0	$0	$0	$0	$2,230
Other	$0	$0	$0	$0	$0	$30	$80	$0	$0	$0	$0	$0	$110
Total	**$0**	**$0**	**$0**	**$0**	**$0**	**$360**	**$2,310**	**$0**	**$0**	**$0**	**$0**	**$0**	**$2,670**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Water Treatment Facilities

Project **DVWTP Roof Replacement and Rehabilitation for 3.0 MG Clearwell**

Project ID: DV131

Strategic Plan Priority **1.3**

Project Description The project replaces the metal roof and gravity vents installed on the clearwell in 1997. The overall roof area is approximately 25,500 square foot. The metal panel is 22-gauge galvanized steel with coating for the exterior and interior. Three major structural beams, called glulams, and six cross members or purlins, for the wooden roof frame system needs to be repaired or replaced. Report also recommended cleaning/coating or replacing structural connections, including tension and beam-splice straps, and joist hangers that have corrosion damage.

Justification It is estimated that the useful life of the roof is approximately fifteen years under severe humid operating conditions in the clearwell. In addition, the interior roof panels were coated under adverse field conditions in 1997 and large portions of the roof coating have failed. The recoating project for the 3.0 MG clearwell, completed in March 2009, repaired only about 2,600 square foot. Because of budget constraints, about 2,500 square foot was left unrepaired/uncoated. The corrosion damage begins immediately as soon as the coating fails for the unrepaired or uncoated roof areas.

The wooden roof frame system installed in 1974 has reported moderate shrinkage cracks in the wood structural members. The metal connections, including bolts, for the structural members have corrosion damage. Rehabilitation or replacement should extend the life of the clearwell by another 15 to 20 years. Site evaluation of the glulam beams should be done to confirm the cracks are non-structural.

Origin: 2009 DVWTP 3 MG Clearwell Structural Engineer Site Visit Report

Responsible Section FE Facilities Engineering

Operating Impact Improvements will maintain plant and distribution capacity and storage reliability.

In Service Date **Month**: May **Year**: 2016

Total Project Cost $580,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design	$0	$0	$0	$70	$0	$0	$0	$0	$0	$0	$0	$0	$70
Construction	$0	$0	$0	$0	$490	$0	$0	$0	$0	$0	$0	$0	$490
Other	$0	$0	$0	$10	$10	$0	$0	$0	$0	$0	$0	$0	$20
Total	**$0**	**$0**	**$0**	**$80**	**$500**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$580**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, 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

Strategic Plan Priority **1.3**

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 are approximately 0.5 to 1.0 % rather than the anticipated concentration of 2.0%. The 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, a 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.

Origin: 2011 Solids Handling at DVWTP and PPWTP Memo

Responsible Section FE Facilities Engineering

Operating Impact Increase operational reliability, flexibility, and effectiveness.

In Service Date **Month**: June **Year**: 2013

Total Project Cost $2,590,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	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	$0	$2,290	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,290
Other	$0	$100	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$100
Total	**$200**	**$2,390**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$2,590**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Water Treatment Facilities

Project **DVWTP Superpulsator Rehabilitation**

Project ID: DV143

Strategic Plan Priority **1.3**

Project Description Rehabilitate key components of the four Superpulsator clarifiers at DVWTP, including: incline settling plate assemblies; inlet baffles; distribution and collection pipes and supports; 30-inch process pipe and sludge piping assembly; drain valves; submerged miscellaneous metals; and surface coating for all immersed concrete. This project will also investigate surface coating all immersed concrete and core sampling of concrete for pH. Project will be phased over two years, with Superpulsator Nos. 2 and 4 rehabilitated first due to their condition.

Justification This project is recommended in the 2011 AMP study since the major components of each Superpulsator assembly are reaching the end of their useful lives. The project will extend the service life of the Superpulsators by another 20 to 25 years. As reported in recent condition assessments, the fiberglass incline settling plates are brittle and vulnerable to failure due to ultraviolet light damage, and aluminum materials, including the wall brackets and support members for the incline plate assembly, manway covers, and ladders, are severely corroded due to aggressiveness of the ferric chloride and water pH.

Origin: ESR No. DC-10-01, 2011 Asset Management Plan Update Report, 2009 Superpulsator Basin Concrete Condition Assessment Technical Memo

Responsible Section WSE Water Supply Engineering

Operating Impact Increase system reliability. No increase in operational cost.

In Service Date **Month**: April **Year**: 2015

Total Project Cost $4,960,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$0	$50	$0	$0	$0	$0	$0	$0	$0	$0	$0	$50
Design	$0	$0	$160	$0	$0	$0	$0	$0	$0	$0	$0	$0	$160
Construction	$0	$0	$2,250	$2,340	$0	$0	$0	$0	$0	$0	$0	$0	$4,590
Other	$0	$0	$100	$60	$0	$0	$0	$0	$0	$0	$0	$0	$160
Total	**$0**	**$0**	**$2,560**	**$2,400**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$4,960**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Water Treatment Facilities

Project **DVWTP Valve Replacements for 3 MG Clearwell**

Project ID: DV142

Strategic Plan Priority **1.3**

Project Description Replacement of the 36-inch clearwell inlet and outlet valves and one 8-inch drain valve for the clearwell, as well the roof mounted valve operator for each valve. Valves are butterfly type.

Justification This project is recommended in the 2011 AMP study due to valve performance and obsolescence. The valves are no longer leak tight due to calcium carbonate deposits and deterioration and hardening of the rubber seat material and seals in the presence of chloraminated water. Replacement parts are no longer available from the valve manufacturer.

Origin: ESR No. DC-09-05, 2011 Asset Management Plan Update Report

Responsible Section FE Facilities Engineering

Operating Impact Improve operational reliability during clearwell shutdown.

In Service Date **Month**: June **Year**: 2013

Total Project Cost $170,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design	$0	$30	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$30
Construction	$0	$130	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$130
Other	$0	$10	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$10
Total	**$0**	**$170**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$170**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy System-Wide Improvements
Expansion

Program Water Treatment Facilities

Project **DWR Land Acquisition adjacent to PPWTP**

Project ID: PP72

Strategic Plan Priority **1.3,1.11**

Project Description The Department of Water Resources (DWR) has available land adjacent to the PPWTP site. This project is to acquire the DWR land for locating treatment facilities.

Justification The existing plant site has limited space, which will affect the sizing and layout of future treatment facilities. This will reduce plant production reliability by decreasing the effectiveness of operations and maintenance activities.

Origin: 2011 Facilities Engineering Staff Evaluation

Responsible Section FE Facilities Engineering

Operating Impact Increased operational and maintenance flexibility for plant improvements.

In Service Date **Month**: June **Year**: 2013

Total Project Cost $570,000

Source of Funds

Fund 72	Water Rates	70%
Fund 73	Connection Fees	30%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$50	$520	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$570
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	**$50**	**$520**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$570**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Wells

Project **El Charro Pipeline Phase 2**

Project ID: W42

Strategic Plan Priority **1.1,1.4,1.8**

Project Description This project includes planning, land/easement acquisition, design, and construction of a pipeline that loops the transmission system in the vicinity of the Chain of Lakes wells.

Justification Phase 2 of the El Charro Pipeline is part of the Well Master Plan (WMP). This project has a different timeline than the associated wells planned as part of the WMP because it adds additional looping to Zone 7's transmission system and improves system operation by helping to mitigate stagnant water issues created by Phase 1 of the El Charro Pipeline, while reducing the frequency of flushing activities.

Origin: 2003 Well Master Plan

Responsible Section FE Facilities Engineering

Operating Impact No operational cost impact.

In Service Date **Month**: April **Year**: 2018

Total Project Cost $7,580,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$0	$0	$0	$120	$0	$0	$0	$0	$0	$0	$0	$120
Design	$0	$0	$0	$0	$440	$120	$0	$0	$0	$0	$0	$0	$560
Construction	$0	$0	$0	$0	$0	$6,290	$610	$0	$0	$0	$0	$0	$6,900
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$0**	**$0**	**$0**	**$560**	**$6,410**	**$610**	**$0**	**$0**	**$0**	**$0**	**$0**	**$7,580**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Program Management

Project **Expansion Program Management (ISA interest costs)**

Project ID: SP14

Strategic Plan Priority **1.11**

Project Description Ongoing program management of the Water System Expansion Program, including interest paid on the Installment Sale Agreement (ISA).

Justification Provides for better tracking of program management costs.

Origin: Capital Improvement Program

Responsible Section ASD Administrative Services Division

Operating Impact None

In Service Date **Month**: January **Year**: 2014

Total Project Cost $1,566,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$463	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$463
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	$653	$450	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,103
Total	**$463**	**$653**	**$450**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,566**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, 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

Strategic Plan Priority **1.1,1.8**

Project Description Payment of a portion of the Water System Revenue Bond, Delta Water Charge and Transportation Capital Cost Component for 27,619 acre-feet of additional State Water Project (SWP) entitlements, purchased via Amendments 20, 21, 23, and 25 to Zone 7's SWP contract.
These costs are paid by Fund 51 and Fund 73 on a sliding scale. The sliding scale is determined by the percent of new connections remaining out of the total connections projected between 1999 and build-out. Cost shown here are Fund 73's cost only.

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 of the fixed SWP costs associated with water acquisitions that have not been used.

Origin: Amendments 19, 20, 21, 23, and 25 to Zone 7's water supply contract with DWR

Responsible Section ASD Administrative Services Division

Operating Impact Increased operation and maintenance.

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $11,486,540

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	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	$28	$28
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other	$5,061	$652	$647	$648	$620	$570	$521	$475	$424	$369	$317	$1,155	$11,459
Total	**$5,061**	**$652**	**$647**	**$648**	**$620**	**$570**	**$521**	**$475**	**$424**	**$369**	**$317**	**$1,183**	**$11,487**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Supply & Conveyance

Project **Fourth Contractor's Share of the SBA - Sinking Fund**

Project ID: WP14

Strategic Plan Priority **1.1,1.8**

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 annually into this sinking fund (beginning FY 2004/05 until FY 29/30), in order to cover contractual costs from the year 2030 to 2035. The annual contributions to the sinking fund are funded by connection fees.

Justification This sinking fund is to cover contractual costs from the year 2030 to 2035.

Origin: Amendments 19, 20, 21, 23, and 25 to Zone 7's water supply contract with DWR

Responsible Section ASD Administrative Services Division

Operating Impact None.

In Service Date **Month**: **Year**: 2030

Total Project Cost $12,734,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	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	$1,075	$28	$28	$527	$548	$570	$593	$617	$641	$667	$694	$6,746	$12,734
Total	**$1,075**	**$28**	**$28**	**$527**	**$548**	**$570**	**$593**	**$617**	**$641**	**$667**	**$694**	**$6,746**	**$12,734**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Supply & Conveyance

Project **Fourth Contractor's Share of the SBA (capital costs)**

Project ID: WP7

Strategic Plan Priority **1.2,1.8**

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. This project reflects Fund 73's share of the Water System Revenue Bond and Transportation Capital Cost Component charges associated with this capacity per Amendments 19 and 20. A separate fund (Fund 51) pays for the Transportation Minimum (OMPR) Cost Component of this capacity.

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.

Origin: Amendments 19 and 20 to Zone 7's water supply contract with DWR.

Responsible Section ASD Administrative Services Division

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 $73,193,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	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	$22,793	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$29,400	$73,193
Total	**$22,793**	**$2,100**	**$2,100**	**$2,100**	**$2,100**	**$2,100**	**$2,100**	**$2,100**	**$2,100**	**$2,100**	**$2,100**	**$29,400**	**$73,193**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy System-Wide Improvements
Expansion

Program Groundwater Basin Management

Project **Groundwater Management Plan/SNMP Update**

Project ID: GW10

Strategic Plan Priority **1.1,1.2,1.4,1.6,1.13**

Project Description This project updates the 2005 Zone 7 Groundwater Management Plan and its incorporated 2004 Salt Management Plan to satisfy the new requirements of the State's Recycled Water Policy. It develops plans for a salt nutrient management plan (SNMP) and constituents-of-emerging-concern (CEC) monitoring. The project also includes updating and recalibrating the Agency's numeric groundwater model, and then using it to evaluate the sustainability of the various water supply "portfolios" described in the 2011 Water System Evaluation with respect to groundwater levels and TDS concentrations. It also reviews the effectiveness of the Mocho Groundwater Demineralization Plant to mitigate the existing salt loading and assesses the options available for mitigating projected future salt loading. Public and agency outreach is a major component of this effort.

Justification The updating of the GMP to include nutrient management and CEC monitoring is mandated by the Water Board's new Recycled Water Policy (SWRCB Res No. 2009-0011). Also, the WSE only grossly estimated the potential groundwater impacts of the various water supply "portfolios" being considered for buildout conditions. A more in-depth analysis is needed to assess the areal groundwater sustainability, and to refine plans for future salt mitigating facilities.

Origin: State Water Resources Control Board Recycled Water Policy, 2011 Water Supply Evaluation Report

Responsible Section GP Groundwater Protection

Operating Impact This project itself does not impact operations because it is a planning only project. However, its implementation will likely require operations and maintenance of additional groundwater demineralization plants and monitoring wells.

In Service Date **Month**: April **Year**: 2014

Total Project Cost $1,489,000

Source of Funds

Fund 72	Water Rates	70%
Fund 73	Connection Fees	30%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$399	$770	$320	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,489
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	**$399**	**$770**	**$320**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,489**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Supply & Conveyance

Project **High-Efficiency Toilet Rebate Program**

Project ID: PR1

Strategic Plan Priority **1.6**

Project Description This program encourages the replacement of existing high-water-using toilets with high-efficiency toilets (HET) that use 1.28 gallons or less per flush in residential dwelling by offering homeowners a $75- $125 rebate for installation of a HET. This project is split 70% Fund 52 and 30% Fund 73. The costs reflected here are Fund 73's share only.

Justification This program replaces existing high-water-using toilets with HETs. The estimated water savings from an HET is about 48 gallons/day.

The toilet rebate program is a water conservation BMP that Zone 7 implements in conjunction with its retailing water agencies.

Origin: Capital Improvement Program

Responsible Section OGM Office of the General Manager

Operating Impact Long-term water saving and less reliance on potable water supplies.

In Service Date **Month**: June **Year**: 2018

Total Project Cost $554,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	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	$374	$30	$30	$30	$30	$30	$30	$0	$0	$0	$0	$0	$554
Total	**$374**	**$30**	**$30**	**$30**	**$30**	**$30**	**$30**	**$0**	**$0**	**$0**	**$0**	**$0**	**$554**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Supply & Conveyance

Project **High-Efficiency Washing Machine Rebate Program**

Project ID: PR3

Strategic Plan Priority **1.6**

Project Description This program encourages the purchase and installation of high-efficiency clothes washers by offering water customers a $75 water rebate. Regulations require all washers to be water and energy-efficient.
This project is split 70% Fund 52 and 30% Fund 73. The costs reflected here are Fund 73's share only.

Justification Studies show that approximately 20% 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.

Origin: Capital Improvement Program

Responsible Section OGM Office of the General Manager

Operating Impact Long-term water saving and less reliance on potable water supplies.

In Service Date **Month**: July **Year**: 2022

Total Project Cost $1,378,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	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	$648	$90	$100	$100	$90	$70	$80	$60	$60	$40	$40	$0	$1,378
Total	**$648**	**$90**	**$100**	**$100**	**$90**	**$70**	**$80**	**$60**	**$60**	**$40**	**$40**	**$0**	**$1,378**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy System-Wide Improvements

Program Water Supply & Conveyance

Project **Hopyard Wellfield Pipeline – Connection with Hopyard Well No. 9**

Project ID: DS51

Strategic Plan Priority **1.1,1.3,1.8,1.12**

Project Description Installation of approximately 1,300 feet of pipeline between Hopyard Well No. 6 and the Hopyard Well No. 9 tie-in with the Mocho Pipeline. The alignment will follow the abandoned 12-inch diameter cast iron pipe installed by Camp Parks as part of the original wellfield improvements and would be within Zone 7's existing waterline easement. The method of installation is "slip lining," which is pulling new pipe segments through the abandoned pipeline. The diameter of the new pipe would be approximately 8 inches.

Justification This project allows Hopyard Well No. 9 to be operated as needed to meet peak demands at the west end of the transmission system (Pleasanton turnouts Nos. 2 and 4). Currently, Hopyard Well No. 6 can be used, but typically results in producing more water than needed, delivering Pleasanton residences unblended well water resulting in customer complaints. Hopyard Well No. 9 does not have chemical injection on-site. Chemical addition is needed to maintain chloramine residual in Pleasanton's distribution system. By installing the new pipeline and additional chemical injection points, Hopyard Well No. 9 could be operated independently of Hopyard Well No. 6. The project would result in increased use of Hopyard Well No. 9, making it more reliable and dependable when needed. The project will also result in more flexibility to blend groundwater with surface water for deliveries to Pleasanton turnouts Nos. 2 and 4.

Origin: 2011 Hopyard Wellfield Pipeline Project Well Team Memo

Responsible Section FE Facilities Engineering

Operating Impact Increased reliability for meeting peak summer demands, better ability to meet water quality goals and more reliable operation of Hopyard Well No. 9.

In Service Date **Month**: June **Year**: 2016

Total Project Cost $230,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$0	$0	$0	$10	$0	$0	$0	$0	$0	$0	$0	$10
Design	$0	$0	$0	$0	$20	$0	$0	$0	$0	$0	$0	$0	$20
Construction	$0	$0	$0	$0	$200	$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**	**$0**	**$0**	**$230**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$230**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Regulatory Compliance Monitoring

Project **Laboratory Equipment Replacement**

Project ID: LAB2

Strategic Plan Priority **1.1,1.2**

Project Description 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 and 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.

Origin: Capital Improvement Program

Responsible Section LAB Laboratory

Operating Impact Procures equipment required to meet regulatory compliance.

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $6,296,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	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	$536	$170	$160	$120	$130	$130	$130	$140	$150	$160	$160	$4,310	$6,296
Total	**$536**	**$170**	**$160**	**$120**	**$130**	**$130**	**$130**	**$140**	**$150**	**$160**	**$160**	**$4,310**	**$6,296**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy System-Wide Improvements
Expansion

Program Water Supply & Conveyance

Project **Lakes H, I and Cope Facility Planning**

Project ID: COL13

Strategic Plan Priority **1.6,1.1,2.2,2.4,2.7**

Project Description This project will plan the near-term operations and facilities necessary to integrate Lakes H, I, and Cope into Zone 7's water supply system, Zone 7's regional flood protection system, and into various general plans, specific plans, on-going construction, or other activities in the Livermore-Amador Valley.

Justification Zone 7 already owns Lakes I and Cope, and anticipates receiving Lake H in October 2014 when Hanson's lease expires with Pleasanton Gravel Company. These lakes can be used in the near-term for water management purposes, which will allow Zone 7 to reduce evaporative losses and implement mitigative measures for salt loading in the Livermore Valley Groundwater Basin, and enhance atrificial recharge and flood protection activities. These near-term activities are especially vital in light of the current crisis in the Sacramento-San Joaquin Delta.

Origin: 2006 Stream Management Master Plan, 2011 Water Supply Evaluation Report

Responsible Section IP Integrated Planning

Operating Impact Enhances Zone 7's ability to manage water.

In Service Date **Month**: June **Year**: 2013

Total Project Cost $310,000

Source of Funds

Fund 50	Flood Control/General Fund	22%
Fund 72	Water Rates	15%
Fund 73	Connection Fees	35%
Fund 76	Flood Protection and Special Drainage Area	28%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$155	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$155
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**	**$155**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$155**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy System-Wide Improvements

Program Water Supply & Conveyance

Project **Maximize Yield from Existing Contract with BBID Study**

Project ID: WP25

Strategic Plan Priority **1.1,1.5,1.8**

Project Description Zone 7 plans to work with Byron Bethany Irrigation District (BBID) to complete a study that will help determine whether the minimum yield within Zone 7's existing contract with BBID can be modified, potentially adding 3,000 acre-feet (AF) of additional water supply during dry years. The costs reflect staff time to work with BBID to complete the necessary analysis to support increasing the minimum yield from 2,000 to 5,000 AF.

Justification Approximately 80% of Zone 7's existing water supply is Table A water purchased from the State Water Project (SWP); however, the reliability of the SWP is subject to a very uncertain future due to legal and environmental constraints in the Sacramento-San Joaquin Delta. In response to this challenge, Zone 7 completed the 2011 Water Supply Evaluation. Based on analysis completed as part of this evalaution, Zone 7 staff recommended this study to improve near-term reliability.

Origin: 2011 Water Supply Evaluation Report

Responsible Section IP Integrated Planning

Operating Impact None.

In Service Date **Month**: December **Year**: 2013

Total Project Cost $100,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$100	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$100
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**	**$100**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$100**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Groundwater Basin Management

Project **MGDP RO Membrane Replacement**

Project ID: W43

Strategic Plan Priority **1.3**

Project Description This project consists of the replacement of the reverse osmosis membranes (RO) at the Mocho Groundwater Demineralization Plant. After several years of operation, membranes reach their useful lives and need to be replaced at regular intervals.

Justification As recommended in the 2011 AMP Update Report study, the replacement of these membranes should be scheduled every five years, based on the useful life estimate, in order to maintain effective plant operation. Timing of membrane replacements would be adjusted based on actual performance.

Origin: 2011 Asset Management Plan Update Report

Responsible Section FE Facilities Engineering

Operating Impact Increase operating reliability and effectiveness.

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $4,680,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$0	$0	$0	$10	$0	$0	$0	$0	$0	$0	$0	$10
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$10	$0	$70	$80
Construction	$0	$0	$0	$0	$610	$0	$0	$0	$0	$740	$0	$3,240	$4,590
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$0**	**$0**	**$0**	**$620**	**$0**	**$0**	**$0**	**$0**	**$750**	**$0**	**$3,310**	**$4,680**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, 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

Strategic Plan Priority **1.3**

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.

Origin: Capital Improvement Program

Responsible Section OPS Operations & Maintenance

Operating Impact System operational reliability.

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $10,170,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	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	$260	$270	$280	$290	$300	$320	$330	$340	$360	$370	$7,050	$10,170
Total	**$0**	**$260**	**$270**	**$280**	**$290**	**$300**	**$320**	**$330**	**$340**	**$360**	**$370**	**$7,050**	**$10,170**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Wells

Project **Mocho 2 Well Improvements/Rehabilitation**

Project ID: W44

Strategic Plan Priority **1.3**

Project Description Pull production pump, clean and inspect well, rehabilitate well screen and filter pack, install water level monitoring equipment, and test well performance.

Justification Mocho 2 was constructed in 1964 and has not been redeveloped or rehabilitated since that time. Specific Capacity was last tested in 1995. However, the pump was replaced and the casing was inspected in 2005. The continuous water level sensing probe is no longer recording accurate water levels from which well performance can be determined. This project will: re-inspect the condition of the 48 year-old casing for signs of corrosion and estimation of remaining useful life for the Asset Management Program; remove bacterial encrustation on the well screen; attempt to restore the well productivity to a level that is practically and economically feasible; replace the water level measuring equipment with a new system that is more reliable; and test the well's post-rehab specific capacity to use as a baseline for future performance monitoring.

Origin: 2011 Mocho 2 Rehabilitation Project Well Team Memo

Responsible Section FE Facilities Engineering

Operating Impact Increases operational service life of the facility, and postpones the need for replacement.

In Service Date **Month**: May **Year**: 2015

Total Project Cost $200,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$0	$0	$20	$0	$0	$0	$0	$0	$0	$0	$0	$20
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$180	$0	$0	$0	$0	$0	$0	$0	$0	$180
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$0**	**$0**	**$200**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$200**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy System-Wide Improvements

Program Wells

Project **Mocho Well 2 - VFD Retrofit**

Project ID: W41

Strategic Plan Priority **1.12**

Project Description Retrofit Mocho Demineralization Well 2 with a variable frequency drive (VFD) to reduce excess bypass flow, thereby improving delivered water quality (hardness) and increasing operational flexibility because significant bypass inefficiency occurs with the well in operation [Mocho 2 is a leading candidate for a retrofit.] This project will include constructing a new building for housing and replacing the motor control center (MCC).

Justification Excess bypass flow results in a decrease of delivered water quality (hardness). With the addition of a VFD, treatment trains and well capacity can be better matched. Significant inefficiencies from an excess bypass standpoint occur at Mocho 2, which can be rectified with a VFD. This project does not require a significant shutdown of the well; however, this project can be completed concurrently with the Mocho 2 Well Rehabilitation project.

Origin: 2011 Mocho Well 2 - VFD Retrofit Well Team Memo

Responsible Section FE Facilities Engineering

Operating Impact Increases operational flexibility and improves delivered water quality.

In Service Date **Month**: May **Year**: 2013

Total Project Cost $330,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$10	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$10
Design	$0	$30	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$30
Construction	$0	$180	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$180
Other	$0	$110	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$110
Total	**$0**	**$330**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$330**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Groundwater Basin Management

Project **Monitoring Well Replacements & Abandonments**

Project ID: GW4

Strategic Plan Priority **1.4**

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.

Origin: Capital Improvement Program

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 $2,443,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$0	$0	$0	$40	$0	$40	$0	$40	$0	$40	$460	$620
Design	$0	$0	$0	$0	$10	$0	$10	$0	$10	$0	$10	$230	$270
Construction	$553	$0	$0	$0	$70	$0	$80	$0	$80	$0	$90	$680	$1,553
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$553**	**$0**	**$0**	**$0**	**$120**	**$0**	**$130**	**$0**	**$130**	**$0**	**$140**	**$1,370**	**$2,443**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Transmission & Distribution

Project **New Water Treatment Plant Transmission Pipeline**

Project ID: DS49

Strategic Plan Priority **1.11**

Project Description This project is a transmission pipeline from the Altamont or Patterson Pass Water Treatment Plant (WTP) site to Zone 7's existing transmission system or from PPWTP to the Vasco Rate Control Station. The connection point is anticipated to be at the Altamont Pipeline - Livermore Reach near Vasco Road. Project timing is tied to the need to expand the WTP, which may occur sometime between 2020 and 2025 pending the ability to replace the ultra-filtration unit at the Patterson Pass WTP with a conventional unit that also provides additional capacity.

Justification The existing pipeline from Patterson Pass WTP does not have the capacity to handle maximum production from an expanded treatment plant or, in the case of a future Altamont WTP, there is no existing pipeline connection.

Origin: 2009 Peer Review of the Altamont Water Treatment Plant Site and Treatment Process Study, 2011 PPWTP Expansion Feasibility Evaluation (in progress)

Responsible Section FE Facilities Engineering

Operating Impact Provides needed water system transmission capacity and operational flexibility.

In Service Date **Month**: July **Year**: 2025

Total Project Cost $36,560,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$0	$0	$1,370	$1,250	$0	$0	$2,620
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,670	$0	$0	$2,670
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$13,320	$15,060	$28,380
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$930	$1,960	$2,890
Total	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,370**	**$3,920**	**$14,250**	**$17,020**	**$36,560**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Water Treatment Facilities

Project **PPWTP Ammonia Facility Replacement**

Project ID: PP48

Strategic Plan Priority **1.1,1.3**

Project Description Replacement of existing anhydrous ammonia system with an aqueous ammonia storage and feed system for both the conventional and membrane plants. Storage tank, feed pumps and controls, and motor control center will be housed in a metal building.

Justification This project will replace or upgrade the last pure gaseous chemical system at PPWTP. 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 could be upgraded with improved safety measures. The proposed replacement project improves safety for operations and maintanence personnel and other on-site plant personnel because the concentration levels from any off-gassing from leaks, spills, or a storage tank rupture would be significantly less than from the current system. Also, the conversion to aqueous ammonia from anhydrous ammonia is consistent with Zone 7's conversion at all of its wellfields.

Origin: Capital Improvement Program

Responsible Section FE Facilities Engineering

Operating Impact Increase safety and decrease maintenance.

In Service Date **Month**: June **Year**: 2014

Total Project Cost $1,580,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$120	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$120
Design	$0	$120	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$120
Construction	$0	$600	$620	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,220
Other	$0	$60	$60	$0	$0	$0	$0	$0	$0	$0	$0	$0	$120
Total	**$0**	**$900**	**$680**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,580**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy System-Wide Improvements

Program Water Treatment Facilities

Project **PPWTP Chemical Improvements Project**

Project ID: PP56

Strategic Plan Priority **1.1,1.2,1.3**

Project Description This project includes two PPWTP improvement projects, consolidated into one project for cost effectiveness and to make it more appealing to contractors. These projects were identified as high priority projects in the 2004 PPWTP CIP Prioritization Study :

PPWTP Chemical Feed Piping (Conv. Plant). - The chemical feed piping may be past its useful life.

PPWTP Tank Farm Improvements (Conv. Plant) – The ferric chloride tank and caustic soda tanks share the same containment area/structure. This poses a safety concern if the chemicals were to mix.

Justification These improvements would increase reliability and safety.

Origin: 2004 PPWTP CIP Prioritization Study

Responsible Section FE Facilities Engineering

Operating Impact Increases operational effectiveness.

In Service Date **Month**: June **Year**: 2016

Total Project Cost $800,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design	$0	$0	$0	$220	$0	$0	$0	$0	$0	$0	$0	$0	$220
Construction	$0	$0	$0	$0	$580	$0	$0	$0	$0	$0	$0	$0	$580
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$0**	**$0**	**$220**	**$580**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$800**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy System-Wide Improvements

Program Water Treatment Facilities

Project **PPWTP Clearwell Improvements**

Project ID: PP63

Strategic Plan Priority **1.1,1.3**

Project Description This project includes additional structural support to the clearwell roof, improvements to contain potential overflow and relocation of a retailer waterline from upstream to downstream of the clearwell.

Justification A reliability assessment of the clearwell determined that structural modifications were needed to secure the roof from potential damage during seismic event. In addition, although there is a low probability, an overflow of the clearwell has a chance to reach the drainage ditch. Lessening the potential to reach the ditch will be done by re-grading away from the ditch, containment and/or dechlorination of the overflow water. Lastly, there is one retailer that receives water upstream of the clearwell. Relocating the connection downstream of the clearwell enables Zone 7 greater flexibility in providing a reliable water supply to this retailer.

Origin: ESR No. PC-08-01, 1994 Water System Reliability Assessment

Responsible Section FE Facilities Engineering

Operating Impact Increased operational reliability and safety.

In Service Date **Month**: May **Year**: 2017

Total Project Cost $640,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$0	$0	$0	$50	$0	$0	$0	$0	$0	$0	$0	$50
Design	$0	$0	$0	$0	$50	$0	$0	$0	$0	$0	$0	$0	$50
Construction	$0	$0	$0	$0	$0	$490	$0	$0	$0	$0	$0	$0	$490
Other	$0	$0	$0	$0	$0	$50	$0	$0	$0	$0	$0	$0	$50
Total	**$0**	**$0**	**$0**	**$0**	**$100**	**$540**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$640**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Water Treatment Facilities

Project **PPWTP Filter System Rehabilitation**

Project ID: PP64

Strategic Plan Priority **1.1,1.3**

Project Description This is a project recommended in the 2011 AMP study for condition assessment to better define the project scope, schedule, and cost. The scope of this project is to replace the existing PPWTP conventional plant filter media, valves, pumps, compressors, piping systems, and backwash system.

This project is scheduled in two phases. The first phase, to be completed around 2015, will address needed equipment and coordinate the existing filter gallery operation with the proposed expansion of the dual media filters and decommissioning of the UF membrane system. Once the new filter gallery is in operation, the second phase, to be completed around 2018, will replace components of the existing filter system that are beyond their remaining useful life.

Justification According to the 2011 Asset Management Plan Update, the existing filter system and filter backwash supply tank are reaching the end of their original useful lives.

Origin: 2011 Asset Management Plan Update Report

Responsible Section FE Facilities Engineering

Operating Impact Increased operational reliability and extension of filter systems service life.

In Service Date **Month**: May **Year**: 2018

Total Project Cost $2,330,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$0	$0	$0	$0	$60	$0	$0	$0	$0	$0	$0	$60
Design	$0	$0	$0	$0	$0	$150	$0	$0	$0	$0	$0	$0	$150
Construction	$0	$0	$0	$450	$0	$0	$1,520	$0	$0	$0	$0	$0	$1,970
Other	$0	$0	$0	$0	$0	$0	$150	$0	$0	$0	$0	$0	$150
Total	**$0**	**$0**	**$0**	**$450**	**$0**	**$210**	**$1,670**	**$0**	**$0**	**$0**	**$0**	**$0**	**$2,330**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Water Treatment Facilities

Project **PPWTP Instrumentation Upgrades**

Project ID: PP30

Strategic Plan Priority **1.1,1.3**

Project Description Repair or replace/upgrade instrumentation (i.e. turbidimeters, counters, analyzers) at the Patterson Pass Conventional Water Treatment Plant (PPWTP). 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 useful life is approximately eight to ten years.

Justification Properly functioning, reliable instrumentation is integral to water treatment process control. To ensure delivery of high quality water in compliance with drinking water standards, instrumentation needs to be replaced on a regular basis.

Origin: 2011 Asset Management Plan Update Report

Responsible Section FE Facilities Engineering

Operating Impact Increased operational efficiencies and ensure instrumentation is appropriate to meet reporting requirements.

In Service Date **Month**: June **Year**: 2018

Total Project Cost $1,300,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$0	$0	$0	$0	$60	$0	$0	$0	$0	$0	$80	$140
Design	$0	$0	$0	$0	$0	$60	$0	$0	$0	$0	$0	$80	$140
Construction	$0	$0	$0	$0	$0	$0	$380	$0	$0	$0	$0	$500	$880
Other	$0	$0	$0	$0	$0	$0	$60	$0	$0	$0	$0	$80	$140
Total	**$0**	**$0**	**$0**	**$0**	**$0**	**$120**	**$440**	**$0**	**$0**	**$0**	**$0**	**$740**	**$1,300**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion
System-Wide Improvements

Program Water Treatment Facilities

Project **PPWTP Maintenance Yard and Building Improvements**

Project ID: PP67

Strategic Plan Priority **1.3**

Project Description This project provides space for a maintenance yard and building that includes: 1) additional outdoor material storage and stockpile areas, 2) office building including amenities such as lunch area, showers/restrooms, locker room, and file storage, 3) storage area for equipment that needs to be stored in a climate controlled area, 4) warehouse storage and work areas for various maintenance disciplines such as electrical, SCADA/instrumentation, mechanical, general/carpentry, and mechanics, and, 5) covered areas for maintenance vehicles and various equipment.

Justification With increased reliance on in-house staff for facility maintenance responsibilities, Zone 7 has limited space for personnel, storage of spare parts, maintenance vehicles, maintenance gear, and files. Providing adequate space for personnel will improve work efficiency. Protecting spare parts and/or maintenance vehicles extends the useful life of facilities and allows Zone 7 to have the means readily available to deal with maintenance issues as they come.

Origin: ESR No. Z7-11-01, 2011 PPWTP Expansion Feasibility Evaluation

Responsible Section FE Facilities Engineering

Operating Impact Provides operational and maintenance efficiency.

In Service Date **Month**: December **Year**: 2021

Total Project Cost $2,070,000

Source of Funds

Fund 72	Water Rates	70%
Fund 73	Connection Fees	30%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design	$0	$0	$0	$0	$0	$0	$0	$130	$50	$0	$0	$0	$180
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$820	$850	$0	$0	$1,670
Other	$0	$0	$0	$0	$0	$0	$0	$0	$110	$110	$0	$0	$220
Total	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$130**	**$980**	**$960**	**$0**	**$0**	**$2,070**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, 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

Strategic Plan Priority **1.1,1.3**

Project Description The existing sludge beds lack the capacity needed to keep up with treatment plant production. This project will provide the additional sludge beds to meet the needed capacity, so that Zone 7 can replace the need for centrifuge rental contract services.

Justification This project will ensure the long-term reliable production of treated water at PPWTP by having greater control over cost and operation of sludge handling. This project's scope and cost only provide sludge bed capacity for the existing PPWTP capacity of 18 MGD.

Origin: 2011 Solids Handling at DVWTP and PPWTP Memo

Responsible Section FE Facilities Engineering

Operating Impact Increased operational reliability, flexibility and effectiveness.

In Service Date **Month**: June **Year**: 2018

Total Project Cost $5,730,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$880	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$880
Design	$0	$0	$0	$0	$820	$0	$0	$0	$0	$0	$0	$0	$820
Construction	$0	$0	$0	$0	$0	$3,650	$0	$0	$0	$0	$0	$0	$3,650
Other	$0	$0	$0	$0	$0	$0	$380	$0	$0	$0	$0	$0	$380
Total	**$880**	**$0**	**$0**	**$0**	**$820**	**$3,650**	**$380**	**$0**	**$0**	**$0**	**$0**	**$0**	**$5,730**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, 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

Strategic Plan Priority **1.3**

Project Description Replacement of ultrafiltration membranes which have a life of approximately 5 years. As there are 5 ultrafiltration membrane racks, this project replaces the membrane modules from one rack each year.

Justification Several mechanisms for membrane fouling exist: absorption, 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.

Origin: 2011 Asset Management Plan Update Report

Responsible Section FE Facilities Engineering

Operating Impact Increase operating reliability and effectiveness.

In Service Date **Month**: June **Year**: 2018

Total Project Cost $3,960,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design	$0	$10	$10	$10	$10	$10	$10	$0	$0	$0	$0	$0	$60
Construction	$1,290	$380	$400	$430	$440	$470	$490	$0	$0	$0	$0	$0	$3,900
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$1,290**	**$390**	**$410**	**$440**	**$450**	**$480**	**$500**	**$0**	**$0**	**$0**	**$0**	**$0**	**$3,960**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy System-Wide Improvements
Expansion

Program Water Supply & Conveyance

Project **Reliability Intertie**

Project ID: WP24

Strategic Plan Priority **1.5**

Project Description Zone 7 plans to investigate the feasibility of a reliability intertie with another major water agency (e.g., EBMUD). The cost estimates for this project are based on a 5.6-mile, 24-inch diameter pipeline that connects Zone 7's transmission system with another agency. The cost estimate assumes that grants and/or others fund 25% of Zone 7's share of the total project costs.

Justification Approximately 90% of Zone 7's long-term average water supplies are conveyed to its service via the South Bay Aqueduct (SBA); moreover, access to Zone 7's non-local storage in Semitropic and Cawelo during droughts is also dependent on the SBA. Consequently, an outage of the SBA or major disruptions of the Sacramento-San Joaquin Delta (Delta) would prevent Zone 7 from access to most of its water supplies, which could potentially have catastrophic results to Zone 7's service area. According to DWR's Delta Risk Management Study Phase 1 Report, there is a 62% chance of a major earthquake in the vicinity of the Delta Region sometime between 2003 and 2032.

In such an event, Zone 7 would only have access to groundwater and a portion of supplies in Lake Del Valle; these supplies may not be able to meet indoor use depending on hydrologic conditions when such an event occurs. This project will help mitigate these risks by constructing a new intertie with another major water agency that would provide additional means of acquiring water supplies during such an event.

Origin: 2011 Water Supply Evaluation Report

Responsible Section IP Integrated Planning

Operating Impact Increases reliability. Adds additional renewal/replacement costs.

In Service Date **Month**: October **Year**: 2021

Total Project Cost $24,960,000

Source of Funds

Fund 72	Water Rates	30%
Fund 73	Connection Fees	70%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$0	$0	$0	$0	$730	$1,520	$0	$0	$0	$0	$0	$2,250
Design	$0	$0	$0	$0	$0	$0	$0	$1,180	$1,230	$0	$0	$0	$2,410
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$4,930	$15,370	$0	$0	$20,300
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$0**	**$0**	**$0**	**$0**	**$730**	**$1,520**	**$1,180**	**$6,160**	**$15,370**	**$0**	**$0**	**$24,960**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy System-Wide Improvements

Program Water Treatment Facilities

Project **Safety Improvements at Water Treatment Plants**

Project ID: ESS5

Strategic Plan Priority **1.3**

Project Description Safety and emergency response to potential hazards are considered and incorporated into capital projects that are undertaken. In an effort not to overlook safety and potential hazards at existing facilities, this project is to provide a periodic review of safety features at Zone 7 facilities in relation to workplace practices and address any identified issues in order to continually meet or exceed code requirements for workplace safety. At a minimum, inventory of safety features includes assessment of emergency eye wash/shower stations, emergency SCADA and local alarm functions, confined space and fall protection set ups, chemical tank isolation valves and primary/secondary chemical containment areas, and electrical systems.

Justification This project is to help maintain a high level of safety and responsiveness to potential emergencies in relation to hazardous materials handling and workplace/confined space practices.

Origin: Capital Improvement Program

Responsible Section FE Facilities Engineering

Operating Impact Increased safety.

In Service Date **Month**: March **Year**: 2019

Total Project Cost $70,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	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	$70	$0	$0	$0	$0	$70
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$70**	**$0**	**$0**	**$0**	**$0**	**$70**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Water Treatment Facilities

Project **SCADA Enhancements**

Project ID: WTP103

Strategic Plan Priority **1.3**

Project Description After the completion of Phase I of the SCADA Improvements project (May 2004 completion), there is 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.

Origin: Capital Improvement Program

Responsible Section FE Facilities Engineering

Operating Impact Improved control, monitoring and reporting through SCADA of process equipment.

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $20,282,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design	$0	$90	$90	$900	$100	$100	$110	$1,050	$120	$120	$130	$9,660	$12,470
Construction	$0	$130	$140	$170	$150	$150	$160	$200	$170	$180	$190	$5,140	$6,780
Other	$1,032	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,032
Total	**$1,032**	**$220**	**$230**	**$1,070**	**$250**	**$250**	**$270**	**$1,250**	**$290**	**$300**	**$320**	**$14,800**	**$20,282**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, 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

Strategic Plan Priority **1.1,1.8**

Project Description 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 AFA (from 5,850 AFA to 9,100 AFA).

Zone 7's cost share of the SWRU project will be about $1.4 million (not including interest). 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), and debt service will be passed on to Zone 7 as annual payments.

Justification Increase reliability by providing additional water supplies during drought years.

Origin: 2004 Agreement between Zone 7 and Semitropic Water Storage District

Responsible Section FE Facilities Engineering

Operating Impact Increased operational reliability.

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $1,536,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	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	$384	$48	$48	$48	$48	$48	$48	$48	$48	$48	$48	$672	$1,536
Total	**$384**	**$48**	**$48**	**$48**	**$48**	**$48**	**$48**	**$48**	**$48**	**$48**	**$48**	**$672**	**$1,536**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Supply & Conveyance

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

Project ID: SP12

Strategic Plan Priority **1.1,1.11**

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 and Patterson Pass Reservior, replacement of 54-inch pipe under I-580 with 78-inch pipe (completed March 2002), application of hydraulically smoother elastomeric polyurethane lining on the Altamont Pipeline (completed March 2002), enlarged Patterson Reservoir, and new 425 acre-foot (operational storage) raw water reservoir (Dyer Reservoir) located near Dyer Road.

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 began 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 for the enlargement component.

Justification This sinking fund is necessary to cover contractual costs from 2030 to 2036, during which time there will essentially be minimal on-going water connection fee revenues available because development buildout within the Valley is expected to be nearly complete by this time.

Origin: 1999 Water Supply Master Plan, 2001 Water Conveyance Study

Responsible Section FE Facilities Engineering

Operating Impact None.

In Service Date **Month**: **Year**: 2030

Total Project Cost $30,297,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	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	$6,528	$166	$170	$1,074	$1,117	$1,161	$1,208	$1,256	$1,306	$1,359	$1,413	$13,539	$30,297
Total	**$6,528**	**$166**	**$170**	**$1,074**	**$1,117**	**$1,161**	**$1,208**	**$1,256**	**$1,306**	**$1,359**	**$1,413**	**$13,539**	**$30,297**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Supply & Conveyance

Project **South Bay Aqueduct Enlargement Project**

Project ID: SP5

Strategic Plan Priority **1.1,1.11**

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 and Patterson Pass Reservior, replacement of 54-inch pipe under I-580 with 78-inch pipe (completed March 2002), application of hydraulically smoother elastomeric polyurethane lining on the Altamont Pipeline (completed March 2002), enlarged Patterson Reservoir, and new 425 acre-foot (operational storage) raw water reservoir (Dyer Reservoir) located near Dyer Road. d

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 began 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 for the enlargement component.

Justification Provides for long-term Zone 7 raw water conveyance capacity through planned service-area build-out.

Origin: 1999 Water Supply Master Plan, 2001 Water Conveyance Study

Responsible Section FE Facilities Engineering

Operating Impact Provides for enhanced long-term water supply, reliability and flexibility.

In Service Date **Month**: June **Year**: 2035

Total Project Cost $306,771,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	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	$14,890	$15,125	$15,123	$15,124	$15,123	$15,118	$15,117	$15,123	$15,123	$15,124	$155,781	$306,771
Total	**$0**	**$14,890**	**$15,125**	**$15,123**	**$15,124**	**$15,123**	**$15,118**	**$15,117**	**$15,123**	**$15,123**	**$15,124**	**$155,781**	**$306,771**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, 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

Strategic Plan Priority **1.1,1.8**

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). These costs are paid by existing and future users on a sliding scale. The sliding scale is determined by the percent of new connections remaining out of the total connections projected between 1999 and build-out. Cost shown here are Fund 73's cost only.

Justification Reliability of water supply.

Origin: Amendments 20, 21 and 25 to Zone 7's water supply contract with DWR

Responsible Section ASD Administrative Services Division

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 $855,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	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	$290	$38	$36	$70	$62	$59	$51	$48	$40	$36	$29	$96	$855
Total	**$290**	**$38**	**$36**	**$70**	**$62**	**$59**	**$51**	**$48**	**$40**	**$36**	**$29**	**$96**	**$855**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Program Management

Project **System-Wide Improvement, Renewal/Replacement Program Management**

Project ID: SP15

Strategic Plan Priority **1.3**

Project Description Ongoing program management of the SWI and R&R programs.

Justification Provides for better tracking of program management costs.

Origin: Capital Improvement Program

Responsible Section FE Facilities Engineering

Operating Impact None

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $2,050,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$50	$50	$60	$60	$60	$80	$70	$70	$70	$70	$1,410	$2,050
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	**$0**	**$50**	**$50**	**$60**	**$60**	**$60**	**$80**	**$70**	**$70**	**$70**	**$70**	**$1,410**	**$2,050**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, 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

Strategic Plan Priority **1.3**

Project Description Periodic installation of approximately 30 new line valves in the transmission system, as needed, to provide a maximum of 2,000-2,500 feet separation between valves 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.

Origin: Capital Improvement Program

Responsible Section FE Facilities Engineering

Operating Impact Improve operation and reduce service interruptions.

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $2,120,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	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	$60	$0	$0	$0	$0	$70	$0	$1,990	$2,120
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$0**	**$0**	**$0**	**$60**	**$0**	**$0**	**$0**	**$0**	**$70**	**$0**	**$1,990**	**$2,120**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Supply & Conveyance

Project **Water Conservation Best Management Practices**

Project ID: PR2

Strategic Plan Priority **1.6**

Project Description This project includes the implementation of Water Conservation Best Management Practices as listed in the MOU regarding Urban Water Conservation in California, which includes financial and technical support for our retailers' conservation efforts; support and incentives to improve large landscape water efficiency; and public information and school education programs promoting water conservation.

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This project is split 70% Fund 52 and 30% Fund 73. The costs reflected here are Fund 73's share only.

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.

Origin: Capital Improvement Program

Responsible Section OGM Office of the General Manager

Operating Impact Decreased potable water demands and increase system reliability.

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $600,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	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	$20	$20	$30	$30	$20	$20	$20	$20	$20	$20	$380	$600
Total	**$0**	**$20**	**$20**	**$30**	**$30**	**$20**	**$20**	**$20**	**$20**	**$20**	**$20**	**$380**	**$600**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy System-Wide Improvements

Program Water Treatment Facilities

Project **Water Quality - Ozonation at PPWTP & DVWTP**

Project ID: DV110

Strategic Plan Priority **1.1,1.12**

Project Description This project consists of the design and construction of a raw water conventional ozonation process at each plant site as the recommended long-term taste and odor treatment (for existing plant capacity). The facilities at each site will include two ozone contactor basins, ozone generation and feed system housed in a building, liquid oxgen storage and feed system, chlorine contactor for CT compliance, supporting chemical feed systems for raw water pH control and bromate control, significant yard piping and modifications to existing facilities, electrical, instrumentation, and control. The project is scheduled for completion in 2023.

Justification In addition to the other benefits of ozone (reduction of THMs and oxidizing CECs), this project will mitigate seasonal earthy-musty taste and odor from treated surface water from PPWTP and DVWTP per the Water Quality Management Program Implementation Plan. A draft report evaluating two ozone-based processes was completed in 2009. This report also included the results and findings from six-months of pilot testing from May to October 2008 for conventional ozone and ozone with hydrogen peroxide (peroxone). That report recommended conventional ozonation on the raw water for both existing plants to meet our taste and odor treatment goals. Project represents Zone 7's commitment to optimize delivered water quality, including esthetic qualities such as taste and odor, and most likely, will eliminate taste and odor complaints and thereby improve public perception of Zone 7's water quality.

Origin: 2003 Water Quality Management Program, 2009 Ozone and Peroxone Evaluation Report

Responsible Section FE Facilities Engineering

Operating Impact Increase operations and maintenance costs, including the addition of one new operator, mechanic, electrician, and instrument technician to cover both sites. Operational impacts include improved water quality, lower primary coagulant dosage, and less sludge production and handling.

In Service Date **Month**: June **Year**: 2023

Total Project Cost $54,350,000

Source of Funds ($1,000) Fund 72 Water Rates 100%

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	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	$2,960	$2,770	$0	$0	$5,730
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$9,240	$24,020	$10,610	$43,870
Other	$0	$0	$0	$0	$0	$0	$0	$0	$300	$1,690	$1,760	$1,000	$4,750
Total	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$3,260**	**$13,700**	**$25,780**	**$11,610**	**$54,350**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, 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

Strategic Plan Priority **1.2,1.12**

Project Description A comprehensive water quality management program and implementation plan (Water Quality Management Plan) was completed in April 2003. This plan addressed water quality concerns of our customers and the community. It has led 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 is one component of Zone 7's overall master planning process. It helps guide both our water system operations and our CIP over the next 20 years.

Justification Assists the Zone 7 Board of Directors in determining policies to effectively manage treated and untreated water quality issues. Provides guidance to Zone 7's water operations, helps establish capital facilities needs and design guidelines, and incorporates a funding strategy.

Origin: 2003 Water Quality Management Program

Responsible Section WQ Water Quality

Operating Impact Provides clear operational guidelines. Potential additional treatment and blending facilities to operate.

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $1,380,000

Source of Funds

Fund 72	Water Rates	70%
Fund 73	Connection Fees	30%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$40	$20	$40	$20	$50	$20	$50	$20	$60	$20	$1,040	$1,380
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**	**$40**	**$20**	**$40**	**$20**	**$50**	**$20**	**$50**	**$20**	**$60**	**$20**	**$1,040**	**$1,380**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Supply & Conveyance

Project **Water Supply Replacement**

Project ID: WP16

Strategic Plan Priority **1.1,1.4,1.6,1.8**

Project Description An extensive list of potential replacement water supplies, including costs, were identified as part of the 2011 Water Supply Evaluation (2011 WSE) to replace the water supply lost due to a projected reduction in the long-term average yield of State Water Project (SWP) Table A Amounts. Pending the completion of additional analysis and studies recommended in the 2011 WSE, this project could include, but is not limited to, any combination of operational improvements, water conservation, recycled water, desalination, or water transfers.

Justification Most of the water transfers acquired by Zone 7 since 1999 for future development were Table A water associated with the SWP. The long-term average yield of Table A water used to be 75%; however, the projected yield is now only 60% (DWR's 2009 Reliability Report) due to legal and environmental constraints in the Sacramento-San Joaquin Delta. This project will pay for the additional supply necessary to replace the lost yield associated with the reduced reliability of the SWP.

Origin: 2011 Water Supply Evaluation Report

Responsible Section IP Integrated Planning

Operating Impact Ensures a reliable supply of high quality water.

In Service Date **Month**: June **Year**: 2025

Total Project Cost $78,570,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$0	$0	$0	$0	$1,580	$1,640	$1,710	$1,780	$7,120	$7,400	$16,540	$37,770
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	$40,800	$40,800
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,580**	**$1,640**	**$1,710**	**$1,780**	**$7,120**	**$7,400**	**$57,340**	**$78,570**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy System-Wide Improvements
Expansion

Program Water Supply & Conveyance

Project **Water System Master Plan**

Project ID: WP20

Strategic Plan Priority **1.1,1.4,1.6,1.8,1.1,1.11,1.13**

Project Description The purpose of this update is to develop and recommend a roadmap of major water supply acquisitions and facility improvements necessary to meet water demands through buildout, per adopted general plans in the Livermore-Amador Valley. This "blueprint" for major water system infrastructure will incorporate all of the results of the additional studies recommended as part of the 2011 Water Supply Evaluation (2011 WSE), actual data to support the success of implementing water conservation targets established as part of the Water Conservation Act of 2009, and any revisions made to Zone 7's reliability policy.

Justification In response to reduced reliability of the State Water Project, Zone 7 staff completed the 2011 WSE to help identify near- and long-term risks of water supply shortages, low-cost, zero impact actions that will minimize near-term risks of those shortage, and additional studies necessary to assist in refining yields and costs of various water supply options. Due to near-term uncertainty, the 2011 WSE did not layout the roadmap of investments necessary to meet water demands through buildout; however, a Water System Master Plan will layout this roadmap, which is required to help define priorities, funding sources, and facilitate required CEQA analysis.

Origin: 2011 Water Supply Evaluation Report

Responsible Section IP Integrated Planning

Operating Impact Adds additional costs to acquire water supplies and construct infrastructure.

In Service Date **Month**: June **Year**: 2015

Total Project Cost $820,000

Source of Funds

Fund 72	Water Rates	40%
Fund 73	Connection Fees	60%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$100	$350	$370	$0	$0	$0	$0	$0	$0	$0	$0	$820
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**	**$100**	**$350**	**$370**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$820**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Treatment Facilities

Project **Water Treatment Plant Expansion**

Project ID: WTP106

Strategic Plan Priority **1.11**

Project Description This project is a water treatment plant expansion of up to 12-16 million gallon per day (MGD) that will be constructed at either the Altamont site near Dyer Reservoir or the Patterson Pass WTP. Project timing is tied to the ability to replace the ultra-filtration (UF) Plant at the Patterson Pass WTP with a conventional unit. The replacement of the UF plant will provide additional capacity, delaying the need for the water treatnment plant expansion by a couple of years to 2025.

Justification Analysis completed as part of the 2011 Water System Evaluation indicates that additional water treatment plant capacity is required to meet projected maximum day demands. In addition, the UF Plant at Patterson Pass WTP is a temporary plant that was constructed to meet near-term shortages and therefore, the production from this plant eventually needs to be replaced. The currently projected need for new treatment capacity, which includes replacement of the UF plant is anticipated to be between 20 to 24 mgd.

Origin: 2009 Peer Review of the Altamont Water Treatment Plant Site and Treatment Process Study, 2011 PPWTP Expansion Feasibility Evaluation (in progress), 2011 Water Supply Evaluation

Responsible Section FE Facilities Engineering

Operating Impact Increases production and delivery capacity and improves operational flexibility.

In Service Date **Month**: June **Year**: 2025

Total Project Cost $176,340,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$5,920	$6,620	$12,540
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,680	$3,680
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$146,410	$146,410
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$13,710	$13,710
Total	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$5,920**	**$170,420**	**$176,340**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Wells

Project **Well Pump, Motor and Casing Inspections**

Project ID: W35

Strategic Plan Priority **1.3**

Project Description Zone 7 currently has seven production wells. This project involves annual inspection of well pumps, motors and casing and related repairs for one well.

Justification This project will impove reliability of production wells.

Origin: Capital Improvement Program

Responsible Section OPS Operations & Maintenance

Operating Impact Increased operational service life of facilities thereby reducing future capital investments.

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $2,400,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	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	$110	$0	$120	$0	$130	$0	$140	$1,900	$2,400
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$0**	**$0**	**$0**	**$110**	**$0**	**$120**	**$0**	**$130**	**$0**	**$140**	**$1,900**	**$2,400**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Wells

Project **Wellfield Switchboard Replacement Project**

Project ID: W40

Strategic Plan Priority **1.3**

Project Description This is a project recommended in the 2011 AMP study for condition assessment to better define the project scope, schedule, and cost. This project will include all planning, design, and construction needed to replace existing switchboards at Hopyard Well 6 and Mocho Well 1.

Justification According to the 2011 AMP Update, these switchboards will have reached the end of their original useful life around 2018.

Origin: 2011 Asset Management Plan Update Report

Responsible Section WPT Well Performance Team

Operating Impact System reliability.

In Service Date **Month**: June **Year**: 2018

Total Project Cost $1,350,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$30	$0	$0	$0	$0	$0	$30
Design	$0	$0	$0	$0	$0	$0	$250	$0	$0	$0	$0	$0	$250
Construction	$0	$0	$0	$0	$0	$0	$1,070	$0	$0	$0	$0	$0	$1,070
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,350**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,350**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Supply & Conveyance

Project **Westside Transmission System Improvements**

Project ID: DS52

Strategic Plan Priority **1.11**

Project Description This project involves making improvements to the west side of Zone 7's transmission system to accommodate future growth. The project could involve new pipelines, replacement pipelines and/or a pump station. The costs are based on a new 9,100-foot , 30-inch diameter pipeline. Zone 7 staff will better define the actual project through hydraulic modeling planned as part of the Water System Master Plan update.

Justification Based on discussions with Zone 7's operational staff, the existing transmission system can maintain pressures for existing customers on peak days. Additionally, hydraulic modeling completed by Zone 7 staff indicates the west side of the existing transmission system will not maintain pressures on peak days with additional growth in water demand.

However, Zone 7 staff has just completed the 2011 Water Supply Evaluation, which recommends a series of water demand reductions, including reducing unaccounted-for water, water conservation, and potentially recycled water. The ultimate mix of future water supply sources and water demand reductions could change, or even eliminate, the potential pressure issues identified by Zone 7 staff as a result of future water demand growth on the west side of the transmission system.

Consequently, this project is a holding place in case additional improvements are required to maintain pressures, with future growth, on the west side of the transmission system.

Origin: 2011 Water Supply Evaluation Report

Responsible Section FE Facilities Engineering

Operating Impact Adds additional renewal/replacement costs.

In Service Date **Month**: October **Year**: 2017

Total Project Cost $7,370,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Future	Total
Planning	$0	$0	$0	$0	$530	$0	$0	$0	$0	$0	$0	$0	$530
Design	$0	$0	$0	$0	$0	$640	$0	$0	$0	$0	$0	$0	$640
Construction	$0	$0	$0	$0	$0	$0	$5,950	$0	$0	$0	$0	$0	$5,950
Other	$0	$0	$0	$0	$0	$0	$250	$0	$0	$0	$0	$0	$250
Total	**$0**	**$0**	**$0**	**$0**	**$530**	**$640**	**$6,200**	**$0**	**$0**	**$0**	**$0**	**$0**	**$7,370**

Note: 'Future' means all the project costs from FY 22/23 through FY 39/40, which is the planning horizon.

SECTION THREE

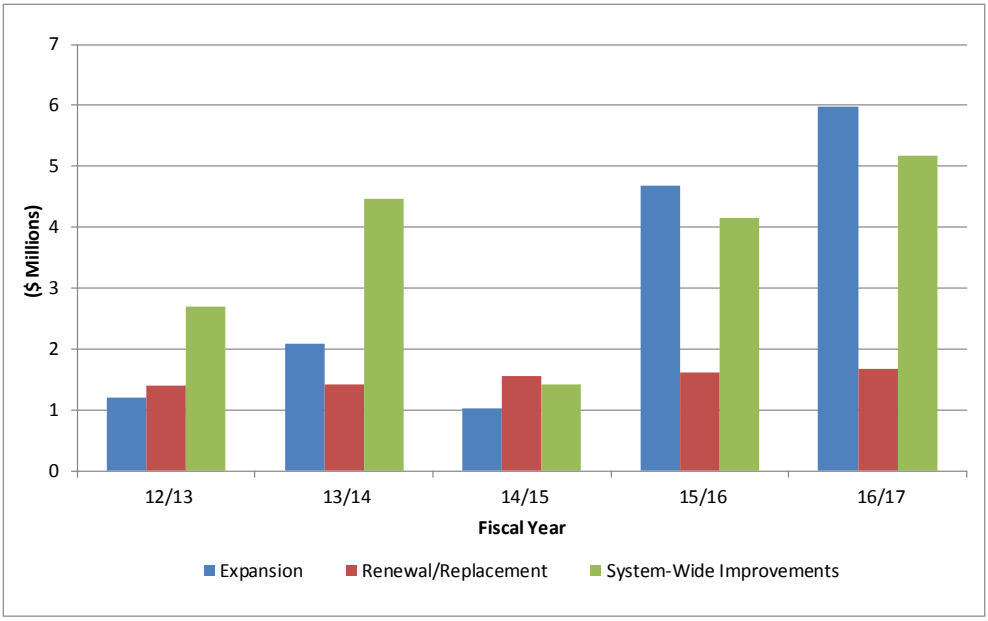
FLOOD PROTECTION

SECTION III – FLOOD PROTECTION

INTRODUCTION

Zone 7 maintains existing and constructs new flood protection and stormwater drainage facilities that enhance acceptance, management and control of stormwater runoff and drainage in the Livermore-Amador Valley. The agency conducts capital improvement activities that protect life and property from damage caused by stormwater runoff and drainage generated during rainfall events. Zone 7's capital improvements include Renewal/Replacement and repair of existing facilities to maintain the integrity of the existing flood protection system, System-Wide Improvements that integrate local stormwater channels into one regional flood protection system, and projects to accommodate additional run-off from new impervious surface areas caused by new development. Zone 7 projects $40.5M in capital expenditures over the next five years to support these priorities. A breakdown by strategy is shown in the chart and table below.

Flood Protection System
FY 12/13 Five-Year Capital Improvement Program
Planned Appropriations by Strategy and Fiscal Year
($ Millions)



Strategy	12/13	13/14	14/15	15/16	16/17	Total
Expansion	1.19	2.08	1.02	4.68	5.98	14.96
Renewal/Replacement	1.39	1.43	1.56	1.62	1.68	7.68
System-Wide Improvements	2.69	4.46	1.42	4.16	5.17	17.89
Total	**5.27**	**7.96**	**4.01**	**10.45**	**12.84**	**40.53**

The purpose of this section is to present the capital improvement activities required for flood protection over the next five years (i.e., the 5-Year CIP for Flood Protection), describe available funding sources and provide a brief overview of future flood protection activities.

PROPOSED RENEWAL/REPLACEMENT, SYSTEM-WIDE IMPROVEMENTS AND EXPANSION ACTIVITIES

Zone 7 staff conducts a bi-annual review of capital improvement activities required for existing facilities. Based on this review, Zone 7 staff has identified the following capital improvement activities that will be conducted over the next five years:

- Administrative & Engineering Building: This project includes the continuing lease of a new office building that brought engineering, administrative, and operational staff together in one location; thereby, improving communications and staff productivity while conducting capital improvement activities.
- Administrative & Engineering Building – Sinking Fund: This project will cover the cost to purchase a new building after Zone 7's 15-year lease expires in FY 18/19.
- Construction and Rehabilitation of Maintenance Roads: This program restores the function and integrity of maintenance roads so that staff can safely conduct facility inspection activities.
- Sediment Removal from Existing Channels: This program implements Zone 7's sediment removal activities from existing channels throughout the system.
- Fences and Gates Installation & Replacement: This program is required to replace and repair fences and gates throughout Zone 7's existing flood protection system.
- Landscaping and Hydroseeding: This program installs landscaping and erosion control measures throughout the existing flood protection system.
- Rehabilitation of Channel Embankments: This program rehabilitates the embankments of existing channels throughout the system that are damaged during storm events.
- Asphalt Paving Facility Driveways: This program replaces existing gravel driveways throughout the system with asphalt; thereby, enhancing the life and function of all driveways.
- Construction of Concrete V-Ditches: This program replaces existing earthen V-ditches along the top of embankments with concrete V-ditches, which will improve bank stability and reduce long-term maintenance costs.
- Construction of Drain Structures: This program constructs new drain inlets, cross drain piping, and outfall structures along the top of existing embankments; thereby, improving drainage and increasing bank stability.
- Vegetation Abatement: This program removes vegetation throughout the system per fire department regulations. This activity includes tree management.
- Arroyo de la Laguna Improvement Project – Verona Reach: This project explores solutions to large-scale erosional features along a one-mile stretch of the arroyo.
- Stream Management Master Plan (SMMP) Update: This update includes the creation of a hydro/hydraulic model for the major drainages of the valley and perform a 5-year reassessment of the projects and costs proposed in the master plan.
- Development Impact Fee Update: This analysis will follow the update of the SMMP and will reevaluate the fee structure for assessing the impacts of development to the flood protection system.

- El Charro Specific Plan Improvements (R.5-2/R.5-3 - Portions): This project is a partnership with the City of Livermore for the construction of specific flood protection improvements along the Arroyo Las Positas and within the City's El Charro Specific Plan area.
- Flood Facilities – Chain of Lakes: This project sets aside funding to implement improvements within the Chain of Lakes area for the purposes of flood protection.
- Lakes H, I, and Cope Lake Facility Planning: This project assesses the facilities necessary in the near-term to facilitate the detention of flood waters in the Chain of Lakes area.
- R.1-7: Arroyo Las Positas at N. Vasco Improvements: This project allows for the final completion of this stretch of improvements to the arroyo. The project is a pilot project where Zone 7 is partnering with the City of Livermore and the developer to provide interim flood storage along with stormwater treatment within the development's greenspace.
- R.3-5: Arroyo Mocho - Stanley Reach Pilot Project: This project seeks to provide a pilot example for reconfiguring a trapezoidal channel to convey sediment more efficiently and to explore the benefits and effects of re-vegetation within the channel on conveyance, maintenance, temperature and other habitat considerations.
- R.8-3: Lower Arroyo Mocho: This project explores options for reducing flooding, enhancing habitat and fisheries while reducing sediment management issues.
- Sediment Transport Study: This study seeks to help the agency understand grain-size, movement, origin, and quantity of sediment within our flood system. The goal is to reduce future maintenance costs by designing more efficient channels and sediment capture basins.
- Steelhead and Related Studies: These studies will provide information on the potential for a species of concern to survive and breed within our stream system.

The table below presents the projected costs for Renewal and Replacement projects over the next five years.

Flood Protection Renewal/Replacement Strategy Breakdown

	Appropriation ($Millions)					
Program	**FY 12/13**	**FY 13/14**	**FY 14/15**	**FY 15/16**	**FY 16/17**	**Total**
Buildings & Grounds						
Administrative & Engineering Building Lease (Flood Protection)	$0.12	$0.12	$0.12	$0.12	$0.13	$0.60
Administrative and Engineering Building - Sinking Fund (Flood Protection)	$0.08	$0.09	$0.09	$0.09	$0.10	$0.45
Subtotal	**$0.20**	**$0.20**	**$0.21**	**$0.22**	**$0.22**	**$1.05**
Flood Control Facilities						
Construction and Rehabilitation of Maintenance Roads	$0.14	$0.14	$0.21	$0.22	$0.23	$0.94
District-wide F. C. Channel Desilting Program	$0.10	$0.10	$0.11	$0.11	$0.12	$0.54
Fences & Gates Installation & Replacement	$0.04	$0.04	$0.05	$0.05	$0.05	$0.23
Landscaping & Hydroseeding Channel Embankments	$0.10	$0.10	$0.10	$0.11	$0.11	$0.52
Rehabilitation of F. C. Channel Embankments	$0.71	$0.73	$0.76	$0.79	$0.82	$3.81
System-wide Construction of Drain Structures	$0.10	$0.11	$0.12	$0.12	$0.13	$0.58
Subtotal	**$1.19**	**$1.22**	**$1.35**	**$1.40**	**$1.46**	**$6.62**
Program Management						
Capital Improvement Program Management	$0.001	$0.001	$0.001	$0.002	$0.001	$0.01
Subtotal	**$0.001**	**$0.001**	**$0.001**	**$0.002**	**$0.001**	**$0.01**
Total	**$1.39**	**$1.43**	**$1.56**	**$1.62**	**$1.68**	**$7.68**

The table below presents the projected costs for System-Wide Improvement projects over the next five years.

Flood Protection System-Wide Improvements Strategy Breakdown

Program	Appropriation ($Millions) FY 12/13	FY 13/14	FY 14/15	FY 15/16	16/17	Total
Flood Control Facilities						
Arroyo de la Laguna Improvement Project - Verona Reach	$0.20	$1.53	$0.05	$0.03	$0.00	$1.80
Development Impact Fee Update	$0.09	$0.00	$0.00	$0.00	$0.00	$0.09
El Charro Specific Plan (R.5-2/R5-3 - portions)	$0.23	$0.00	$0.00	$0.00	$0.00	$0.23
Flood Facilities - Chain of Lakes	$0.02	$0.92	$0.58	$3.34	$4.29	$9.14
R. 1-7: Arroyo Las Positas at N. Vasco Improvements	$1.01	$1.34	$0.00	$0.00	$0.00	$2.35
R.3-5: Arroyo Mocho - Stanley Reach Pilot Project	$0.30	$0.04	$0.03	$0.03	$0.03	$0.42
R.8-3: Lower Arroyo Mocho	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Sediment Transport Study	$0.04	$0.02	$0.02	$0.00	$0.00	$0.08
Stream Management Master Plan Update	$0.22	$0.05	$0.00	$0.00	$0.07	$0.34
System-wide Asphalt Paving F.C. Facility Driveway	$0.05	$0.05	$0.10	$0.10	$0.10	$0.40
System-wide Construction of Concrete V-ditches	$0.05	$0.05	$0.09	$0.09	$0.09	$0.37
System-wide Vegetation Abatement	$0.39	$0.47	$0.56	$0.58	$0.60	$2.60
Subtotal	**$2.61**	**$4.46**	**$1.42**	**$4.16**	**$5.17**	**$17.81**
Water Supply & Conveyance						
Lakes H, I and Cope Facility Planning	$0.078	$0.000	$0.000	$0.000	$0.000	$0.08
Subtotal	**$0.08**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.08**
Total	**$2.69**	**$4.46**	**$1.42**	**$4.16**	**$5.17**	**$17.89**

The table below presents the projected costs for Expansion projects over the next five years.

Flood Protection Expansion Strategy Breakdown

Program	Appropriation ($Millions) FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17	Total
Buildings & Grounds						
Administrative & Engineering Building Lease (Flood Protection)	$0.12	$0.12	$0.12	$0.12	$0.13	$0.60
Administrative and Engineering Building - Sinking Fund (Flood Protection)	$0.08	$0.09	$0.09	$0.09	$0.10	$0.45
Subtotal	**$0.20**	**$0.20**	**$0.21**	**$0.22**	**$0.22**	**$1.05**
Flood Control Facilities						
Arroyo de la Laguna Improvement Project - Verona Reach	$0.04	$0.31	$0.01	$0.01	$0.00	$0.37
Development Impact Fee Update	$0.07	$0.00	$0.00	$0.00	$0.00	$0.07
El Charro Specific Plan (R.5-2/R5-3 - portions)	$0.31	$0.00	$0.00	$0.00	$0.00	$0.31
Flood Facilities - Chain of Lakes	$0.03	$1.21	$0.76	$4.42	$5.68	$12.11
R. 1-7: Arroyo Las Positas at N. Vasco Improvements	$0.21	$0.27	$0.00	$0.00	$0.00	$0.48
R.3-5: Arroyo Mocho - Stanley Reach Pilot Project	$0.06	$0.01	$0.01	$0.01	$0.01	$0.09
R.8-3: Lower Arroyo Mocho	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Sediment Transport Study	$0.03	$0.01	$0.01	$0.00	$0.00	$0.05
Steelhead and Related Studies	$0.02	$0.02	$0.02	$0.03	$0.03	$0.11
Stream Management Master Plan Update	$0.15	$0.03	$0.00	$0.00	$0.05	$0.23
Subtotal	**$0.91**	**$1.88**	**$0.81**	**$4.46**	**$5.76**	**$13.82**
Program Management						
Capital Improvement Program Management	$0.002	$0.004	$0.002	$0.005	$0.002	$0.02
Subtotal	**$0.002**	**$0.004**	**$0.002**	**$0.005**	**$0.002**	**$0.02**
Water Supply & Conveyance						
Lakes H, I and Cope Facility Planning	$0.08	$0.00	$0.00	$0.00	$0.00	$0.08
Subtotal	**$0.55**	**$0.35**	**$0.04**	**$0.04**	**$0.08**	**$0.08**
Total	**$1.19**	**$2.08**	**$1.03**	**$4.68**	**$5.98**	**$14.95**

Additional information on each project is provided in Project Summaries at the end of this section.

FUNDING ANALYSIS

Zone 7 currently uses two sources of revenue to fund flood protection activities. The first source is property taxes and the second source is development impact fees. Revenue from property taxes is placed in Fund 50, while revenue from development impact fees is placed in Fund 76; each is discussed in more detail below.

Fund 50 – Flood Protection General Fund

Alameda County provides Zone 7 with a portion of the taxes levied based on one percent (1%) of the assessed value of all properties within Zone 7's service area. The revenues that Zone 7 receives from Alameda County are placed into Fund 50, and can be used to support both operation and maintenance (O&M) activities and the construction of new facilities. Zone 7 will sometimes supplement these revenues with state and federal grant funding. The table below presents the projected funding for Fund 50 over the next five years.

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

	Fiscal year (FY)	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
1	**Beginning. Available Fund Balance**	**12.92**	**12.71**	**10.79**	**11.87**	**10.34**
2	**Revenue**					
3	Property Tax Revenue	5.73	5.78	5.90	6.02	6.14
4	Other Revenue	0.13	0.25	0.32	0.47	0.41
	Total Revenue	5.86	6.04	6.22	6.49	6.55
5	**Expenditures**					
6	Capital Expenditures	3.98	5.80	2.89	5.68	6.76
7	Operating Expenses	2.00	2.08	2.16	2.25	2.34
8	Building Sinking Fund	0.08	0.09	0.09	0.09	0.10
9	Total Expenditures	6.07	7.96	5.14	8.03	9.19
10	**End of Fiscal Year Available Fund Balance**	**12.71**	**10.79**	**11.87**	**10.34**	**7.69**

Key Assumptions

Line 1 Beginning fund balance excludes prior year encumbrance carryovers.

Line 3 Since taxes are based on the assessed property value, which fluctuates over time, Zone 7 has based the contribution on historic experience. A three percent annual increase is conservatively estimated to account for growth in assessed valuation.

Line 4 Assumes 1% interest income earned on cash and sinking fund balances, increasing to 4% by FY 15/16.

Line 6 Expenditures are shown in actual dollars (current dollars adjusted by a 4% annual inflation factor).

Fund 76 – Flood Protection and Storm Water Drainage Development Impact Fee

$15 million of the total flood protection projects are funded by Fund 76. Fund 76 - Flood Protection and Storm Water Drainage Development Impact Fee Fund holds all fees collected from future development in support of Zone 7's flood protection and stormwater drainage activities.

The Zone 7 Board approved the Stream Management Master Plan (SMMP) in August 2006. Subsequently, Zone 7 adopted Ordinance 2009-01 to establish the new development impact fee (DIF) necessary to support SMMP projects within the Alameda Creek Watershed. This study recommended a fee of $1.423 per square-foot of impervious area created by new development. The calculation included $11,981,769 as the starting balance (to be transferred from existing SDA funds). This fee was subsequently capped at $1.10. Over the next few years, Zone 7 will undergo updates to the SMMP and DIF studies. These updates will reassess the projects and costs proposed in SMMP and also reevaluate the current fee structure.

The SMMP and DIF identified $222 million in flood protection projects to be funded by this fund. Incorporating the projected expenditures planned within this CIP, Zone 7 projects a fund balance of $14.5 million in FY 16/17. This fund balance, along with other funding sources (to be examined in the DIF and SMMP updates) will be used to fund future flood protection and stormwater drainage projects identified in the SMMP.

PROJECT SUMMARIES

The following project summaries are presented to provide additional information on each project.

Capital Improvement Project Summary Report

Strategy Expansion
Renewal/Replacement

Program Buildings & Grounds

Project **Administrative & Engineering Building Lease (Flood Protection)**

Project ID: SP17

Strategic Planning Priority 1.3

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, an annual contribution is made to a sinking fund in order to cover the purchase cost of the building after the lease payments have been completed in 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.

Origin: Capital Improvement Program

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**: June **Year**: 2019

Total Project Cost $3,076,000

Source of Funds

Fund 50	Flood Control/General Fund	50%
Fund 76	Flood Protection and Special Drainage Area	50%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	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	$1,323	$231	$236	$241	$245	$250	$0	$3,076
Total	**$1,323**	**$231**	**$236**	**$241**	**$245**	**$250**	**$0**	**$3,076**

Capital Improvement Project Summary Report

Strategy Expansion
Renewal/Replacement

Program Buildings & Grounds

Project **Administrative and Engineering Building - Sinking Fund (Flood Protection)**

Project ID: SP16

Strategic Planning Priority 1.3

Project Description In addition to the scheduled lease payment for the new building, $696,000 plus interest per year will be contributedto this sinking fund in order to cover the purchase cost of the building after the lease payments have been completed in 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.

Origin: Capital Improvement Program

Responsible Section ASD Administrative Services Division

Operating Impact None.

In Service Date **Month**: June **Year**: 2019

Total Project Cost $1,472,000

Source of Funds

Fund 50	Flood Control/General Fund	50%
Fund 76	Flood Protection and Special Drainage Area	50%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	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	$180	$168	$172	$181	$186	$190	$0	$1,472
Total	**$180**	**$168**	**$172**	**$181**	**$186**	**$190**	**$0**	**$1,472**

Capital Improvement Project Summary Report

Strategy System-Wide Improvements
Expansion

Program Flood Control Facilities

Project **Arroyo de la Laguna Improvement Project - Verona Reach**

Project ID: SDA22

Strategic Planning Priority 2.3,2.7

Project Description This reach of the Arroyo de la Laguna has been identified as a pilot project area where excessive erosion and sedimentation has created bank instability. In an effort to protect the exit of the Valley's stormwater, Zone 7 partnered with Urban Creek Council (UCC) and the local landowners in a design grant that resulted in 30% design concepts. This project helps Zone 7 meet some of the more stringent environmental and habitat requirements of regulatory agencies, and addresses concerns of water quality issues to downstream communities. This pilot project seeks to restore a proper stream function and sediment transport through the reach. Zone 7 intends to partner with local landowners and other interested stakeholders to seek outside funding for implementation. This phase of the project will explore construction and maintenance alternatives. Because the land is privately owned, long-term maintenance will be borne by others other than Zone 7. Additionally, the Alameda County Resource Conservation District and the Natural Resources Conservation Service have received federal earmark funding for a project immediately downstream of the Verona Reach. Zone 7 has contributed research and design data from the Verona Reach to assist them in their design and will monitor the success of their project for lessons to use in the Verona Reach.

Justification This project was identified in the SMMP as an area where increased biotechnical slope stability and possible channel reconfiguration should be explored to address excessive erosion and sedimentation.

Responsible Section FCE Flood Control Engineering

Operating Impact Long-term maintenance will be addressed by others. Impacts to operations should only occur during planning, design, and construction.

In Service Date **Month**: October **Year**: 2015

Total Project Cost $2,170,000

Source of Funds

Fund 50	Flood Control/General Fund	83%
Fund 76	Flood Protection and Special Drainage Area	17%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	Future	Total
Planning	$0	$80	$110	$60	$30	$0	$0	$280
Design	$0	$160	$0	$0	$0	$0	$0	$160
Construction	$0	$0	$1,730	$0	$0	$0	$0	$1,730
Other	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$240**	**$1,840**	**$60**	**$30**	**$0**	**$0**	**$2,170**

Capital Improvement Project Summary Report

Strategy Expansion
Renewal/Replacement

Program Program Management

Project **Capital Improvement Program Management**

Project ID: SP13

Strategic Planning Priority 1.3

Project Description Ongoing program management of the Capital Improvement Program (CIP) including annual report preparation, Zone 7 labor and other CIP related efforts.

Justification Provides for better tracking of program management costs.

Origin: Capital Improvement Program

Responsible Section ASD Administrative Services Division
FE Facilities Engineering

Operating Impact None

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $5,103,000

Source of Funds

Fund 50	Flood Control/General Fund	3%
Fund 72	Water Rates	20%
Fund 73	Connection Fees	75%
Fund 76	Flood Protection and Special Drainage Area	2%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	Future	Total
Planning	$66	$3	$6	$3	$6	$3	$142	$255
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	**$66**	**$3**	**$6**	**$3**	**$6**	**$3**	**$142**	**$255**

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Flood Control Facilities

Project **Construction and Rehabilitation of Maintenance Roads**

Project ID: FC9

Strategic Planning Priority 2.1

Project Description Construct new and rehabilitate existing gravel flood channel maintenance roads by replenishing and reconstructing the road base to ensure proper channel operation and to provide good structural integrity. Proper grading and compaction also ensure good drainage which promotes long road life.

Justification Construction of new and rehabilitation of existing gravel roads is needed along flood control channels. Heavy usage and previous storm damage have caused these maintenance roads to become 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 as well as to ensure the structural integrity of the flood control channels.

Responsible Section FCE Flood Control Engineering

Operating Impact Increased maintenance efficiencies by providing safe access for staff to conduct facility inspection activities on a year-round basis.

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $1,120,000

Source of Funds Fund 50 Flood Control/General Fund 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	Future	Total
Planning	$20	$20	$20	$30	$30	$30	$0	$150
Design	$30	$20	$10	$30	$40	$40	$0	$170
Construction	$130	$100	$110	$150	$150	$160	$0	$800
Other	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$180**	**$140**	**$140**	**$210**	**$220**	**$230**	**$0**	**$1,120**

Capital Improvement Project Summary Report

Strategy Expansion
System-Wide Improvements

Program Flood Control Facilities

Project **Development Impact Fee Update**

Project ID: SDA29

Strategic Planning Priority 2.2

Project Description The Development Impact Fee (DIF) was enacted in 2008 to replace the Special Drainage Area 7-1 (SDA 7-1) Fee structure and to bring the program in line with the Stream Management Master Plan. As a part of the adoption of the new ordinance and fee, Zone 7 agreed to reassess the amount of the fee in 2012. In anticipation of this update and reassessment, Zone 7 has initiated a Valley-wide hydrology and hydraulic model and will be using this model to look at the SMMP projects on a planning level to assess their need and cost estimates. The DIF will also examine the changing mitigation requirements for new projects and seeks to better address these costs

Justification Zone 7 agreed to reassess the DIF in 2012 as a part of our adoptions of a new ordinance in fee structure in 2008. This project anticipates the reassessment of the DIF projects and fee

Responsible Section IP Integrated Planning

Operating Impact The result of this evaluation may modify the existing fee structure and amount.

In Service Date **Month**: January **Year**: 2013

Total Project Cost $350,000

Source of Funds

Fund 50	Flood Control/General Fund	59%
Fund 76	Flood Protection and Special Drainage Area	41%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	Future	Total
Planning	$0	$160	$0	$0	$0	$0	$190	$350
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	**$0**	**$160**	**$0**	**$0**	**$0**	**$0**	**$190**	**$350**

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Flood Control Facilities

Project **District-wide F. C. Channel Desilting Program**

Project ID: FC5

Strategic Planning Priority 2.1

Project Description This district-wide desilting program is designed to systematically plan, design and remove over 300,000 cubic yards of sediment which has accumulated in various flood control channels over the years.

Justification Silt sedimentation decreases channel carrying and conveyance capability which compromises the level of flood protection. Excessive sedimentation also increases loading on channel banks which leads to increases in the amount and severity of bank slides. This program is required to restore the flood control channel facilities to their original hydraulic design capacity in order to provide the designed level of flood protection.

Responsible Section FCE Flood Control Engineering

Operating Impact Increased flood control channel efficiency and prolong service life.

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $780,000

Source of Funds Fund 50 Flood Control/General Fund 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	Future	Total
Planning	$20	$5	$5	$5	$5	$5	$0	$20
Design	$20	$10	$10	$10	$10	$10	$0	$20
Construction	$160	$80	$80	$90	$90	$100	$0	$700
Other	$40	$5	$5	$5	$5	$5	$0	$40
Total	**$240**	**$100**	**$100**	**$110**	**$110**	**$120**	**$0**	**$780**

Capital Improvement Project Summary Report

Strategy System-Wide Improvements
Expansion

Program Flood Control Facilities

Project **El Charro Specific Plan (R.5-2/R5-3 - portions)**

Project ID: SDA28

Strategic Planning Priority 2.3

Project Description The El Charro Specific Plan was adopted by the City of Livermore in 2007 and has been undergoing project planning and design. The City and Zone 7 have worked on conjunction with one another to merge the flood protection goals of the SMMP and the City's development plans for the area. An agreement between the City and Zone 7 anticipates that specific flood infrastructure improvements shall be constructed as a part of the development and will contribute to regional flood protection once the remaining aspects of the Chain of Lakes projects can be completed. Zone 7's role in the anticipated infrastructure improvements will be minor, but will entail construction inspections and we may act as technical advisors.

Justification Although the specific projects anticipated in this agreement are not the same as those envisioned in the SMMP, the project elements meet the goals and objective of our master plan. This project provides alternatives to those identified in the SMMP for addressing 100-year flow through the Las Positas Golf Course are and provides a location where flows may be diverted into the Chain of Lakes for stormwater detention in the future.

Responsible Section FCE Flood Control Engineering

Operating Impact The agreement created between the City and Zone 7 provides for the construction of portions of the SMMP projects R.5-2 and R.5-3 and identifies a mechanism for addressing the costs of long-term maintenance

In Service Date **Month**: June **Year**: 2013

Total Project Cost $560,000

Source of Funds

Fund 50	Flood Control/General Fund	43%
Fund 76	Flood Protection and Special Drainage Area	57%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	Future	Total
Planning	$0	$20	$0	$0	$0	$0	$0	$40
Design	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$520	$0	$0	$0	$0	$0	$520
Other	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$540**	**$0**	**$0**	**$0**	**$0**	**$0**	**$560**

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Flood Control Facilities

Project **Fences & Gates Installation & Replacement**

Project ID: FC7

Strategic Planning Priority 2.1

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 37 miles of channels. From time to time, fences and gates are damaged or destroyed by vandalism, traffic accidents, or adjacent property owners' activities. When 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 to provide for public safety 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 $270,000

Source of Funds Fund 50 Flood Control/General Fund 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	Future	Total
Planning	$10	$10	$10	$20	$20	$20	$0	$90
Design	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$30	$30	$30	$30	$30	$30	$0	$180
Other	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$40**	**$40**	**$40**	**$50**	**$50**	**$50**	**$0**	**$270**

Capital Improvement Project Summary Report

Strategy Expansion
System-Wide Improvements

Program Flood Control Facilities

Project **Flood Facilities - Chain of Lakes**

Project ID: SDA30

Strategic Planning Priority 2.4

Project Description The SMMP identified specific flood protection improvements under Project R.5-2 and R.5-3 that were not addressed under the El Charro Specific Plan (ECSP)Agreement improvements. Elements not addressed in the ECSP include a diversion into the Chain of Lakes for the detension of flood flows and a conduit and pumping system for the transference of these flows internally within the Chain of Lakes and subsequently, back into the Arroyo Mocho once the peak storm flows pass. This project also includes certain physical improvements around lakes that may be used for flood protection purposes.

Justification The SMMP identified storage in the Chain of Lakes as one solution to existing and future flood flows to meet the goal of providing 100-year flood protection for the Livermore-Amador Valley.

Responsible Section FCE Flood Control Engineering

Operating Impact Helps to assist Zone 7 in achieving the goals of the SMMP and assists in meeting regulatory requirements for long-term sediment management through improved sediment transport capacity.

In Service Date **Month**: June **Year**: 2019

Total Project Cost $25,350,000

Source of Funds

Fund 50	Flood Control/General Fund	43%
Fund 76	Flood Protection and Special Drainage Area	57%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	Future	Total
Planning	$0	$20	$20	$250	$600	$240	$0	$1,320
Design	$0	$30	$0	$610	$260	$0	$0	$960
Construction	$0	$0	$2,110	$480	$4,560	$9,730	$0	$20,730
Other	$0	$0	$0	$0	$2,340	$0	$0	$2,340
Total	**$0**	**$50**	**$2,130**	**$1,340**	**$7,760**	**$9,970**	**$0**	**$25,350**

Capital Improvement Project Summary Report

Strategy System-Wide Improvements
Expansion

Program Water Supply & Conveyance

Project **Lakes H, I and Cope Facility Planning**

Project ID: COL13

Strategic Planning Priority 1.6,1.1,2.2,2.4,2.7

Project Description This project will plan the near-term operations and facilities necessary to integrate Lakes H, I, and Cope into Zone 7's water supply system, Zone 7's regional flood protection system, and into various general plans, specific plans, on-going construction, or other activities in the Livermore-Amador Valley.

Justification Zone 7 already owns Lakes I and Cope, and anticipates receiving Lake H in October 2014 when Hanson's lease expires with Pleasanton Gravel Company. These lakes can be used in the near-term for water management purposes, which will allow Zone 7 to reduce evaporative losses and implement mitigative measures for salt loading in the Livermore Valley Groundwater Basin, and enhance atrificial recharge and flood protection activities. These near-term activities are especially vital in light of the current crisis in the Sacramento-San Joaquin Delta.

Origin: 2006 Stream Management Master Plan, 2011 Water Supply Evaluation Report

Responsible Section IP Integrated Planning

Operating Impact Enhances Zone 7's ability to manage water.

In Service Date **Month**: June **Year**: 2013

Total Project Cost $310,000

Source of Funds

Fund 50	Flood Control/General Fund	22%
Fund 72	Water Rates	15%
Fund 73	Connection Fees	35%
Fund 76	Flood Protection and Special Drainage Area	28%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	Future	Total
Planning	$0	$155	$0	$0	$0	$0	$0	$155
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	**$0**	**$155**	**$0**	**$0**	**$0**	**$0**	**$0**	**$155**

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Flood Control Facilities

Project **Landscaping & Hydroseeding Channel Embankments**

Project ID: FC8

Strategic Planning Priority 2.1

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 and promotes natural habitat for wildlife.

Responsible Section FCE Flood Control Engineering

Operating Impact Increased maintenance.

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $620,000

Source of Funds Fund 50 Flood Control/General Fund 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	Future	Total
Planning	$10	$10	$10	$10	$10	$10	$0	$60
Design	$10	$10	$10	$10	$10	$10	$0	$60
Construction	$80	$80	$80	$80	$90	$90	$0	$500
Other	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$100**	**$100**	**$100**	**$100**	**$110**	**$110**	**$0**	**$620**

Capital Improvement Project Summary Report

Strategy Expansion
System-Wide Improvements

Program Flood Control Facilities

Project **R. 1-7: Arroyo Las Positas at N. Vasco Improvements**

Project ID: SDA23

Strategic Planning Priority 2.1,2.7

Project Description This reach of the Arroyo las Positas has recently been acquired by Zone 7 in a partially improved state from Alameda County. The channel is undersized to carry 100-year capacity and does not have full maintenance roads along the top of bank. Zone 7 is working with an adjacent landowner to pilot an experimental stormwater/channel overflow detention area. The adjacent development will detain stormwater up to the 25-year event in a low-lying park area. In flow events greater than the 25-year event, water from the channel will interact with and overflow into the park area, thereby providing additional storage of floodwaters. This creative detention is not sufficient, however, to alleviate the expansion of the existing undersized channel. Channel improvements as identified in the SMMP and StreamWISE process will be necessary to bring this reach of the Arroyo into compliance with the standards of the Zone 7 flood protection system.

Justification The property was transferred from Alameda County to Zone 7 in 2011 in a partially improved condition. This project was identified in the SMMP as a partially improved channel that was undersized. The channel does not meet Zone 7 standards of providing 100-year flood protection to the surrounding properties and does not have full access for maintenance.

Responsible Section FCE Flood Control Engineering

Operating Impact The channel will require long-term maintenance. An existing city trail runs along the north side of the property and will need to be incorporated into the recreational use agreement.

In Service Date **Month**: October **Year**: 2013

Total Project Cost $2,830,000

Source of Funds

Fund 50	Flood Control/General Fund	83%
Fund 76	Flood Protection and Special Drainage Area	17%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	Future	Total
Planning	$0	$160	$160	$0	$0	$0	$0	$320
Design	$0	$50	$0	$0	$0	$0	$0	$50
Construction	$0	$1,010	$1,450	$0	$0	$0	$0	$2,460
Other	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$1,220**	**$1,610**	**$0**	**$0**	**$0**	**$0**	**$2,830**

Capital Improvement Project Summary Report

Strategy Expansion
System-Wide Improvements

Program Flood Control Facilities

Project **R.3-5: Arroyo Mocho - Stanley Reach Pilot Project**

Project ID: SDA24

Strategic Planning Priority 2.3,2.7

Project Description This reach of the Arroyo Mocho has been identified as a pilot project area where the standard trapezoidal channel configuration may be modified or more heavily planted to experiment with meeting the more stringent environmental and habitat requirements of regulatory agencies. Additionally, this reach has possible fish barriers that will need to be addressed should steelhead trout be introduced into the Arroyo Mocho watershed. This pilot project seeks to create a more natural stream channel environment from the existing trapezoidal channel by modifying the configuration of the stream bed to more effectively pass sediment and flows while allowing for increased riparian habitat through plantings. Zone 7 is working with Caltrans and Alameda County Surplus Property Authority to determine if their mitigation needs can be met through funding improvements at this site. Should this model for stream enhancement be successful, this may provide another avenue for funding portions of the habitat improvements identified in the SMMP that are not reserved for Zone 7 mitigation needs.

Justification This project was identified in the SMMP as an area where increased riparian cover could be accomplished while removing fish passage barriers. The pilot project is necessary to judge how other portions of the channelized Arroyo will react to channel modification and increased roughness. This pilot also allows for increased scientific understanding and provides a potential methodology for funding long-term maintenance through mitigation dollars.

Responsible Section FCE Flood Control Engineering

Operating Impact The result of this pilot project will be increased riparian cover to the open channel. Increased vegetation maintenance will be necessary; however, enhancing the riparian habitat will help Zone 7 achieve the goals of the SMMP and assists in meeting regulatory requirements for long-term sediment management through improved sediment transport capacity.

In Service Date **Month**: November **Year**: 2012

Total Project Cost $500,000

Source of Funds

Fund 50	Flood Control/General Fund	83%
Fund 76	Flood Protection and Special Drainage Area	17%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	Future	Total
Planning	$0	$100	$50	$30	$30	$30	$0	$240
Design	$0	$50	$0	$0	$0	$0	$0	$50
Construction	$0	$210	$0	$0	$0	$0	$0	$210
Other	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$360**	**$50**	**$30**	**$30**	**$30**	**$0**	**$500**

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Flood Control Facilities

Project **Rehabilitation of F. C. Channel Embankments**

Project ID: FC3

Strategic Planning Priority 2.1

Project Description Rehabilitation and rebuilding of damaged flood control channel facilities.

Justification Previous storm damages 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 $4,460,000

Source of Funds Fund 50 Flood Control/General Fund 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	Future	Total
Planning	$100	$80	$80	$80	$90	$90	$0	$520
Design	$30	$30	$30	$30	$30	$30	$0	$180
Construction	$510	$600	$620	$650	$670	$700	$0	$3,750
Other	$10	$0	$0	$0	$0	$0	$0	$10
Total	**$650**	**$710**	**$730**	**$760**	**$790**	**$820**	**$0**	**$4,460**

Capital Improvement Project Summary Report

Strategy Expansion
System-Wide Improvements

Program Flood Control Facilities

Project **Sediment Transport Study**

Project ID: SDA26

Strategic Planning Priority 2.2

Project Description To develop a District-wide sediment transport analysis program and augment the existing stream gaging program for the streams in the Zone 7 service area.

Justification As a part of the Stream Management Master Plan (SMMP) and Development Impact Fee Program updates, staff will be revising and creating technical studies/modeling in the areas of hydrology, hydraulic, geomorphology, sediment transport, and an environmental assessment. Several flood control channel sections owned and maintained by Zone 7 have experienced sediment accumulation and reduced capacity in past years, as was identified in the SMMP. To address future maintenance needs and assist in the acquisition of regulatory permits on these reaches, Zone 7 staff plans to continue to conduct a sediment transport study to better understand the magnitude, movement, and accumulation of sediment in local streams.

Responsible Section FCE Flood Control Engineering

Operating Impact Issues identified from the sediment study would have current and long term fiscal implications to flood control's capital improvement program.

In Service Date **Month**: December **Year**: 2013

Total Project Cost $130,000

Source of Funds

Fund 50	Flood Control/General Fund	59%
Fund 76	Flood Protection and Special Drainage Area	41%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	Future	Total
Planning	$0	$70	$30	$30	$0	$0	$0	$130
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	**$0**	**$70**	**$30**	**$30**	**$0**	**$0**	**$0**	**$130**

Capital Improvement Project Summary Report

Strategy Expansion

Program Flood Control Facilities

Project **Steelhead and Related Studies**

Project ID: FC11

Strategic Planning Priority 2.5

Project Description A Memorandum of Understanding (MOU) was approved by the 17 members of the Alameda Creek Fisheries Restoration Workgroup (Workgroup), and signed by Zone 7, in 2006. The recommendations from the Workgroup's efforts will provide the participants with a common basis for determining appropriate impact mitigation for projects such as our future SMMP projects, and also could spur opportunities for partnering on mitigation projects. Amendments no. 1&2 to the current MOU was executed to provide additional work in conjunction with NMFS to assist in the preparation of their Steelhead Recovery Plan. Additional amendments are anticipated to complete all elements of the work plan. This project is split 50% Fund 76 and 50% Fund 52. The cost shown here is Fund 76's share only.

Justification The primary benefit of this collaborative fisheries restoration framework for participating agencies is regulatory assurance and protection from potentially violating provisions of the Endangered Species Act in the course of operations and maintenance in the watershed.

Responsible Section IP Integrated Planning

Operating Impact None

In Service Date **Month**: June **Year**: 2014

Total Project Cost $110,000

Source of Funds Fund 76 Flood Protection and Special Drainage Area 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	Future	Total
Planning	$0	$20	$20	$20	$25	$25	$0	$110
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	**$0**	**$20**	**$20**	**$20**	**$25**	**$25**	**$0**	**$110**

Capital Improvement Project Summary Report

Strategy Expansion
System-Wide Improvements

Program Flood Control Facilities

Project **Stream Management Master Plan Update**

Project ID: SDA27

Strategic Planning Priority 2.2,2.3,2.4,2.5,2.6

Project Description This project will update Zone 7's existing Stream Management Master Plan (SMMP). As part of this update, Zone 7 staff will create updated hydrologic and hydraulic models for the major drainage basins in the Livermore-Amador Valley, while also completing a reassessment of the projects and costs proposed in the original plan to help support an update of the existing development impact fee (DIF).

Justification Zone 7 approved and adopted the SMMP in 2006, with the intention of updating this plan periodically to address changing conditions within the Livermore-Amador Valley. Five years have passed since the SMMP was originally adopted; consequently, an update the SMMP is necessary to address changing conditions, including the use of more advance modeling techniques, the current economic environment, and to help support an update to the existing DIF.

Responsible Section IP Integrated Planning

Operating Impact The result of this project could modify the scope and costs of the projects in the original SMMP, which may modify the existing fee structure

In Service Date **Month**: January **Year**: 2013

Total Project Cost $780,000

Source of Funds

Fund 50	Flood Control/General Fund	59%
Fund 76	Flood Protection and Special Drainage Area	41%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	Future	Total
Planning	$0	$160	$80	$0	$0	$120	$0	$570
Design	$0	$210	$0	$0	$0	$0	$0	$210
Construction	$0	$0	$0	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$370**	**$80**	**$0**	**$0**	**$120**	**$0**	**$780**

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

Strategic Planning Priority 2.1

Project Description Improve existing gravel flood control facility driveway entrances by placement of asphalt pavements.

Justification Gravel driveway entrances deteriorate over time 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 entrance capabilityand reduce potential claims against Zone 7.

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 $470,000

Source of Funds Fund 50 Flood Control/General Fund 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	Future	Total
Planning	$10	$10	$10	$20	$20	$20	$0	$90
Design	$10	$10	$10	$10	$10	$10	$0	$60
Construction	$50	$30	$30	$70	$70	$70	$0	$320
Other	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$70**	**$50**	**$50**	**$100**	**$100**	**$100**	**$0**	**$470**

Capital Improvement Project Summary Report

Strategy System-Wide Improvements

Program Flood Control Facilities

Project **System-wide Construction of Concrete V-ditches**

Project ID: FC4

Strategic Planning Priority 2.1

Project Description Convert existing earthen V-ditches to concrete V-ditches along the top of flood control channels and maintenance roads.

Justification The effectiveness of earthen V-ditches are often altered by erosion, siltation, soil settlement and vehicle usage which reduces the flow and can lead to larger problems such as channel bank failures. They require a high degree of maintenance activity to ensure proper function (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 $430,000

Source of Funds Fund 50 Flood Control/General Fund 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	Future	Total
Planning	$10	$10	$10	$10	$10	$10	$0	$60
Design	$10	$10	$10	$20	$20	$20	$0	$90
Construction	$40	$30	$30	$60	$60	$60	$0	$280
Other	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$60**	**$50**	**$50**	**$90**	**$90**	**$90**	**$0**	**$430**

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Flood Control Facilities

Project **System-wide Construction of Drain Structures**

Project ID: FC6

Strategic Planning Priority 2.1

Project Description Improve drainage along the top of embankment and along channel slopes 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 overbank sheet flowoverflow. At these locations, new drain structures must be constructed in order to resolve the drainage problem and protect the structural integrity of the channel banks.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 $690,000

Source of Funds Fund 50 Flood Control/General Fund 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	Future	Total
Planning	$20	$10	$50	$20	$20	$20	$0	$140
Design	$10	$10	$0	$10	$10	$10	$0	$50
Construction	$80	$20	$0	$90	$90	$100	$0	$380
Other	$0	$60	$60	$0	$0	$0	$0	$120
Total	**$110**	**$100**	**$110**	**$120**	**$120**	**$130**	**$0**	**$690**

Capital Improvement Project Summary Report

Strategy System-Wide Improvements

Program Flood Control Facilities

Project **System-wide Vegetation Abatement**

Project ID: FC10

Strategic Planning Priority 2.1

Project Description Provide chemical and mechanical vegetation abatement on 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 $2,940,000

Source of Funds Fund 50 Flood Control/General Fund 100%

($1,000)

Appropriation	Prior	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	Future	Total
Planning	$340	$10	$10	$10	$10	$10	$0	$390
Design	$0	$10	$10	$10	$10	$10	$0	$50
Construction	$0	$370	$450	$540	$560	$580	$0	$2,500
Other	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$340**	**$390**	**$470**	**$560**	**$580**	**$600**	**$0**	**$2,940**

Appendix A

ZONE 7 BOARD POLICY/PLANNING RESOLUTIONS

ZONE 7
ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

BOARD OF DIRECTORS

RESOLUTION NO. 99-2068

INTRODUCED BY DIRECTOR LAYTON

SECONDED BY DIRECTOR MARCHAND

WHEREAS, Zone 7 serves as the overall water quality management agency for the Alameda Creek watershed above Niles and has primary responsibility for management of the Livermore-Amador Valley's surface and groundwater resources;

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of Zone 7 Water Agency does hereby support the proposed Salt Management Program Implementation Plan and inclusion of the following policy goals in the Zone 7 annual operations plan:

- Offset the current 2200 tons per year of salt loading plus approximately 200 tons per year current projected annual increase;
- Maintain or improve groundwater mineral quality;
- Maintain or improve delivered water quality;
- Provide comparable delivered water quality to all retailers;
- Provide a mechanism for mitigation of all salt loading associated with recycled water use;
- Minimize total operational and maintenance costs through an adaptive management process.

BE IT FURTHER RESOLVED the Zone 7 General Manager is hereby authorized to proceed with the recommended year 2000-2002 Salt Management Implementation Plan.

ADOPTED BY THE FOLLOWING VOTE:

AYES: DIRECTORS CONCANNON, FIGURES, LAYTON, MARCHAND, STEVENS

NOES: NONE

ABSENT: DIRECTORS GRECI, KALTHOFF

ABSTAIN: NONE

I certify that the foregoing is a correct copy of a resolution Adopted by the Board of Directors of Zone 7 of Alameda County Flood Control and Water Conservation District on

August 18, 1999

Original resolution signed by the President, Board of Directors

ZONE 7
ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
BOARD OF DIRECTORS

RESOLUTION NO 04-2662

INTRODUCED BY DIRECTOR MARCHAND
SECONDED BY DIRECTOR CONCANNON

Reliability Policy for Municipal & Industrial Water Supplies

WHEREAS, the Zone 7 Board of Directors desires to maintain a highly reliable Municipal and Industrial (M&I) water supply system so that existing and future M&I water demands can be met during varying hydrologic conditions; and

WHEREAS, the Board has an obligation to communicate to its M&I customers and municipalities within its service area the ability of the Zone's water supply system to meet projected water demands.

WHEREAS, the Board on May 15, 2002 adopted Resolution No. 02-2382 setting forth its Reliability Policy for Municipal & Industrial Water Supplies; and

WHEREAS, the Zone's current water supply policy includes a provision for a valley-wide groundwater production capability to meet 75% of valley-wide M&I demand in the event of an outage of the South Bay Aqueduct; and

WHEREAS, the Board desires to revise the Reliability Policy to include all Zone 7 water supply facilities and to clarify demand levels for planning purposes;

NOW, THEREFORE, BE IT RESOLVED that the Board hereby rescinds Resolution No. 02-2382 adopting the May 15, 2002 Reliability Policy for Municipal & Industrial Water Supplies; and

BE IT FURTHER RESOLVED that the Board hereby adopts the following policy goals regarding reliability[1] to guide the management of the Zone's M&I water supplies as well as its Capital Improvement Program (CIP)[2]:

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 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 year[3], a single dry water year[4], and multiple dry water years[5], and

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.

BE IT FURTHER RESOLVED that to ensure that this Board policy is carried out effectively, the Zone 7 General Manager will provide a water supply status report to the Board every five years with the Zone 7 Urban Water Management Plan that specifies how these goals can be, or are being, achieved.

If the General Manager finds that the goals might not be met, then the Board will hold a public hearing within two months of the General Manager's finding to consider remedial actions that will bring the Zone into substantial compliance with the stated reliability goals. Remedial actions may include, but are not limited to, voluntary conservation or mandatory rationing to reduce water demands, acquisition of additional water supplies, and/or a moratorium on new water connections. After reviewing staff analyses and information gathered at the public hearing, the Board shall, as expeditiously as is feasible, take any additional actions that are necessary to meet the reliability goals during the following five-year period; and

BE IT FURTHER RESOLVED that the Zone 7 General Manager shall prepare an Annual Review of the Sustainable Water Supply Report which includes the following information:

(1) An estimate of the current annual average water demand for M&I water as well as a five-year projection based on the same information used to prepare the UWMP and CIP;

(2) A summary of available water supplies[6] to Zone 7 at the beginning of the calendar year;

(3) A comparison of current water demands with the available water supplies; and

(4) A discussion of water conservation requirements and other long-term water supply programs needed to meet Zone 7 M&I water demands for a single dry water year and multiple dry years, as specified in the Zone's UWMP.

A summary of this review will be provided to M & I customers.

Definitions

[1]**Reliability—**the ability of a water supply system to provide water during varying hydrologic conditions without the need for reductions in water use.

[2]**Capital Improvement Program (CIP)**—the CIP is the Zone's formal program for developing surface and ground water supplies, along with associated infrastructure, including import water conveyance facilities, surface water treatment plants, groundwater wells, and M&I water transmission system to meet projected water demands.

[3]**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.

[4]**Single dry water year—**for the purposes of meeting the requirements of the UWMP, the 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.

[5]**Multiple dry water years—**for the purposes of meeting the requirements of the UWMP, the 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.

[6]**Available water supplies** consist solely of (1) water supplies that the Zone 7 has contracted for (e.g., listed under Schedule A of the State Water Contract, dry-year water options, special contracts with other water districts, etc.) and (2) water actually stored in surface and subsurface reservoirs.

ADOPTED BY THE FOLLOWING VOTE:

AYES: DIRECTORS CONCANNON, GRECI, KOHNEN, MARCHAND, QUIGLEY

NOES: NONE

ABSENT: DIRECTORS KALTHOFF, STEVENS

ABSTAIN: NONE

I certify that the foregoing is a correct copy of a resolution Adopted by the Board of Directors of Zone 7 of Alameda County Flood Control and Water Conservation District on

August 18, 2004

Original resolution signed by the President, Board of Directors

ZONE 7
ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

BOARD OF DIRECTORS

RESOLUTION NO.

INTRODUCED BY DIRECTOR MARCHAND

SECONDED BY DIRECTOR KALTHOFF

Water Quality Policy for Potable and Non-potable Water

WHEREAS, the Zone 7 Board of Directors is committed to delivering high quality water supplies, to its potable (treated drinking water) and non-potable water Contractors, that meet or exceed the California Department of Health Services and the United States Environmental Protection Agency's public health requirements in accordance with existing water supply agreements, in a manner that is fiscally responsible, proactive, and environmentally sensitive; and

WHEREAS, the Board desires to deliver potable water of an approximately equal quality to each Municipal and Industrial (M&I) Contractor without diminishing their existing water quality; and

WHEREAS, the Board desires to deliver non-potable water of an appropriate quality for irrigation users from current surface and ground water supplies, and as a blended source of untreated and recycled water, when available.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby adopts the following policy goals regarding water quality to guide the Zone 7 potable and non-potable water operations and its Capital Improvement Program:

GOAL 1 – Zone 7 shall continue to meet all state and federal primary Maximum Contaminant Levels[1] (MCLs) for potable water delivered to the M&I Contractors' turnouts, in accordance with existing water supply agreements. In addition, Zone 7 shall deliver potable water of a quality that is as close as technically feasible and fiscally responsible to the Public Health Goals[2] (PHGs) and/or Maximum Contaminant Level Goals[3] (MCLGs). To ensure a margin of safety, the delivered water shall generally be of a quality that contains no greater than 80 percent of the applicable state or federal primary MCLs.

GOAL 2 – Zone 7 shall meet all state and federal secondary MCLs[1] 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. 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.

BE IT FURTHER RESOLVED that this Board policy be reviewed and updated as needed. Also, to ensure that this Board policy is carried out effectively, the Zone 7 General Manager shall implement the following actions:

- An Implementation Plan shall be prepared as a part of the Water Quality Management Program to implement treatment or other processes necessary to meet the water quality policy goals. Optimization of system operations will be recommended, wherever possible, prior to the identification of the need for capital improvements;

- The Implementation Plan shall be reviewed and updated every two years, or sooner if required, to reflect any emerging water quality issues and other relevant regulatory and/or technology development; and

- The Implementation Plan, and any subsequent updates, shall be incorporated into the annual updates of Zone 7's Five-year Capital Improvement Plan, as feasible.

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

[2] Public Health Goal (PHG): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

[3] Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the United States Environmental Protection Agency.

ADOPTED BY THE FOLLOWING VOTE:

AYES: DIRECTORS CONCANNON, GRECI, JOHNSTON, KALTHOFF, LAYTON, MARCHAND

NOES: NONE

ABSENT: DIRECTOR STEVENS

ABSTAIN: NONE

I certify that the foregoing is a correct copy of a resolution Adopted by the Board of Directors of Zone 7 of Alameda County Flood Control and Water Conservation District on

April 16, 2003

Original resolution signed by the President, Board of Directors

City of Pleasanton	DSRSD	Zone 7 Water Agency
Resolution No. 05-065	Resolution No. 35-05	Resolution No. 06-2783

JOINT RESOLUTION
CITY OF PLEASANTON
DUBLIN SAN RAMON SERVICES DISTRICT
ZONE 7 WATER AGENCY

A 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

WHEREAS, the existing Zone 7 Water Quality Policy and Implementation Plan was adopted on April 16, 2003 after extensive discussions with stakeholders, and with the support of the Retail Water Contractors California Water Service Company, the Dublin San Ramon Services District, the City of Livermore, and the City of Pleasanton; and

WHEREAS, the adopted Water Quality Policy and Implementation Plan identified specific water quality targets, and proposed specific projects and implementation schedules; and

WHEREAS, the proposed projects are currently on schedule: and

WHEREAS, the Water Quality Policy calls Zone 7 to review and update that document at a minimum of every two years; and

WHEREAS, opinion surveys conducted by Zone 7, the City of Pleasanton, and the Dublin San Ramon Services show that a substantial number of customers desire feasible improvements to the quality of their delivered water; and

WHEREAS the Dublin San Ramon Services District and the City of Pleasanton desire revisions to the existing Water Quality Policy, Goals, and Implementation Plan, and desire that the Water Quality Goals, and Implementation Plan schedules and that various

other options to further improve water quality be evaluated in the ongoing biannual review of the Water Quality Policy; and

WHEREAS, the Dublin San Ramon Services District and the City of Pleasanton understand that the acceleration of project schedules, and the implementation of additional improvements to water quality may result in added costs to their customers; and;

WHEREAS, on May 13, 2005 a special meeting involving members 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 was held for the purpose of discussing mutual concerns about the taste, odor and hardness of the water received by the customers of all three agencies; and

WHEREAS, the participants at that meeting expressed a shared desire to take prudent and practical steps to improve the taste and reduce the odor and hardness of the delivered water; and

WHEREAS, the road to improve the taste and to reduce the odor and hardness of the delivered water will include new facilities, operational considerations and financial decisions in which all three agencies have an interest; and

WHEREAS, another meeting involving members 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 was held on August 1, 2005; and

WHEREAS, 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 wish to express their mutual commitment to work together for the benefit of the common customers they all serve.

NOW, THEREFORE BE IT RESOLVED BY 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 AS FOLLOWS:

1. That the City of Pleasanton and the Dublin San Ramon Service District do hereby express their formal support for the water quality improvement projects listed in the Zone 7 brochure entitled "Water Quality Projects 2005-2015; December 2004"; and

2. That the Zone 7 Water Agency does hereby formally acknowledge the importance of the water quality concerns of the City of Pleasanton and the Dublin San Ramon Services District and commits to implementing the water quality improvements projects shown in the December 2004 brochure referenced in paragraph 1 in a prudent but expeditious manner; and

3. That the City of Pleasanton, the Dublin San Ramon Services District and the Zone 7 Water Agency pledge to work together to explore and identify ways to make further progress to improve the taste and reduce the odor and hardness of the water that is served to all customers; and

4. That City of Pleasanton, the Dublin San Ramon Services District and the Zone 7 Water Agency commit to do this in a way that will not degrade the quality of the water served to other parts of the Zone 7 service area.

5. That the attached "Policy Principles" will guide the City of Pleasanton, the Dublin San Ramon Services District and the Zone 7 Water Agency in developing and implementing projects, programs and operational guidelines related to improving delivered water quality.

City of Pleasanton Resolution No. 05-065
DSRSD Resolution No. 35-05
Zone 7 Water Agency Resolution No. 06-2783

Adopted and passed by the Board of Directors of the Dublin San Ramon Services District at its regular meeting held on August 2, 2005 by the following vote:

AYES: 5 - Directors Daniel J. Scannell, Richard M. Halket, Jeffrey G. Hansen, Dwight L. Howard, Thomas W. Ford

NOES: 0

ABSENT: 0

ABSTAIN: 0

Thomas W. Ford

Thomas W. Ford, President

ATTEST: Nancy G. Hatfield

Nancy G. Hatfield, District Secretary

City of Pleasanton Resolution No. 05-065
DSRSD Resolution No. 35-05
Zone 7 Water Agency Resolution No. 06-2783

Adopted and passed by the City Council of the City of Pleasanton at its regular meeting held on August 16, 2005 by the following vote:

AYES: Councilmembers – Brozosky, McGovern, Sullivan, Thorne and Mayor Hosterman
NOES: None
ABSENT: None
ABSTAIN: None

Jennifer Hosterman, Mayor

APPROVED AS TO FORM:

for Michael H. Roush, City Attorney

ATTEST:

Dawn G. Abrahamson, City Clerk

City of Pleasanton Resolution No. 05-065
DSRSD Resolution No. 35-05
Zone 7 Water Agency Resolution No. 06-2783

Adopted and passed by the Board of Directors of the Zone 7 Water Agency at its regular meeting held on August 17, 2005 by the following vote:

AYES: DIRECTORS CONCANNON, GRECI, KALTHOFF, KOHNEN, MARCHAND, QUIGLEY

NOES: NONE

ABSENT: DIRECTOR STEVENS

ABSTAIN: NONE

President

ATTEST: _____
District Secretary

POLICY PRINCIPLES
For
ZONE 7 WATER QUALITY PROGRAM
Related to
IMPLEMENTATION PLAN UPDATE
In the areas of
GENERAL POLICIES
OPERATIONS
FACILITIES
EDUCATION
FUNDING

INTENT

The intent of these Policy Principles is to document the mutual expectations of the policy makers in the Tri-Valley related to the updating and implementation of Zone 7 Water Quality Program and the role of the Retailers in the updating of that program.

ZONE 7 WATER QUALITY PROGRAM

Zone 7 Water Quality Policy, Goals, and Targets, adopted by the Zone 7 Board of Directors in 2003, were developed after extensive discussions with, and in cooperation with, local retail water Contractors, including the California Water Service Company, the Cities of Livermore and Pleasanton, and the Dublin San Ramon Services District, and other interested stakeholders. The adopted Water Quality Policy expressly required that the Water Quality Program Implementation Plan be reviewed and updated at a minimum of every two years to reflect any emerging water quality issues and/or other relevant regulatory and/or technology development, and that, as feasible, any plan updates be incorporated into the annual updates of the Zone 7 Capital Improvement Plan. Zone 7 staff began work on the initial update to the adopted 2003 Implementation Plan in March 2005.

Opinion surveys conducted by Zone 7, the City of Pleasanton, and the Dublin San Ramon Services District show that a substantial number of customers desire feasible improvements to the quality of their water supply.

The following is a brief description of the preliminary Work Plan for the Water Quality Policy and Implementation Plan Update and the anticipated schedule.

Phase I:

Zone 7 staff will prepare an informational item to be presented to the Zone 7 Board of Directors in September, 2005 which will consist of a technical water quality report card. This Phase I Report Card will include graphical presentations of the status of each constituent of concern in relation to the Water Quality Targets, which were specified in the 2003 Zone 7 Water Quality Policy and Implementation Plan, at Retail Contractors'

turnouts. If desired, a similar presentation will be made at the Committee of Valley Water Retailers, which includes the California Water Service Company, the Dublin San Ramon Services District, the City of Livermore, and the City of Pleasanton. (CoVWR) at their annual October meeting.

Phase II:

Beginning in July/August, 2005 and concurrent with the development of the Water Quality Report Card, Zone 7 staff will develop a technical tool box, considering the Policy Principles herein, to assist in identifying and evaluating alternative projects or activities that would enhance Zone 7's ability to meet the Board's adopted Water Quality Policy Goals. For example, based on any data gaps identified in the Phase I Report Card, what could be done to better assess the water quality impacts of ongoing & future planned projects e.g. additional water quality monitoring, data collection, or modeling/forecasting needs for each retailer turnout? Phase II work is expected to be completed in September, 2005.

Phase III:

Initiate discussions in October/November, 2005 with Retail Water Contractors and other stakeholders, as appropriate, to further develop the technical tool box, and to further discuss Policy Principles in an effort to identify mutually acceptable Policies and feasible activities to incorporate into the Water Quality Program Implementation Plan and/or the Zone 7 Water Quality Policy. Phase III is expected to be accomplished within six months of its actual implementation date.

ROLE OF THE RETAILERS

Zone 7 will maintain a regular dialog with the retail agencies at all levels as appropriate throughout the development of the Water Quality Program. The schedule for any discussions will be such that there will be an opportunity for meaningful input from the retailers ahead of any decisions made by Zone 7 staff or Board. DSRSD and Pleasanton will provide input in a timely manner and will encourage the other retailers to do likewise. Zone 7 shall give serious consideration to the comments and suggestions of the Retailers.

POLICY PRINCIPLES

Identified in the following sections are mutually agreeable Policy Principles related to water quality. These Policy Principles will be evaluated in detail during Phase III discussions with Retail Water Contractors, and other interested stakeholders. The staff's of the parties will report back at a combined meeting of the Agencies' policy makers as the proposed method and schedule for adoption of the appropriate Policy Guidelines.

General Policy Principles

1. Reaffirm contractual commitment to provide aesthetically acceptable water and to blend Zone 7's different water sources within its operational capabilities to provide approximately equal quality water to each of the retailers.

2. Support the water quality projects in Zone 7's four-page brochure entitled "Water Quality Projects 2005-2015, December 2004".

3. Support and cooperate with development and implementation of the Salt Management Program.

4. Program and Project recommendations must not result in any degradation of the existing delivered water quality for east side retailers.

5. Each liaison committee (Pleasanton-Zone 7; Pleasanton-DSRSD and DSRSD-Zone 7) will receive a common staff report from the managers of each agency every six months on the status of the various efforts called for within these Policy Principles; those liaison committees may call for separate or combined liaison meetings to discuss the status reports.

Operational Principles

1. Examine Zone 7 and retailer operating practices over time (summer to winter, day to day and at individual turnouts to the retailers), at both present and future facilities, that could be feasibly optimized to improve, and to better equalize delivered water quality.

2. Establish operations guidelines for Zone 7 wells, that without compromising overall system reliability, would be consistent with the goals of delivering aesthetically acceptable water to retailers' turnouts, and improving and, to the extent possible, equalizing delivered water quality.

3. Study operational capacities of water treatment plants and transmission facilities to maximize deliveries of treated surface water to retailer turnouts.

4. Examine the practical extent to which wells with demineralization capabilities can be preferentially operated before wells without demineralization capabilities, without compromising overall water system reliability.

Facilities Principles

1. Implement all projects in the 4 page Water Quality brochure on the schedule shown to the maximum extent possible among which are projects that will improve the hardness, taste and odor of water delivered to the west side retailers.

2. Identify and evaluate the potential effectiveness and feasibility of constructing new facilities (pipelines, pumping facilities etc.) to minimize variations in

delivered water quality, to improve overall delivered water quality, and to better equalize delivered water quality.

3. Examine the feasibility of installing treatment facilities at individual turnouts to improve and to better equalize the water quality delivered to individual retailers

4. Examine the feasibility of "point of use" treatment devices or facilities in localized areas.

5. Examine alternative means to deliver treated surface water from any of the treatment plants to points closer to retailer turnouts so as to better balance surface water deliveries to each retailer.

6. Support those taste and odor improvement projects that will benefit east side retailers.

Educational Principles

1. Develop joint educational material for the public regarding local water supplies, emphasizing all the actions taken and to be taken to improve water quality, including how those actions affect each retailer.

2. Develop joint educational material describing the benefits of the Salt Management Program.

Funding Principles

1. Identify and evaluate the most appropriate alternatives to equitably fund the capital and operating costs needed to improve water quality.

2. Provide bi-annual reports to the community describing the condition of Zone 7 water system assets, actual and proposed uses of Asset Management Program (AMP) Funds, AMP fund balances, and the ability of the Asset Management Fund to meet the needs for which it has been established.

Appendix B

2011 ASSET MANAGEMENT PROGRAM UPDATE

BOARD RESOLUTION

ZONE 7
ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
BOARD OF DIRECTORS

RESOLUTION NO 11-4092

INTRODUCED BY DIRECTOR MACHAEVICH
SECONDED BY DIRECTOR QUIGLEY

Resolution for Acceptance of Asset Management Plan Update

WHEREAS, the Asset Management Program was originally developed in 2004 and those efforts were summarized in the October 2004 Asset Management Program Summary Report; and

WHEREAS, Zone 7 has recently updated the Asset Management Program through the Asset Management Program Update Project, which included an update of Zone 7's asset inventory, a revised asset renewal methodology, formalized decision processes, an asset condition assessment and pipeline risk assessment, modified asset classes and corresponding useful life estimates, and a recommendation of an annual funding level to adequately fund this program; and

WHEREAS, Zone 7 has summarized its efforts in updating this program in the 2011 Asset Management Plan Update Report.

NOW, BE IT RESOLVED that the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District does hereby accept the Asset Management Plan Update Report with the revised funding recommendations incorporated; and

BE IT FURTHER RESOLVED that the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District does hereby adopt the recommended funding transfer targets from the Water Enterprise Fund (Fund 52) into the Renewal\Replacement and System-wide Improvements Fund (Fund 72) for the future as follows:

$6,600,000 in Fiscal Year 2012/2013;
$8,500,000 in Fiscal Year 2013/2014;
$9,500,000 in Fiscal Year 2014/2015;
$10,500,000 in Fiscal Year 2015/2016; and

the total annual funding requirement beginning in Fiscal Year 2016/2017 and beyond, is $11,400,000 in 2011 dollars, which will be adjusted for other sources of revenue (e.g., actual interest income and Dougherty Valley Service Area facility use fees), increased for inflation based upon the ENR San Francisco Construction Cost Index and adjusted based on future AMP Updates.

ADOPTED BY THE FOLLOWING VOTE:

AYES: DIRECTORS GRECI, FIGUERS, MACHAEVICH, PALMER, QUIGLEY, STEVENS

NOES: NONE

ABSENT: DIRECTOR MOORE

ABSTAIN: NONE

I certify that the foregoing is a correct copy of a resolution adopted by the Board of Directors of Zone 7 of Alameda County Flood Control and Water Conservation District on

June 15, 2011

By _____
President, Board of Directors

Appendix C

WATER SYSTEM PROJECT PRIORITIZATION CRITERIA

WATER SYSTEM PROJECT PRIORITIZATION CRITERIA

1.	**REGULATORY COMPLIANCE AND SAFETY**			
	Description:	The water industry is subject to Federal, state, and local regulations (e.g., OSHA, RWQCB, DPH, ACDEH, etc.). New or more stringent regulations typically require an investment in capital facilities for replacement or upgrading. This criterion is intended to support the importance of meeting or exceeding these regulations. Examples of projects that address regulatory compliance include those that: eliminate endangerment to life (i.e., health and safety); ensure that compliance is maintained or increase ability to comply with regulations; minimize risk of fines; or implement treatment upgrades to meet drinking water standards.		
	Scoring:	Criteria is not applicable to this project, or regulatory requirements are being met	0	
		Current regulatory requirements are being met, and project will provide conformance with guidance, goals, or practices as recommended by the regulatory agency	1	
		Current regulatory requirements are being met, but proposed regulations may not be met without project	2	
		Current regulatory requirements will no longer be met if project is not implemented	3	
		Current regulatory requirements are not being met, which may or may not have resulted in a regulatory violation, and compliance will be achieved by project	Mandatory*	
	Weight:	25%		
	* If a project meets this criteria level, then it must be implemented (i.e., is not discretionary) and does not need to be scored.			

2.	**RELIABILITY**			
	Description:	Zone 7's reliability goal is described in Goal 2 of the Reliability Policy for Municipal & Industrial Water Supplies (Resolution No. 04-2662). This criterion is intended to support the importance of providing for reliability of Zone 7's water supply, production capacity, and transmission system capacity. Examples of projects that address reliability include those that: eliminate current or potential facility failures; increase lifespan of a facility; replace a facility that is beyond its useful life; increase redundancy in the system; address seasonal criticality issues; or improve emergency operations.		
	Scoring:	Criteria is not applicable to this project, reliability is not affected by project, or project maintains existing reliability	0	
		Reliability goal is currently being met and project will further increase reliability	1	
		Reliability goal may no longer be met if project is not implemented	2	
		Reliability goal is not being met and will be achieved by project	3	
	Weight:	20%		

3.	**CAPACITY**			
	Description:	Zone 7's capacity goal is described in Goal 1 of the Reliability Policy for Municipal & Industrial Water Supplies (Resolution No. 04-2662). This criterion is intended to support the importance of sustaining or increasing Zone 7's water supply capacity, production capacity, and transmission system capacity. Examples of projects that address capacity include those that: remove process limitations or system constraints; increase capacity of the facility; or provide additional capacity to meet future demand.		
	Scoring:	Criteria is not applicable to this project, capacity is not affected by project, or project maintains existing capacity	0	
		Capacity goal is currently being met and project will provide additional capacity to meet future demand (for the long-term)	1	
		Capacity goal will no longer be met (in the near-term) if project is not implemented	2	
		Capacity goal is not being met and will be achieved by project	3	
	Weight:	20%		

4.	**AESTHETIC WATER QUALITY**			
	Description:	Zone 7's water quality goals are described in the Water Quality Management Program Implementation Plan and Salt Management Plan. This criterion is intended to support the importance of improving aesthetic water quality of the delivered water. Examples of projects that address aesthetic water quality include those that: improve the ability to meet secondary drinking water standards such as taste and odor (not regulation driven); reduce hardness levels; maintain or improve the water quality in the groundwater basin; or improve water quality delivered to non-potable customers.		
	Scoring:	Criteria is not applicable to this project, or aesthetic water quality is not affected by project	0	
		Aesthetic water quality goals are currently being met and project will further improve water quality	1	
		Aesthetic water quality goals may no longer be met if project is not implemented	2	
		Project is recommended in the Water Quality Management Program Implementation Plan and/or Salt Management Plan	3	
	Weight:	15%		

5.	**EASE OF OPERATION**			
	Description:	This criterion is intended to support the importance of improving ease of operation and staff productivity. Examples of projects that address ease of operation include those that: reduce labor requirements; increase ease and efficiency of operations and maintenance; standardize operations and maintenance procedures; automate processes to increase accuracy (e.g. improves meter reading) or efficiency of the system; improve operational flexibility; improve process control; or improve ability to monitor operations at the facilities.		
	Scoring:	Criteria is not applicable to this project, or ease of operation is not affected by project	0	
		Current level of ease, efficiency, or flexibility of operations and maintenance is satisfactory, and project will improve upon that	1	
		Current level of ease, efficiency, or flexibility of operations and maintenance is not satisfactory, and project will bring it to a satisfactory level; or, current level is satisfactory, but may no longer be maintained if project is not implemented	2	
	Weight:	10%		

6.	**LIFE-CYCLE COSTS**			
	Description:	This criterion is intended to support the importance of advancing cost-effective projects or reducing overall project costs. It would give priority to projects that reduce future costs or are cost-justified. Examples of such projects include those that: provide automation that results in reduced labor costs; or install energy efficient equipment where the cost of the project is recovered from reduced future energy costs.		
	Scoring:	Criteria is not applicable to this project, life-cycle costs are unchanged by project, or life-cycle costs are increased by project	0	
		Project results in future cost savings	1	
		Project payback is 5 years or less**	2	
		Project payback is 2 years or less**	3	
	Weight:	5%		
	**This criteria level should be supported by calculations from a payback analysis.			

7.	**SECURITY**			
	Description:	This criterion is intended to support the importance of maintaining or improving the security level at Zone 7's various facilities, including the treatment plants, transmission system, and administration office. Examples of projects that address security include those that: control public access to a facility; improve the ability to monitor a facility for security; or increase emergency operations coordination for Zone 7.		
	Scoring:	Criteria is not applicable to this project, or security is not affected by project	0	
		Security needs are currently being met and project will further increase security	1	
		Security needs may no longer be met if project is not implemented	2	
	Weight:	5%		

Appendix D

ZONE 7 WATER AGENCY STRATEGIC PLANNING PRIORITIES

Zone 7 Water Agency

Strategic Planning Priorities

March 31, 2010

Introduction

This document is intended to be a quick reference to Zone 7 Water Agency's *Strategic Planning Priorities* identified by the Board of Directors with input from members of the staff.

Establishing *Strategic Planning Priorities* enables Zone 7 to focus on its most immediate needs in an efficient and cost-effective manner. Participation of employees and the retailers not only improves the process and ultimate work product but it also helps secure their support for what the Agency needs to accomplish to effectively serve the public and comply with its mission statement. Ranking the strategic priorities helps Zone 7 staff know where to focus its attention in a sea of too many priorities to possibly address at the same time. The first review by the Board of Directors and Executive Staff of the strategic planning priorities and projected completion dates of deliverables will occur at the July 2010 board meeting and will help ensure that tasks are finished, continue to be pursued, or adjusted as circumstances may require.

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Strategic Planning Priorities

Zone 7 Water Agency's Strategic Planning Priorities are in support of its mission statement that was developed during a Board of Directors workshop several years ago and is considered still very relevant.

> *Zone 7 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 responsible way.*

The five general priorities headings under which more specific strategic planning priorities are listed are not placed in any particular order of importance. The strategic planning priorities under each general heading, however, are listed in importance as identified by the Board of Directors and the Executive Staff as constituted at the time. Some priorities that were not scored by the Board and Executive Staff as being "given" (meaning they are obviously a priority), have been moved to a higher position on the list. See Appendix B – Background Information for more details about the ranking process.

Assist retailers in providing their customers with a reliable, cost-effective and safe water supply.

1.1 Provide safe, adequate, reliable, low-cost drinking water to the retailers for their customers and Zone 7's constituency.

1.2 Comply with all water quality regulatory requirements.

1.3 Operate and maintain, and upgrade and/or replace when appropriate, existing treatment plants, transmission facilities and other infrastructure.

1.4 Protect and properly manage groundwater supplies.

1.5 Continue to work with other South Bay Aqueduct contractors to explore possible advantages of increased opportunities for local water storage (e.g., Los Vaqueros) or partnership in regional water supply projects (e.g., Delta Diablo Sanitation District's Regional Desalination Project, which could provide an alternate intake for the South Bay Aqueduct).

1.6 Work with retailers to develop more local water supplies, including (conservation and)* the use of more recycled water.

1.7 Participate in Delta discussions to protect the Agency's contractual water supply from the State Water Project.

1.8 Fulfill contractual water supply obligations.

1.9 Review water reliability policy.

1.10 Continue implementation and development of planning for the Chain of Lakes.

1.11 Plan, design and construct new water treatment plants and transmission facilities as they become necessary.

1.12 Balance improving water quality with fiscal constraints.

1.13 Update long-term water supply planning, especially in light of the Delta crisis.

***to be recommended**

Provide the valley with an effective system of flood protection.

2.1 Continue the stream maintenance program to maintain the effectiveness of flood protection facilities.

2.2 Revisit the SMMP and StreamWISE in light of current and long-term fiscal constraints.

2.3 Collaborate with cities and landowners on flood protection improvements (e.g., Livermore on the El Charro Development Project).

2.4 Continue implementation and development of planning for the Chain of Lakes.

2.5 Cooperate and collaborate where necessary and beneficial with various state and federal agencies in fisheries restoration and related environmental enhancement efforts.

2.6 Consider alternative funding sources for the SMMP.

2.7 Incorporate any implementation of the SMMP into the CIP.

2.8 Obtain multi-year programmatic permit and engineering report for stream maintenance.

3 Provide the Agency with effective organization, administration and governance.

3.1 Evaluate staff organization in light of changing work functions and demands.

3.2 Continue to evaluate and, if beneficial, separate some functions from the County.

3.3 Develop a succession plan to ensure continued effective management and operations of the Agency upon retirements or other departure of key staff, while being mindful of reorganization opportunities that might be created by attrition.

3.4 Improve internal communications.

3.5 Reevaluate the functions of the Board, committee structure and possibility of greater political activity.

3.6 Work with community colleges and water agency associations in efforts to ensure sufficient operator staff to offset anticipated retirements.

3.7 Increase staff productivity and effectiveness with greater use of modern technology, software, etc.

3.8 Develop a digital-based, integrated and remotely accessible database of engineering plans and drawings, project management data linked to cost factors, and other correspondence and information.

4 Operate the Agency in a cost-effective manner.

4.1 Complete an Agency Financial Plan.

4.2 Evaluate the cost/benefits of bringing in house certain functions traditionally performed by the Zone's consultants and contractors.

4.3 Continue to participate in regional and other efforts to obtain state and federal grant funds to offset the cost of new facilities and programs.

4.4 Review procurement, contracting and other practices to see where more cost savings can be obtained.

5 Improve public understanding of the Agency and the challenges it faces with respect to accomplishing its core functions of water supply and flood protection.

5.1 Continue other public outreach efforts and increase collaborative efforts with retailers.

5.2 Include water conservation emphasis in all of the Agency's public information efforts.

5.3 Improve the effectiveness of the Agency's website in communicating Zone's messages to the public.

5.4 Maintain and improve the Agency's media relations program.

5.5 Maintain an effective schools program, placing more responsibility on the retailers for educating their own customers.

5.6 Evaluate the use of other Internet-based and other technology to convey the Agency's messages